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The Westport Connecticut Integrated Transit System

Final Report
July 1979

Service and Methods Demonstration Program

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Urban Mass Transportation Administration and
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16. Abstract

In August, 1976 the Westport Transit District (WTD) was awarded a demonstration grant by the Urban Mass Transportation Administration (UMTA) to examine the feasibility of combining shared ride taxi service and other paratransit services with conventional bus services in Westport, Connecticut. The demonstration services were initiated in April, 1977.

This report is an evaluation of demonstration implementation, operations, and impacts; it covers a six month planning period and two full years of service operations.

The planned and actual project implementation is described including important Federal litigation initiated against the project by one of the two local taxi operators. The report also describes the integrated fleet management and vehicle deployment strategies utilized by the WTD to provide regular fixed route, supplemental fixed route, shared ride taxi, and special markets services. Arrangements for system integration in the areas of maintenance, marketing, public information, and fare structure are also discussed. The evaluation examines ridership markets, system productivity, service economics, and community impacts. The Westport demonstration has important implications for other communities considering the implementation of integrated transit services.

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Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
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oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
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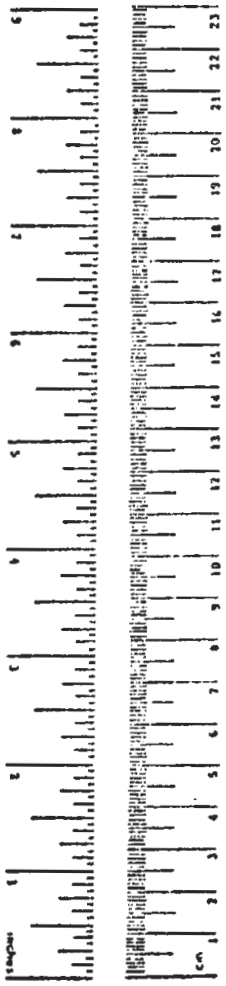

Approximate Conversions from Metric Measures

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		LENGTH		
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
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m^3	cubic meters	1.3	cubic yards	yd^3
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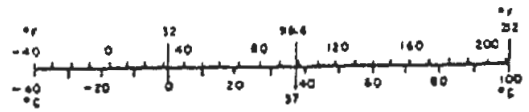

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PREFACE

This final report on the Westport Integrated Transit Services Demonstration is being submitted to the Transportation Systems Center (TSC) in Cambridge, Massachusetts by CACI Inc. - Federal under contract DOT-TSC-1082. This report is the result of nearly three years (August 1976 to June 1979) of evaluation planning and performance; the pre-service implementation period and two full years of demonstration operations are covered.

Significant technical and editorial contributions to this final report were made by Mr. Mark Abkowitz, the TSC Evaluation Manager. Valuable comments were also received from Ms. Mary Martha Churchman of the Urban Mass Transportation Administration (UMTA).

This report has also been improved as a result of input from the management personnel of the Westport Transit District (WTD). The initial management team (through September 1978) of Mr. Richard Bradley (Executive Director) and Mr. Richard Clair (Demonstration Project Manager) provided significant input on demonstration implementation and operations. Special recognition is due Mr. Clair for his role in facilitating demonstration operations.

The present management team of Mr. Gordon Aoyagi (Executive Director) and Ms. Marty Hauhuth (Demonstation Project Manager) provided a valuable review of the report which improved the final assessment of shared ride taxi cost elements and community impacts. Mr. George Dorio, the WTD Maintenance Director, provided valuable information on vehicle reliability.

Finally, the author's gratitude is extended to Ms. Angela Brito of CACI for her valuable assistance in report preparation.

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S.1 Project Description and Implementation

The Westport Integrated Transit Services Demonstration was sponsored by the Urban Mass Transportation Administration (UMTA) under the Service and Methods Demonstration (SMD) program; the purpose was to demonstrate the feasibility of combining shared-ride taxi and other paratransit service with fixed route bus service in Westport. The project focused on the Westport Transit District (WTD) playing a major brokerage role which involved contracting with private operators for the provision of shared-ride service. The contractual involvement of a local private taxi operator in the demonstration represented a significant advancement in the development of local paratransit services.

The setting for the demonstration was an affluent, suburban bedroom community in southwestern Connecticut; the local population of 28,000 contained a high percentage of both young transit dependents and middle aged New York City commuters. Since August, 1974, these groups and other community residents had been served by the local fixed route Minnybus system which was established as the result of a grass roots community effort dating back to 1968. A vehicle fleet of 8 diesel minibuses and 2 small transit coaches provided a peak period commuter service to and from the local railroad stations, and a regular daytime service operating on 7 loop routes covering most of the town. The daytime service was based on a 35 minute headway pulse system centered at a transfer terminal near the downtown area. Distinguishing elements of the Minnybus system were courteous drivers, extensive system marketing, and the use of annual passes by most commuter and daytime service riders (See Chapter 2).

Monthly ridership averaged approximately 42,000 on the daytime service, and 11,000 on the commuter service in the year prior to the demonstration.

Despite the success of the system some parts of the town were still uncovered, certain types of trips (shopping, in-town business, medical,

evening trips downtown) could not be easily made by the Minnybus, and certain groups (elderly, handicapped) were not always comfortably served by the fixed route system. As a result the WTD developed an interest in providing some form of complementary demand responsive service and initiated discussions with the two local taxi operators, both of whom had been losing money for several years. The WTD's local aspirations coincided with a national interest in harnessing taxi service as a paratransit mode. A plan was developed for the WTD by a consultant and was used to request a grant from UMTA for a shared ride taxi demonstration in February 1976. The plan called for a comprehensive and integrated system of transit and paratransit services under the direct or indirect (contractual) control of the WTD. This plan was responsive to three sets of objectives (See Section 2.2.4):

Overall Objectives

(1) Demonstrate the successful implementation of integrated services
(2) Demonstration of service integration
(3) Demonstration of operations integration
(4) Improved service for special markets

SMD Program Objectives

(1) Increased transit coverage
(2) Increased transit vehicle productivity
(3) Improved transit service for the transit dependent

Local Objectives

(1) Reduction of community traffic congestion especially in the downtown area
(2) Reduction of household automobile ownership

The most important element in the plan was a paratransit shared ride taxi service to be implemented through a management contract with a local private operator or operators. This shared ride service was to be self sustaining based on covering an estimated $6 to $8 hourly vehicle operating cost through a vehicle productivity of 4 trips per hour and an

estimated average trip fare (zonal based) of $2.00 (See Section 7.1) A profit incentive program was designed to motivate the private contractor to achieve the desired system productivity levels. An integrated pass program and fare structure was also planned which provided pass holders with discount fares on Maxytaxy during certain periods. The cost of annual passes was to include a surcharge amount[1] to be credited to demonstration revenues.

This plan was the basis of the demonstration grant award in August, 1976.

Over the next 9 months the WTD's efforts were concentrated on the following tasks (See Chapter 4):

- o acquiring the demonstration vehicles (11 raised roof vans called Maxytaxy) and other necessary capital equipment
- o setting up a control/dispatch center
- o meeting with the two local taxi operators to discuss contractual relations
- o negotiating system support contracts in the areas of management, maintenance, and marketing
- o responding to the legal action against the demonstration in Federal Court by one of the local taxi operators who alleged procedural and substantive (Section 3e[2] protections) violations of the Urban Mass Transportation Act (UMT Act).

Demonstration services were initiated on April 16, 1977 following a U.S. District Court ruling denying the plaintiffs' motion for injunctive relief as well as the request to declare the approval of the grant application invalid. The District Court ruling relied heavily on the fact that the demonstrative nature of the project warranted exemption from certain requirements of the UMT Act. In January, 1978 the U.S. Circuit Court of Appeals partially reversed the District Court judgement

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[1] $5 from each regular pass and $40 (later changed to $25) from each commuter pass

[2] Section 3e (1602e) of the UMT Act provides, among other things, for the participation of private mass transportation companies to the maximum extent feasible".

by ruling that procedural compliance with the UMT Act should be based on the project impact on the community not the project type. Since the demonstration constituted a substantial impact on Westport the WTD was subsequently required to conduct an official public hearing on the project in order to properly amend the grant application. In the substantive area, the Court denied Section 3e protections to the plaintiffs on the basis that they were not a mass transportation company since their taxis could be reserved for exclusive use. Federal litigation ended when the U.S. Supreme Court refused to review the case. The outcome of potential state litigation is uncertain.

S.2 Demonstration Operations

With the operational support of the management contractor, the WTD utilized the mixed fleet of buses and vans to provide fixed route, shared-ride taxi and special market services. The basis of service delivery was an integrated fleet utilization scheme which used the van vehicles as complements to, and substitutes for the regular bus fleet (see Section 5.1). The Maxytaxys were highly versatile and were used for shared-ride service, supplemental fixed route service, special shuttles, package deliveries, and elderly-handicapped service (2 of the vehicles were lift equipped). The elderly and handicapped service was fully integrated with regular shared ride taxi operations. All system functions including maintenance, vehicle deployment, dispatching, and administration were located at the operations - support center near the downtown area.

The demonstration services were promoted through a comprehensive marketing program, an integrated pass program and fare structure, and a public information center. A major effort was made to build on the previous success of the fixed route system and present the Maxytaxy as a complementary service (see Section 5.5).

The normal shared ride taxi service day (6a.m. to 1a.m.) was split into 2 shifts with 4 to 5 Maxytaxys in service at any given time; the daily peak demand period (4p.m. - 7p.m.) usually resulted in the deployment of 2 or 3 additional Maxytaxys. Taxi coverage was heavily oriented towards the major railroad station and the downtown area.

Maxytaxy patrons could pay their fare with cash, Maxymony ($25 worth of scrip sold for $20) or a combination of an annual pass[1] and a discounted cash fare during certain periods. Commuter pass holders arriving in Westport on evening trains not served by the Minnybus could use the Maxytaxy for half fare. Regular Minnypass holders could use the Maxytaxy on Friday and Saturday evening for discounts up to 55% of the regular fare (see Section 5.2).

Supplementary fixed route service was provided on the morning commuter service (serving 2 additional trains), and the regular daytime service with three additional pulses from the downtown area in the late afternoon and early evening. This latter service was discontinued in February 1978 owing to the need for additional Maxytaxys in the 4 p.m. to 7 p.m. time period (see Section 5.1.2). Package deliveries were provided by all Maxytaxy vehicles; however, delivery agreements with several local businesses resulted in the dedication of one Maxytaxy vehicle for delivery service during the regular work day.

Special shuttle services for the elderly, the handicapped, and youth were also provided with the Maxytaxy vehicle.

S.3 Project Findings

Implementation of Integrated Transit Services

Despite significant obstacles the WTD achieved the key objective of implementing integrated transit services through a contract with a local private taxi operator. This achievement had a dual significance in terms of expanding the WTD's brokerage role and also in harnessing the paratransit capability of private taxi operators. The successful negotiation of a management contract set the stage for meeting public sector transportation needs with private sector capabilities. The substantive integrity of this institutional arrangement remained intact despite a major legal challenge by the second local taxi operator in Federal Court (see Section 4.3 and 4.6).

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[1] Annual pass prices during the demonstration included $40 for a regular (daytime service) pass and $65 for a commuter pass; passes were also available at reduced prices for transit dependents (elderly, handicapped, youth).

The WTD also enlisted the support of several local professional firms and individuals who provided service in the areas of legal representation, accounting, public opinion research, and marketing. This interface returned benefits to the WTD in terms of financial savings on the cost of outside services, and local advocacy of Transit District goals.

Service and Operations Integration

The demonstration achieved the objectives of demonstrating service integration and operations integration. The WTD successfully operated integrated transit services using a mixed fleet of buses and vans. In so doing the WTD utilized innovative vehicle deployment and service strategies in an attempt to address community travel demand in the most cost effective manner.

The vehicle employed, the type of service, and the level of service were carefully designed responses to the WTD's assessment of passenger demand. This service approach was manifested in the use of larger buses on high ridership routes, special shuttles, the use of vans in supplemental fixed route service, and additional taxi deployments during peak periods.

The key elements in projecting the integrated system to the public were the integrated pass program and fare structure, extensive marketing, and public information services. The use of these progressive marketing tools was instrumental in creating public awareness and assuring a favorable public response to the Maxytaxy.

System Coverage

The demonstration achieved the objective of increased transit coverage through using the Maxytaxy vehicles in both shared ride service and supplemental fixed route service. The shared ride service provided 100% geographic coverage 7 days a week from 6 a.m. to 1 a.m. or 2 a.m.. The temporal coverage of the fixed route system was also increased in the morning (commuter service) and evening (daytime service) peak periods through the use of the vans. Geographic coverage on the fixed route commuter service was also improved with the addition of one route to Greens Farms Station, and the marginal extension of several Saugatuck routes (see Section 5.1.2)

System Support and Operational Center

The integrated services operations plan was based on the physical concentration of activities at the maintenance garage which housed the control center, administrative offices, and all support activities. This arrangement enabled the WTD to practice an integrated vehicle fleet management scheme in order to provide fixed route, shared-ride taxi and special services. Vehicle availability was effectively supported by a preventive maintenance program housed in the support center. The complete range of services provided revolved around this operational nucleus.

The overall provision, coordination, efficiency, reliability, and responsiveness of system services was enhanced as a result of the operations - support base.

Maxytaxy Service (see Section 5.3)

The demand responsive nature of the Maxytaxy service complemented the fixed route system in terms of service area and service operations. More importantly, the Maxytaxy added a new dimension to community travel with convenient door to door service at a reasonable fare.

Despite the occurrence of many minor maintenance problems, the reliability of the Maxytaxy vehicle was satisfactory in terms of availability for service and operations performance. Service responsiveness for immediate requests (averaging about 17 minutes over the demonstration) appeared to generally meet community expectations. Travel times were low due to high vehicle speeds and good tour make-up. During those periods when system demand increased wait times well beyond the norm, people adjusted to the service by calling further in advance to reserve their ride. This allegiance to the shared-ride service appeared to be enhanced by the courtesy of the dispatchers and drivers. The friendly drivers exerted a strong influence on the public attitude toward the service.

Ridership Achievements (see Chapter 6)

The demonstration succeeded in establishing taxi service as a popular form of public transportation in the community. By late 1978, Maxytaxy demand averaged 2700 trips and 3100 riders per week excluding package deliveries; this ridership level was an important accomplishment given

the community size and the level of pre-demonstration taxi ridership (approximately 1400 trips per week). The uniform age distribution of the ridership was significant in demonstrating community wide appeal of the service. Increased market penetration of taxi service was accomplished for the general public, as well as special groups as the elderly, and passholders. The tapping of new ridership markets was perhaps most evident in the fact that a majority of Maxytaxy riders had not used private taxi service in the past year, nor did they own a Minnybus pass.

The ridership data strongly suggests that WTD services were complementary rather than competitive.

The gains in Maxytaxy ridership did not appear to be at the expense of the fixed route system despite a significant ridership decrease in the daytime service. This decrease was highly correlated with local demographic changes involving a declining young people population and declining school enrollments. The majority of those riders who indicated the Minnybus as their back up mode appeared to be commuters picked up at the railroad station after regular fixed route service had terminated in the evening. In this manner the Maxytaxy strongly complemented the fixed route commuter service.

Special Markets Service (see Sections 6.3.2 and 8.1)
The demonstration achieved the objective of improving transit service for special markets including the elderly, the handicapped and the young (see Sections 6.1, 6.3.2, and 8.1)

In contrast to most transit service operations the demands of the elderly and handicapped were integrated with regular shared ride service. The special provisions manifested in discount fares and lift equipped vehicle deployments were intermeshed with regular service operations. The effectiveness of this integrated special markets service was enhanced by prudent dispatching and courteous drivers.

Elderly and handicapped demand responsive service was thus provided on a marginal basis as opposed to a separate service operation. This arrangement provided comparative financial benefits to the operator, and mobility and social benefits to the users. Transportation coordination among local social service agencies was also increased.

The needs of the elderly and handicapped were also served by the package delivery service which decreased their travel requirements by delivering items such as prescriptions and groceries; approximately 25% of all package deliveries were for elderly and handicapped individuals.

Service Productivity and Economics (see Chapter 7)

The Maxytaxy service achieved the objective of improved transit vehicle productivity by averaging over 4 trips per vehicle hour under steady state conditions. This productivity level was supported by a strategy of anticipating taxi demand and deploying vehicles accordingly, capitalizing on the private operator's knowledge of the community, programming advance requests into the system, and the effective use of the support base as an operational nucleus.

Despite the high vehicle productivity the shared ride taxi service did not achieve the goal of operating on a non-subsidized basis as a result of underestimating service operating costs. The operating ratio (revenue/cost) for the shared ride service averaged slightly over 50% prior to the average 28% fare increase of December 1978. Preliminary 1979 data indicates that the fare increase has not adversely affected ridership levels. Revenue and cost data for the first quarter of 1979 indicate that the operating ratio has increased to approximately 60%.

The passenger productivity of the fixed route system decreased by approximately 13% over the demonstration period. This ridership decrease was contained within the daytime service and was related to a demographic trend involving fewer young people in the community.

Community Benefits (See Chapter 8)

The demonstration had a pronounced impact on the Westport community. Maxytaxy became an integral part of the local scene both in terms of image and dynamics. The people expressed an affection for the service and many made it part of their daily life style. Mothers, children, and commuters enjoyed greater independence in their daily routines. Household auto ownership was further decreased and several plans to construct

additional parking areas in the town have for the time being been deferred, minimized or eliminated. WTD service also increased the desirability of living in the community and contributed to increased real estate values.

Most importantly the range of WTD services became an integral part of the planning process in the town. An interface was achieved with the Planning and Zoning Commission, downtown merchants, businesses, and social service groups. There were few major community plans or projects which did not consider the Minnybus or the Maxytaxy in some way. The increasingly sophisticated transit fit was also instrumental in leading to local discussion of an Auto Restricted Zone (ARZ) for the downtown area.

S.4 Implications

Several characteristics of the Westport environment undoubtedly contributed to the achievement of certain demonstration project objectives (see Section 9.2). Nevertheless, the Westport demonstration experience has important implications for other transit properties considering the implementation of integrated services:

Implementation I: The Community Base

Implementation of integrated service is best supported by a strong transit foundation in the community. A strong community interface and a good reputation of service are invaluable assets when attempting to develop innovative paratransit operations. Being part of the community results in increased advocacy of the Transit District's goals and a higher degree of consensus among community factions and residents. A community interface is also a critical factor in the effort to secure transit financing and the local share of the estimated operating subsidy.

Each solid transit accomplishment can lead to a more sophisticated attempt to provide better services. Westport experienced 6 years of community debate before operating fixed route service; almost three

years of fixed route service occurred before shared ride taxi service was initiated; two years of innovative paratransit service have now led to discussion of an ARZ in the downtown area. Increasing responsive transit services for the community has helped to develop the community's confidence in more sophisticated plans involving transit.

Transit properties contemplating the introduction of integrated services should be aware of the evolutionary nature of this process in terms of both the time element and the necessary interaction between the Transit District and the town; furthermore, they should assess the strength of their own foundation and move forward based on actual accomplishments.

Implementation II: The Institutional Base

A public transit entity contemplating the introduction of integrated services should investigate the full legal and regulatory context in which it operates relative to enabling legislation, regulatory agencies, and local ordinances. This will provide a full understanding of the institutional context and will delineate what options are available for implementing integrated services. A thorough analysis would clarify the appropriate channels or reveal the need to create the appropriate channels through legal and regulatory change.

A similar investigative effort should be applied by the public transit entity to potential private operators who may serve as management contractors. This would establish the options available to a private operator wishing to participate in a project of this nature.

A review of the private operator public records would reveal the financial condition of the businesses and serve as useful information in early negotiations.

The transit entity should initially attempt to provide for the maximum participation of all interested parties through holding public hearings in which the integrated services plan is presented in general terms; the comments of the general public and private operators should be recorded and documented.

Any formal negotiations perhaps should be preceded by informal meetings (open to any interested operator) stressing each entity's role in providing transportation services and the potential for increased efficiency, productivity, and profit if the public and private sectors could collaborate in the provision of services. This effort might lead to a more congenial negotiating environment and a better mutual understanding of paratransit potential in the community.

Formal negotiations with responsive bidders may be facilitated by the use of a cost plus fixed fee contract to eliminate the private operator's financial risk, and the inclusion of a profit incentive program based on vehicle productivity or other system parameter more applicable to the specific locale or project.

Should litigation develop during or as a result of the implementation process, the public transit entity should be fully versed in the legal issues concerning unfair competition, what constitutes a mass transportation company, compensatory damages, and the legal opinions on shared ride services and paratransit in terms of state definitions and UMTA policy. Each step in the implementation process could be subject to judicial review and should be fully documented and recorded.

Despite the potential for legal and other institutional difficulties, the Westport experience has shown that adequate preparation and careful implementation can result in the operation of integrated services by public and private providers.

Implementation III: The Operations Support Base

Integrated service operations appear to be greatly facilitated by a consolidated operations-support center. Such a center can achieve significant economies relative to vehicle maintenance and deployment, control room activities, driver force availability, and administrative contact with the integrated services operation. All system vehicles, operational personnel, and support personnel are either directly or indirectly in contact with this center. More opportunities are available for using system resources more effectively, and a more responsive capability for dealing with system breakdowns can be developed.

The integrated services plan should include provision for such a center to serve as the operational nucleus. Smaller transit properties can avoid or defer extensive capital costs through following Westport's example of contracting with a private party, preferably located in a centrally accessible area.

The economies of scale in larger systems of this type may justify capital investment for certain Automatic Vehicle Monitoring (AVM) or navigational systems (e.g., Loran-C) which might otherwise be cost prohibitive to smaller transit properties or private providers (as it was in Westport). Such systems could significantly improve command, control, and communications capabilities particularly in larger service areas.

Vehicle Purchase Strategy and Preventive Maintenance Program

The vehicle purchase strategy for integrated services must balance the concerns of service compatibility and preventive maintenance. A homogeneous vehicle fleet offers maintenance advantages but prevents the Transit District from tailoring vehicle supply to the nature and level of demand; multiple vehicle types increase service potential at the risk of burdening the maintenance function with varying requirements.

After assessing local travel markets it may be desirable for the transit property to think in terms of vehicle sets with each set characterized by uniform size, design, capacity and maneuverability. Each set of vehicles (e.g., transit coaches, minibuses, vans) can be responsive to a different service requirements and level of ridership. The van vehicle offers special flexibility in being eligible for fixed route, shared ride, and special market service; a raised roof design is particularly important for deploying the van in fixed route service.

Each proposed vehicle type should also be evaluated with respect to the detailed maintenance schedule and requirements, the availability of span parts for the vehicle engine and subsystems, warranty items, and the number of trained mechanics available to support a preventive maintenance program. Such a program is essential for insuring adequate vehicle

availability and performance. It is important to have the preventive maintenance program organized prior to vehicle delivery since many "break-in" problems occur during the first few months of vehicle operation. The public's perception of system reliability can be strongly influenced during the early months of service operations.

Projecting the Integrated System

Implementation efforts must be closely coordinated with an effort to create an image of the integrated system and induce demand for new services. The key elements in this effort appear to be comprehensive marketing, an integrated fare structure and pass program, and public information services. Marketing should permeate the system but begins with vehicle and driver selections. Fixed route and demand responsive vehicles should feature color schemes and identifying logos (e.g., Minnybus, Maxytaxy) which are variations of a common theme. Input from community residents and marketing professionals should be considered to coin appropriate system terminology. In this manner, the transit service are endowed with the same marketability attributes as successful consumer products.

Drivers provide the human interface in the system, playing the key role in selling the services to the public. Special attention given to the selection of personable, courteous drivers will help produce a warm reception for system services. Special driver training for handling special market segments (elderly, handicapped, children, packages) will broaden the base of support in the community. In performing daily services, shared ride taxi drivers should recall the public's expectations (compared to private premium taxi) of Maxytaxy drivers in Westport.

The marketing program should also include contractual professional support from an advertising firm which can graphically capture the spirit of the integrated services approach. This may include promotional and explanatory material designed to prime the ridership market. Properly executed, this professional support can exert a favorable influence on public attitudes.

An integrated fare structure and pass program should be developed and designed to promote system integration, service complementarity, and high operating cost recovery. The fare spectrum should extend from individual regular fares for fixed route and demand responsive services to complete system passes. Within these bounds, there should be individual service passes as well as a series of fare-pass discount combinations designed to tie system services together. The discount combinations can be responsive to fixed route service gaps, special market segments, or the uneven temporal distribution of demand in the service area. As a further convenience, the transit property should consider the sale of discount coupons, gift certificates and season passes; monitoring the community pulse will provide insight in to the most appropriate fare options. Special payment plans (charge, installment, subscription) could also be considered for patrons of large organizations such as employers, social service agencies or businesses. The financial benefits of various fare and pass plans should also be quantified and disseminated in marketing material.

The transit entity should also be aware of the need to sensitize the public to system changes. The introduction and marketing of service innovations and fare options should be staggered so as not to confuse the public.

A public information function is essential for successful integrated services. This element should include a telephone service as well as a walk-in office center for pass sales and other discount fare packages. Mailing programs and periodic newsletters could also be considered as part of the information center's responsibilities. Finally, the center should develop a comprehensive information base on all transportation services available in the area.

System Operations

System coverage, reliability, and operator efficiency can be enhanced through responsive strategies of vehicle deployment and service assignment which attempt to match system resources against the dynamics

of community demand. Demand patterns can provide a blueprint for constructing system level of service and dividing it between fixed route, demand responsive, and special service operations. Transit management should attempt to provide the best service fit for the type of demand, and the best vehicle fit for the level of demand. The integrated system approach also provides management with increased opportunities for service transitions (e.g., changing a van from shared ride service to supplemental fixed route) and vehicle substitutions in the event of breakdowns.

The effectiveness of daily shared ride operations can benefit from a taxi service strategy based on anticipation. This strategy may entail continual coverage of a peak travel generators (e.g., railroad stations), grouping large numbers of riders into individuals cabs based on destination areas, overlapping taxi shifts during peak periods, and planning advance requests (subscription, handicapped) into the ongoing vehicle deployment strategy. System dispatchers, should be suitably trained and other local service strategies should be designed to minimize the circuity of travel. The selection and training of competent, courteous dispatchers in essential to the success of shared ride operations; their performance should be rewarded with some form of incentive payment. Peak demand periods may require additional control center staff to assist the dispatcher in handling service requests.

Community Brokerage Potential

Integrated transit services offer considerable potential for expanded brokerage efforts with the major public and private interests in the community. These include:

- Employers, merchants and businesses
- Social service agencies
- Realtors
- Local planning and zoning board
- Public service departments (public works, police, fire, parking, medical, library)
- Education centers
- Private providers

Establishing a rapport with these organizations and groups could identify some regular or contingency service which could be provided with some component of the integrated service system. Institutional and operational issues should be discussed to identify possible areas of cooperation. This brokerage process should always be based on the realization that integrated services are a means to an end and not an end unto themselves.

Finally, integrated services are best sustained if the operational benefits are carefully detailed, quantified, and injected into the local decision making and funding process. The appeal of integrated services is strengthened by hard figures on the financial impact on the financial impact on the town budget and on the budgets of other affected organizations. An effective lobby of community interests should be formed to influence the budgetary process; potential subsidy requirements might then be viewed in a different light.

Integrated services which are properly planned, implemented, and managed can be a major force in improving the quality of life in a community.

1. INTRODUCTION

1.1 Purpose of Report

This report is an evaluation of the Westport, Connecticut Integrated Transit Services Demonstration. It includes a description, analysis, and assessment of the institutional and operational elements involved in the provision and brokerage of integrated transit services by a public transit district.

The Westport Demonstration was sponsored by the Urban Mass Transportation Administration (UMTA) under the Service and Methods Demonstration (SMD) Program. The SMD Program is intended to foster the development, demonstration, and evaluation of new techniques and methods for using the current generation of transit equipment in providing a significantly improved quality of public transportation. This particular report has been accomplished through the Transportation Systems Center (TSC), which has programmatic responsibility for all aspects of evaluation associated with the SMD Program.

The Westport Demonstration Project addressed three objectives of the SMD Program:

1) Increased transit coverage.
2) Increased transit vehicle productivity.
3) Improved transit service for the transit dependent.

In addition, the Westport Demonstration has addressed two key issues of national importance. The first issue involved the actual implementation of integrated transit services through contracting with a local taxi operator for the provision of shared ride taxi and special services. The second issue related to the operational management and brokerage role required to support and sustain integrated services; this role performed by the Westport Transit District (WTD) has encompassed innovative approaches to vehicle fleet utilization, marketing, and system fare structure.

The common thread running through these issues and objectives has been a philosophy of transit district brokerage coupled with private taxi operator involvement in the provision of services. As such, the Westport Demonstration constituted a major effort in the development of local paratransit resources.

1.2 Report Overview

Chapter 2 provides a background on the pre-demonstration Westport setting. Information is provided on Westport's geographic location, demographic characteristics, transportation providers, travel patterns, and events leading to the demonstration. Chapter 3 consists of a general description of the demonstration project and the services provided. Institutional arrangements as well as service strategies are discussed. Chapter 4 describes the project implementation process from the awarding of the grant to the initiation of services; legal institutional, and operational elements are discussed. Chapter 5 focuses on a presentation of the demonstration project level of service. The shared ride service is treated as a component of system level of service provided by the WTD. Chapter 6 involves a presentation and analysis of passenger demand for system services. Ridership is addressed in terms of individual services, spatial and temporal aspects of demand, user profiles, market penetration, and the larger issue of WTD offering competing services or complementary forms of transportation. Chapter 7 addresses system performance in terms of operator impacts and measures of efficiency and productivity. Chapter 8 discusses non-travel impacts such as those on other providers and the community in general.

The final chapter, Chapter 9, assesses the demonstration results and discusses the potential transferability of project elements.

The Appendices contain the Federal Court decisions in the Westport litegation, and selected WTD marketing material.

2. SITE DESCRIPTION

2.1 Setting

The community of Westport is situated in southwestern Connecticut with approximately eight miles of shoreline on Long Island Sound (see Figure 1). Due to its proximity to New York City (approximately a one hour drive) Westport is a prime bedroom community for corporate managers and professionals. The population of just under 29,000 people occupies an area of approximately 22 square miles resulting in a relatively low population density of 1300 persons per square mile.

The north and south sections of Westport each contain a major east-west transportation corridor with Merrit Parkway on the north and the Connecticut Turnpike on the south, paralleling the Conrail right of way. There are two commuter rail stations serving Westport, located in the southwest (Saugatuck Station) and southeast (Greens Farms) sections of the community.

Major natural features of Westport include the coastal beaches and the Saugatuck River which flows in a north to south alignment and bisects the westerly half of the town (see Figure 2). This waterway precipitated the early development of Westport (incorporated 1835) due to the advantages of locating storage warehouses at the mouth of the river. This area has since developed into a clearly discernable central business district (CBD) of shops, restaurants, offices and municipal buildings. As a center of trade, the CBD serves approximately 50,000 people in a nine mile radius around Westport center. Adjacent to the CBD is an open grassed area of historical significance called Jesup Green.

The CBD is also bisected by Route 1 (The Boston Post Road) which serves as the central spine of the community. Commercial establishments are heavily concentrated on the Route 1 spine through Westport.

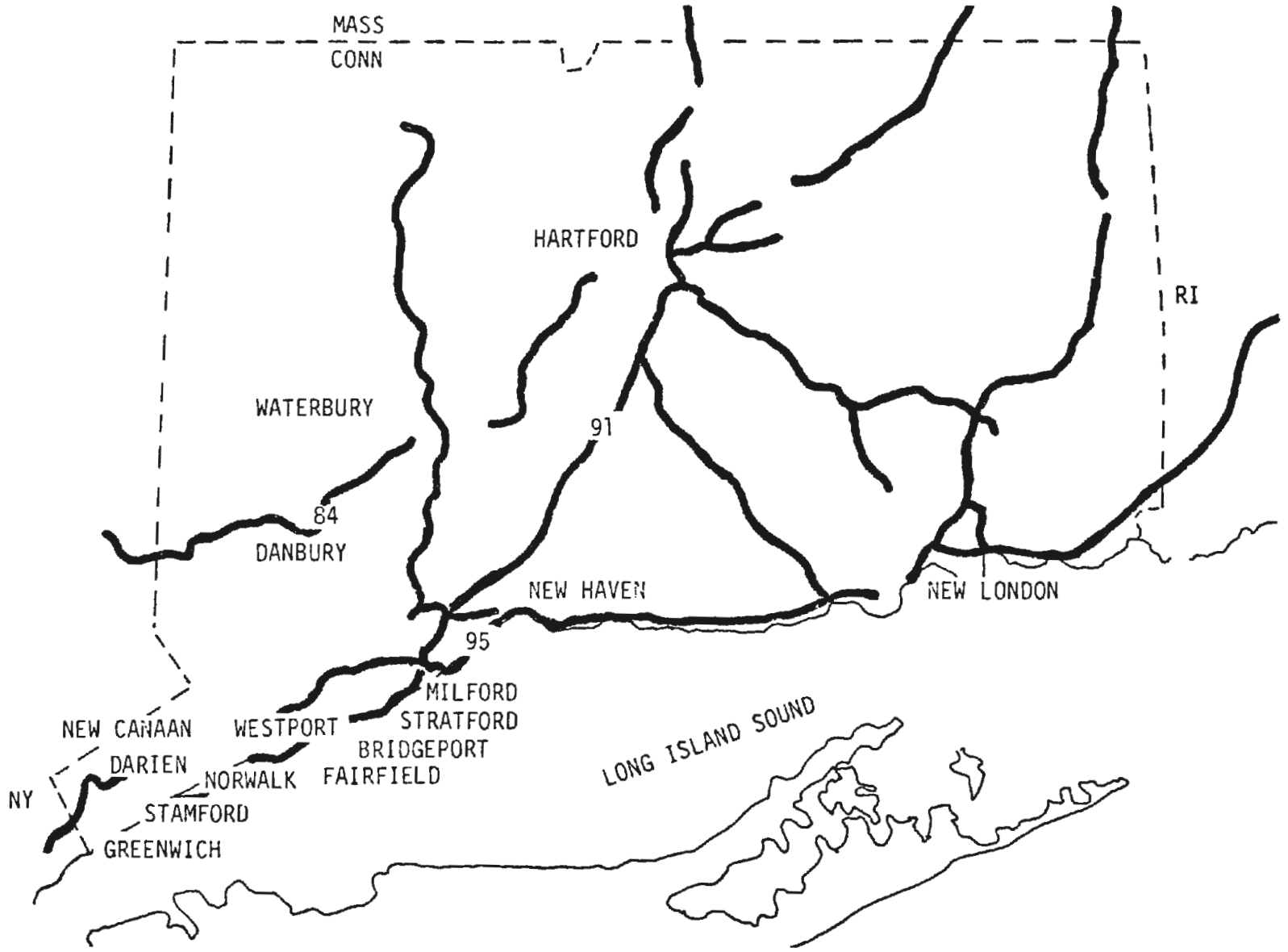


FIGURE 1. WESTPORT'S LOCATION IN THE REGION

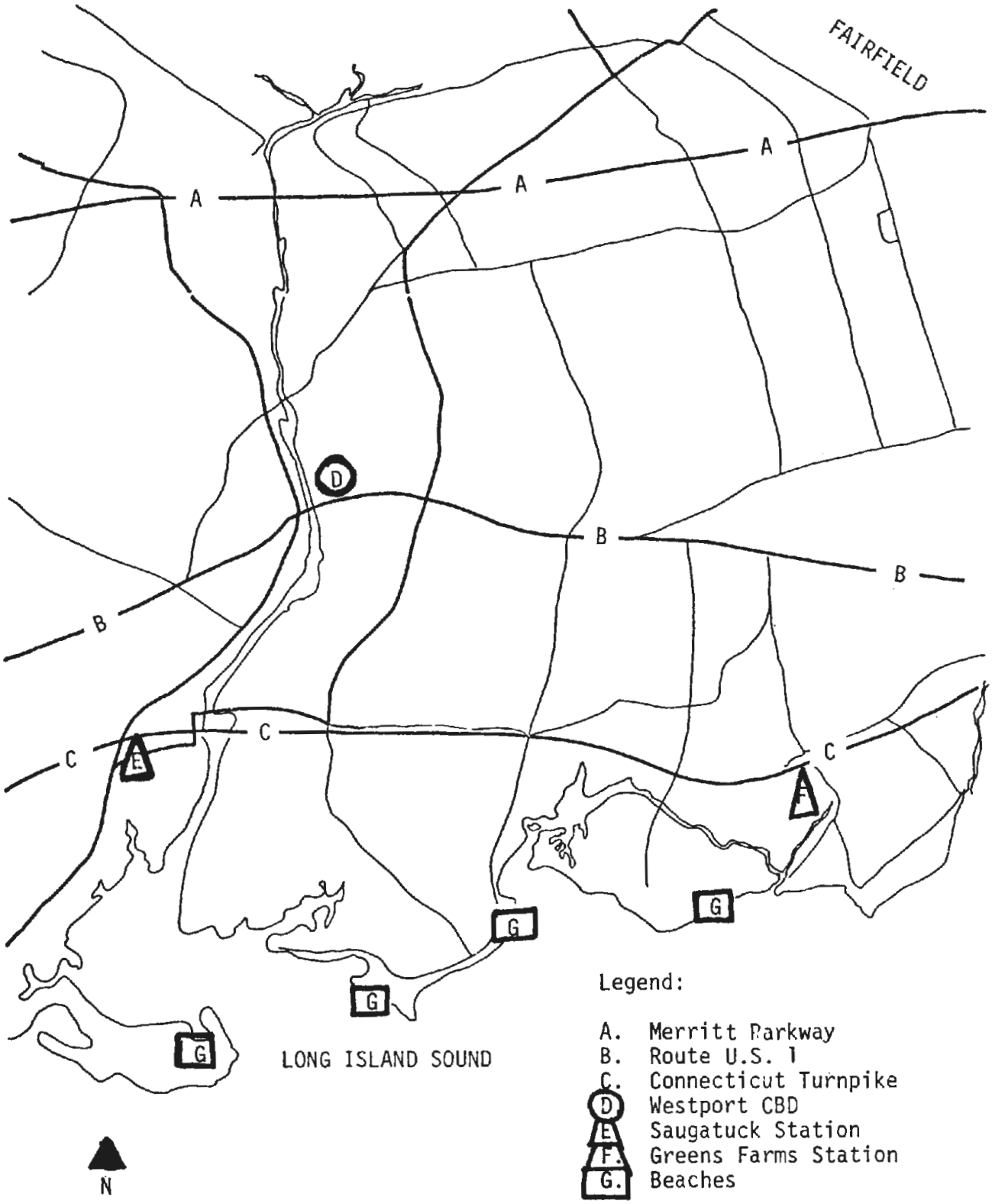


FIGURE 2. THE WESTPORT SETTING

Residential land use is predominant, however, with most lots ranging from one half to two acres in size. The lot sizes, house designs, and community style all contribute to the image of Westport as an affluent suburb.

Important demographic characteristics include a high percentage of young people in the population, a relatively high household income level (40 percent over $24,999), and an extensive number of multi-car households (see Table 1). The degree of transit dependency was especially evident in 1970 figures showing 40 percent of the population to be age 20 or under. This figure was reinforced by the 1976 public school enrollment of 6739 which equalled approximately 24% of the population.

The number of handicapped individuals in Westport totals 750; 40 of this handicapped group utilize wheelchairs. The elderly (65 and over) account for just under 8 percent of the population which is less than the national average of 9.8 percent.

The weather conditions in Westport feature seasonal New England variations but the area is generally not exposed to extreme heat or cold. Average yearly temperature is 58 degrees, average humidity is 75, and average rainfall is approximately 44 inches.

2.2 Transportation Context

2.2.1 General Characteristics

The Westport transportation environment contains the classic elements supporting the predominance of automobile travel. These include a large geographic area, low population density, affluence, a discernible spine, a dispersed street pattern, and the bedroom nature of the community. The high household automobile ownership was a natural outgrowth of these factors.

TABLE 1 Selected 1970 Census Demographic Data for Westport

Population	Number	Percentage
1970	27,414	100
1975[1]	28,715	100
Sex		
Male	13,240	48.3
Female	14,174	51.7
Race		
White	27,058	98.7
Black	239	0.9
Other	117	0.4
Age		
0 - 5	1,974	7.2
6 - 13	4,905	17.9
14 - 17	3,024	11.0
18 - 20	1,013	3.7
21 - 29	2,055	7.5
30 - 39	2,961	10.8
40 - 49	4,906	17.9
50 - 64	4,499	16.4
65 +	2,076	7.6
Median Age: 32.5		
Number of Families:	6,867	
Average Family Size:	3.7	
Number of Households:	8,040	
Average Household Size:	3.4	
Family Income		
Under $5,000	308	4.5
$ 5,000 - 9,998	783	11.4
10,000 - 14,999	1,110	16.1
15,000 - 24,999	1,934	28.1
25,000 - 49,999	2,157	31.3
Over $50,000	599	8.7
Average: $25,955		
Median: 21,432		
Household Automobile Ownership		
None	234	3.5
One	2,265	28.2
Two	4,455	55.5
Three or more	1,022	12.7

[1]CACI, Inc. proprietary Site Program, forecasts based on methodology developed by National Planning Data Corporation, Ithaca, NY

Travel within the community is oriented towards several major traffic generators as presented in Figure 3. These include the central business district, the Boston Post Road East commercial strip, and the two railroad stations. In addition, the beaches, coastal recreation areas and major school facilities serve as seasonal traffic generators.

The central business district contains the major shopping area, business offices, town government buildings and the town library. This concentration of establishments is the central activity center in the town and tends to create peak traffic congestion problems. Despite the downtown parking supply of over 2000 spaces, parking availability has also been a problem for residents. Through traffic on the Boston Post Road also contributes to downtown congestion.

FIGURE 3. Traffic Generators in Westport

Commercial traffic is also generated by the strip development on the Post Road East. The commercial densities along this eastern spine result in a high number of curb cuts for access to, and egress from these establishments; frequent turning movements conflict with through traffic in this area.

The town's two railroad stations serve as major traffic generators for daily commuter rail service to and from New York City. Area residents have the choice of several morning and evening trains (see Table 2).

TABLE 2. Peak Period Weekday Commuter Rail Service at Westport Stations

	Saugatuck	Greens Farms
Morning Departures	6:07	
	6:33	6:28
	7:09(E)	7:04
	7:32(E)	7:27(E)
	7:51(E)	7:46(E)
	7:59	7:54
	8:28(E)	8:40
	8:45	
Evening Arrivals	4:12	4:15
	5:09	
	5:42(E)	5:46
	6:00(E)	
	6:10	6:14
	6:24	6:29
	7:08	7:12
	7:36	7:40
	8:16	8:20

(E) denotes express run

The travel time from Saugatuck Station to Grand Central Station in New York is approximately 1.3 hours for regular runs and 1.1 hours for express runs.

Approximately 2400 area residents patronize this service on a daily basis; roughly 75% of this demand originates within Westport as shown in Table 3 and Figure 4.

TABLE 3 Ridership from Westport Rail Stations[1]

Station	Westport	Non-Westport
Saugatuck	1455 (2139)*	614 (958)
Greens Farms	284 (417)	3 (4)

* ( ) denotes 1980 forecast

Parking availability at the stations has been a traditional problem for residents. Westport has attempted to deal with this problem through the issuance of parking permits with prices categorized by resident vs. non-resident and with discounts for second and third family cars. The number of issued permits far exceeds the number of parking spaces at Saugatuck (1100 spaces) and Greens Farms (400 spaces) stations.

School generated traffic centers on Staples High School, located in the easterly section of the community midway between Merrit Parkway and Route 1. Junior high schools are located in the west (Bedford), east (Long Lots) and north (Coleytown) sections of the town. The total enrollment in the junior and senior high schools is approximately 3,900.

The major coastal recreation areas that act as seasonal traffic generators are Compo Beach, and Longshore Park, both located on the Compo peninsula; all the town sponsored recreation activities from June to the end of August are held at these sites. Activities attract approximately 1000 youth each weekday, and from 6000 to 7000 youth on both Saturday and Sunday.

[1]Complementary Commuter Service Needs in Connecticut, Wilbur Smith and Associates, New Haven, Connecticut, 1970

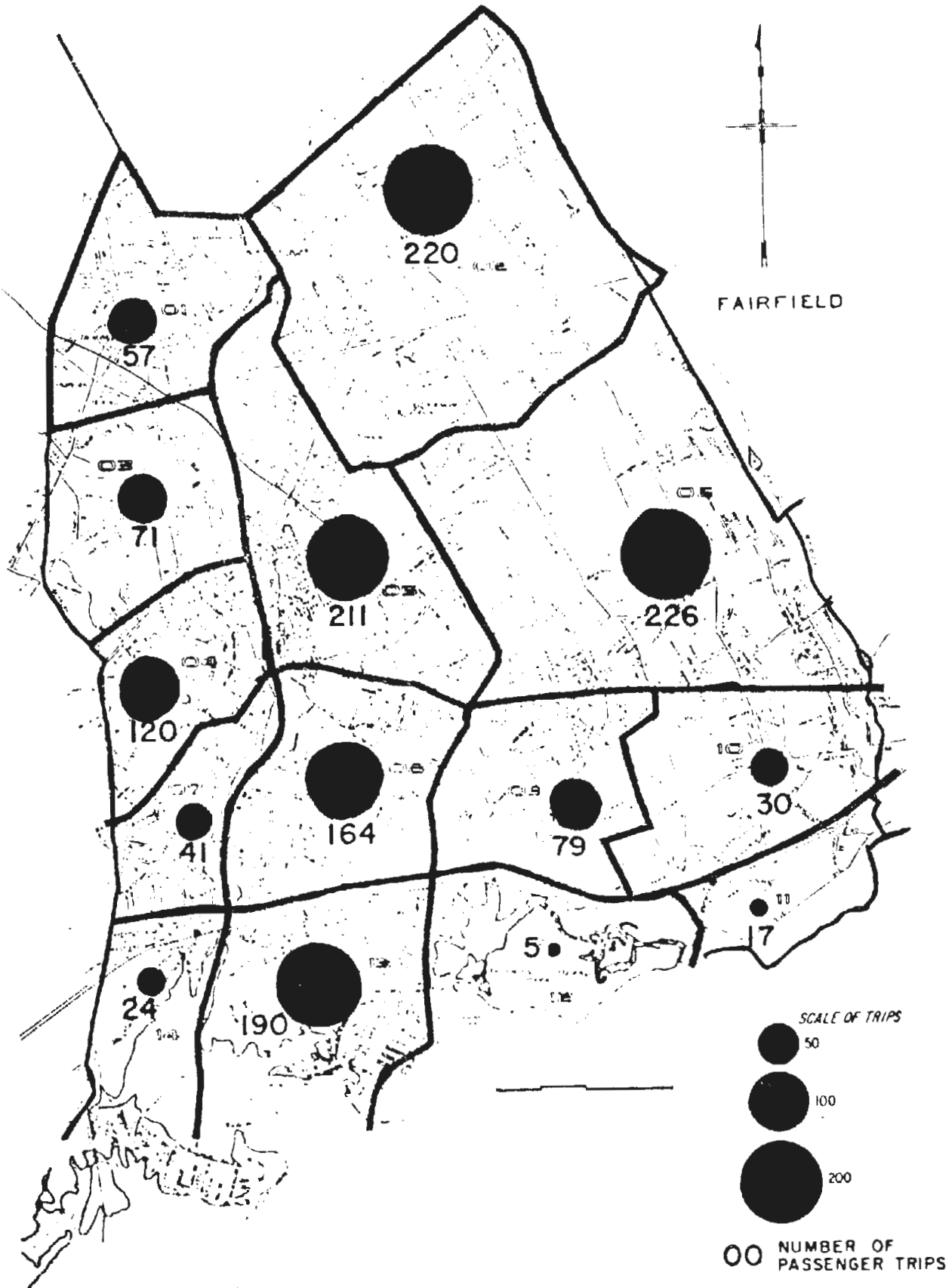


FIGURE 4. Origins Within Westport of Passengers Departing from Saugatuck Railroad Station

2.2.2. Westport Transit District

2.2.2.1 Origins

The fixed route bus transit system operating in Westport is the result of a local community effort dating back to 1968. The earliest proponent of such a system was a local resident and Town Meeting member, Mr. Paul Green. Mr. Green's personal and professional acquaintance with European transit systems stimulated an interest in attempting to provide comparable service in the Westport setting. His personal efforts and official work on a special Town Meeting committee resulted in an affirmative referendum vote on the 1968 ballot which officially established the Transit District in accordance with state enabling legislation.

The legislation gave the WTD the authority to operate all transit within its jurisdiction, and the potential authority to regulate all local taxi operations in the District provided the WTD assumed the powers of the State Public Utilities Control Authority (PUCA).

Activity in the next several years focused on the completion of several bus transit feasibility studies coupled with local discussion on funding a portion of the expected operating deficit. The operational plan developed by a consultant recommended 6 daytime loop routes emanating from the CBD area, and 6 peak period commuter routes serving the major railroad station. Revenues from fares and sales of recommended annual passes were estimated to recover approximately one-half of operating costs. The issue of a local financing commitment was resolved (at least in theory) by state legislation in 1973 granting Transit Districts the authority to levy a one cent a gallon gasoline tax to provide the local share of the required operating subsidy.

Thus the implementation question came to hinge on the appointment of a second Transit Director, a requirement under state law when population exceeded 25,000. The transit question facing the community was widely discussed through the spring and summer of 1973. Opponents cited the high auto ownership in the town, and the potential for escalating operating deficits and increased urbanization. Supporters arranged for the display of the bus prototype (Mercedes D309) planned for use in Westport; this display was considered a major factor in influencing public opinion. In October, 1973 the Representative Town Meeting appointed a second Director by a vote of 21 to 16.

With the official go-ahead the WTD worked over the next 10 months to provide an operational foundation. Tasks included personnel recruitment, securing a federal capital grant, state matching funds, and local operating assistance, equipment procurement, and the negotiation of support contracts for system maintenance and marketing.

The selection of the 16 passenger Mercedes D309 bus was a major element in establishing an image of the transit system. The term "Minnybus" was coined as the result of a professional marketing effort to select an appropriate term. The diesel minibus also offered operational advantages in terms of efficient operations and minimal maintenance requirements. The vehicle fleet was delivered in mid-summer 1974; fleet deployment operations were based at the local school bus garage near the center of town. Minnybus fixed route service commenced in early August following driver training and an advertising campaign.

The Westport community decision was an affirmation of the goals espoused by the Transit District Directors[1]:

First, the bus transit system was intended to meet the human needs of the elderly, of the young, of the suburban housewife and of the commuter. Secondly, it was proposed to meet the financial needs of both municipal government as well as the individual car owner by reducing the need for automobile use in the community, which would save on cost to develop parking spaces, widen roads, as well as the personal cost of car ownership. Thirdly, it was designed to have an environmental impact by reducing congestion and pollution, achieving better land use, and utilizing energy resources more efficiently.

2.2.2.2 Fixed Route Service Operations

The WTD operated two types of fixed route "Minnybus" service in Westport (see Table 4):

1. Regular daytime service.
2. Commuter service during peak periods.

The regular daytime service operated on 7 loop routes which met at a common transfer point (Jesup Green) near the center of town (see Figure 5). Each route had a run time of 30-35 minutes and a timed transfer was coordinated at Jesup Green after each fleet run. Service was offered continuously from 7:45 a.m. to 5:30 p.m.. The loop route system and central transfer activity were structured for extensive area coverage (approximately 80%), schedule reliability, and minimal deadheading.

Prior to, and upon completion of daytime service, the WTD used the same vehicles to provide commuter service to Westport's commuter rail stations. Commuter service, provided from 6:30 a.m. to 7:30 a.m., and from 5:50 p.m. to 7:30 p.m., consisted of ten routes providing approximately 60 percent geographic coverage to the town (see Figure 6).

Prior to the demonstration, the vehicle fleet consisted of eight 16-passenger minibuses and two 33-passenger small transit coaches (called Maxybus).

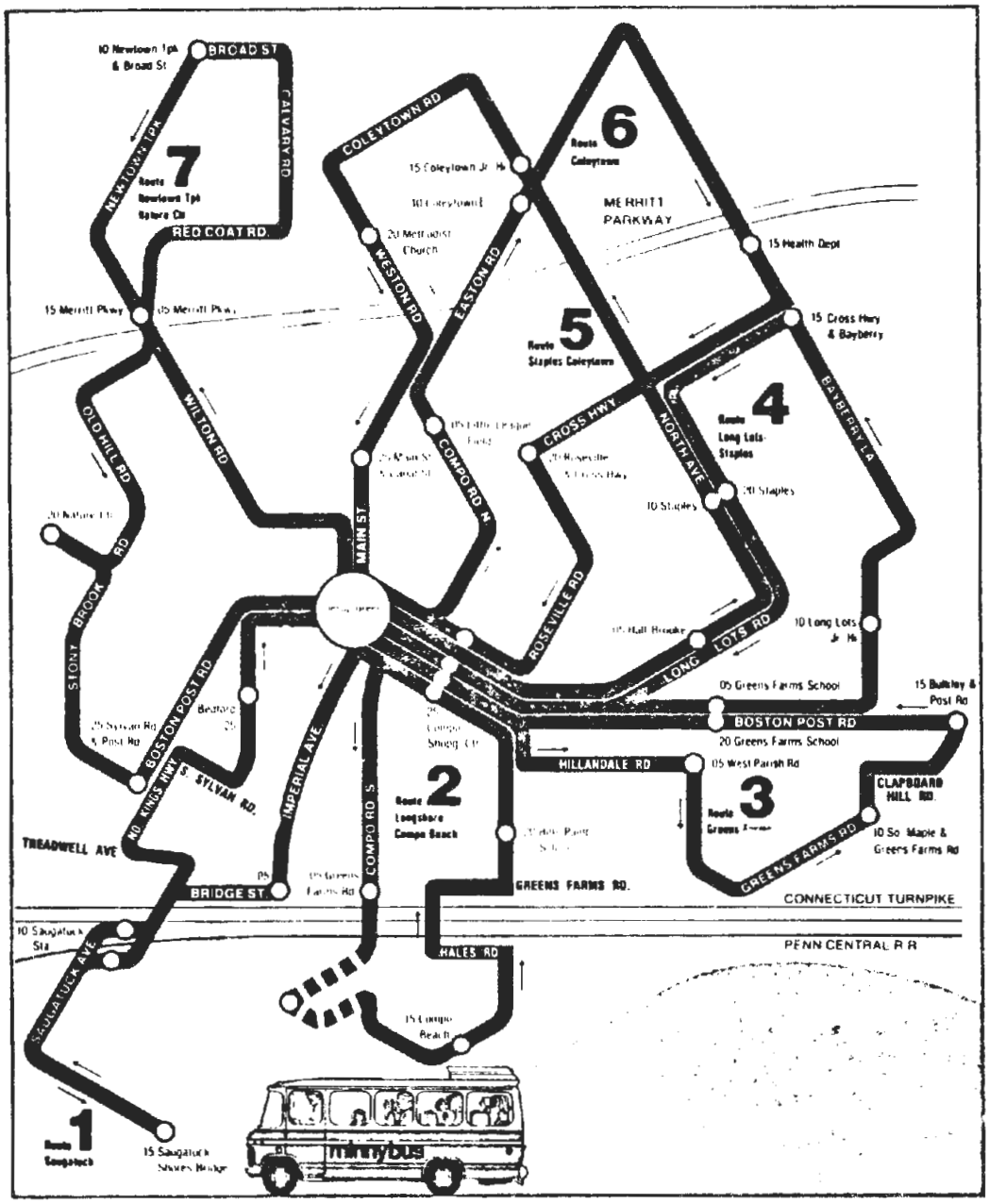
[1] Westport Transit District. Here Comes The Minny, September, 1976.

TABLE 4 Minnybus Service Information

	Commuter	Regular Daytime
Number of routes[1]	10 (A-H, GF1, GF2)	7 (1-7)
Types of routes	Linear & some loops	Loop
Day coverage	Weekdays	Weekdays & Saturday
Time coverage	6:30 AM - 7:20 AM 5:50 PM - 7:30 PM	7:45 - 5:35 PM
Area coverage	See Figure 6.	See Figure 5.
Route terminus	Rail stations	Jesup Green Central transfer
Headways	22 minutes	35 minutes
Number of daily fleet runs	2 morning 3 evening	17 pulses
Route length	4 to 5 miles	8 to 9 miles
Number of stops	Flag down procedure	Same
Deadheading	Yes: garage to 1st pickup; RR to 2nd pickup; RR to Jesup Green	Minimal: CBD garage to Jesup Green
Fare	$.50 drop fare; Annual pass	Same
Transfers	Not applicable	Yes (one transfer included in fare)
Vehicle type used[2]	Mercedez Benz D309	Same
Vehicle capacity	16 seated 6 standing	Same
Vehicle equipment	Radios, stop buzzer	Same
Drivers	Non-union, no official uniforms	

[1]Minnybus also operated special shuttle bus runs to service seasonal high demand areas (Staples High School, Compo beaches).

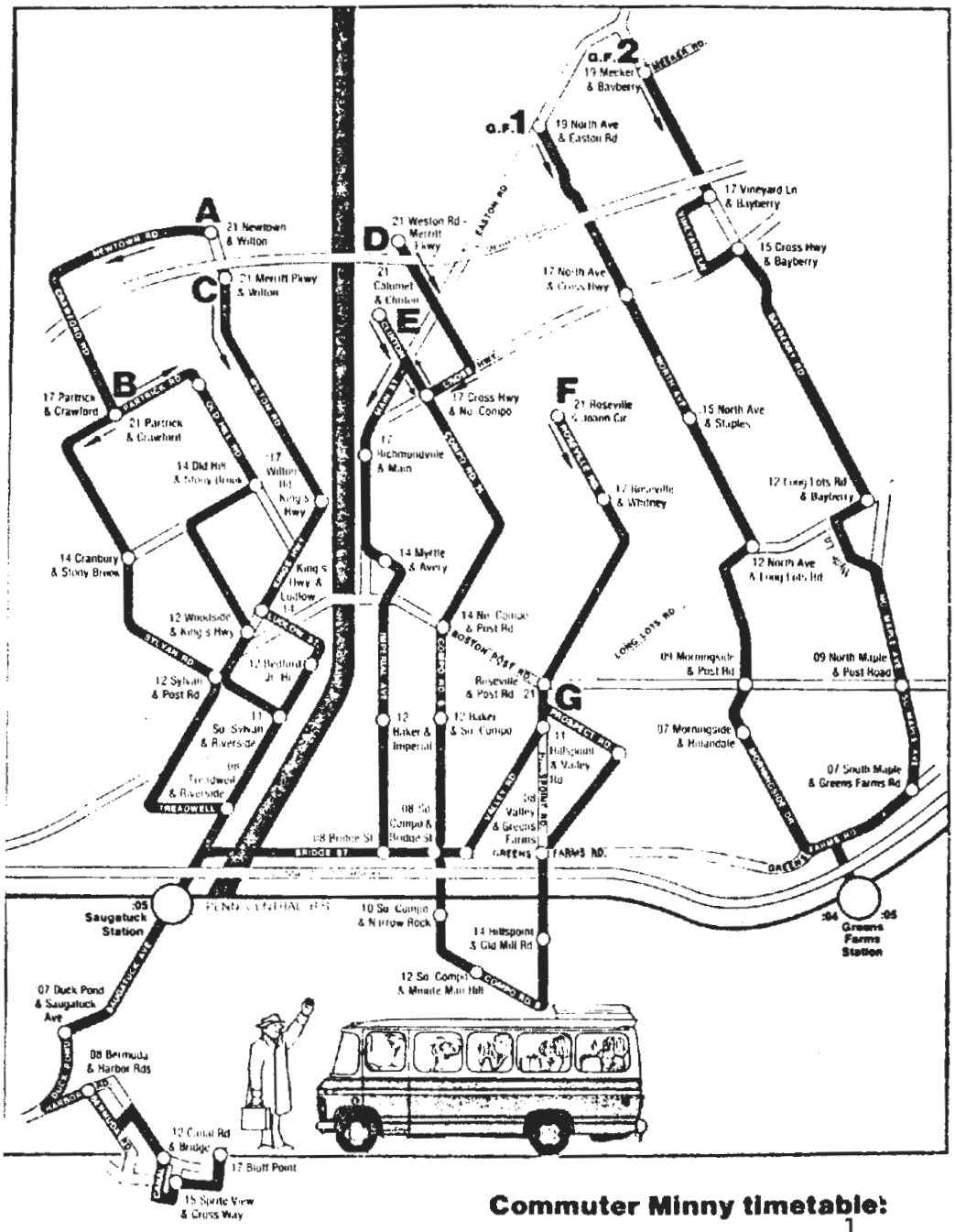
[2]One 33 passenger Maxybus was used selectively in the fixed route service. High ridership runs were served on both the daytime (high school route) and evening commuter (route GF1) services.



Here's where and when to find the Minny

The numbers indicated at each point represent minutes from Jesup Green. Buses on the Daytime Route depart from the Minny Terminal at 7:45 8:20 8:55 9:30 10:05 10:40 11:15 11:50 12:25 1:00 1:35 2:10 2:45 3:20 3:55 4:30 5:05

Figure 5. Minnybus Daytime Service Routes and Area Coverage



Note: To find the time Minny will be at your stop in the morning, "count down" or subtract the indicated number of minutes from train time. If evening trains are late — we'll wait at least til 8 p.m.

Commuter Minny timetable:[1]

Saugatuck Trains	Greens Farms Trains
7:09 AM	7:04 AM
7:32	7:27
*5:02 PM	*4:40 PM
*5:20	*5:20
*6:07	*6:07

*Leaves Grand Central

FIGURE 6. Minnybus Commuter Service Routes and Area Coverage

[1]Commuter service to Greens Farms Station began in 1975.

Seven vehicles were in active use, and three vehicles were maintained as a back-up fleet. The WTD operated a preventive maintenance program which was housed under contract at the local school bus garage.

Fixed route operations were facilitated by several aspects of the Minnybus system including vehicle performance, the use of annual passes, the driver prototype, and marketing-promotion services.

The relatively small bus size and the short wheel base enabled the Minnybus to easily negotiate the local road network and attain relatively high vehicle speeds on the long loop routes around the town. High vehicle speeds were also supported by the vehicle flag down system which was selected over a series of designated bus stops.[1] The elimination of unnecessary stops contributed to a faster and more convenient service.

Minnybus patrons also benefited from the use of an annual pass. The holder of an annual pass was entitled to unlimited rides on the Minnybus system in return for payment of a specified amount. Table 5 presents the prices of the annual pass for the 3 years preceding the demonstration.

TABLE 5 Minnybus Annual Pass Prices 1974-1976

	1974	1975	1976
Husband and Wife	$25	$35	$45
Children bought with above	7	12	15
Children alone	15	20	25
Elderly (over 62)	15	15	15
Single Adult	20	25	30
College Students living away	10	15	20

[1] Children were instructed (through newspaper ads, etc.) to wait on the same side of the street to board the "Minny," wave at the Minny to make it stop, and let the Minny pull away after leaving the bus before crossing the street.

This pass system had several positive impacts on service performance and system operation. The pass eliminated fare collection duties for the driver, simplified bookkeeping, and reduced travel time for riders by decreasing boarding times. The pass induced ridership in terms of group participation (family prices), and trip frequencies since the cost per trip decreased with increasing use. It enabled the youth of Westport to ride the Minnybus without dealing in actual fare payments. Revenue was also derived from non-users who purchased a pass merely to support the system. Finally, the revenue derived from pass sales produced a high initial cash flow for WTD operations.

Without an annual pass the single ride fare was $.50, which had to be exact change; this entitled the passenger to one transfer. The elderly and handicapped were entitled to a $.25 fare. Finally, a 10 ride trip ticket (valid for 20 consecutive days and transferable) was available for $3.00.

A fourth notable system element was the extensive professional marketing and promotion that accompanied the introduction and development of Minnybus service. This effort was initially aimed at establishing Minnybus service and having it accepted by the commuity. A good transit image was aided by such things as a "name the bus" contest. Subsequent marketing efforts concentrated on inducing ridership, encouraging annual pass purchases, and promulgating safety guidelines. Marketing was handled through a contract with a professional advertising firm responsible to the executive director of the WTD. Marketing expenditures constituted approximately 4 percent of the annual operating budget (approximately $395,000).[1]

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[1] Westport Transit District, Statement of Revenue and Expense, Fiscal Year Ended June 30, 1976.

A final service element was associated with the characteristics of Minnybus drivers. The WTD recruited and trained drivers who would enhance the image of the service through courteous and friendly treatment of the passengers. To accentuate the openness of the service and avoid a stereotype driver image, the WTD employed a number of younger individuals, both male and female. Drivers also dressed casually in the absence of any uniform regulations. The drivers were non-union and generally worked a 4-day week of 13 hour days.

All of these service elements contributed to the relative sophistication of the Minnybus system. Making the service convenient for users was the underlying principle for all service operations. To ensure system responsiveness the WTD, with the help of a local professional surveying firm, administered annual on-board surveys of commuter and daytime ridership, as well as telephone surveys of passholders, the elderly, and the general public. Results provided the WTD management with information on the users being served as well as attitudinal information on system operations, perceived level of service, and user preferences.

System management was also supported by the services (provided at cost) of other community professionals in the legal and accounting areas. The Executive Director of the WTD was instrumental in creating this interface with the local professional community.

2.2.2.3 Ridership and Performance Measures

Fixed route services were in operation for 2 years and 8 months prior to the demonstration; this period was a highly successful one in terms of ridership and public acceptance. The efforts that were involved in providing a good transit "fit" were most fruitful in inducing community patronage. Fixed route ridership by service is

TABLE 6 Pre-Demonstration Fixed Route Ridership

Year	Daytime		Commuter		Total Fixed Route
	Total	Monthly Avg.	Total	Monthly Avg.	
1974 (5 mos.)	203,857	40,717	22,866	4,573	226,723
1975	541,437	45,120	97,353	8,113	638,790
1976	511,234	42,603	125,638	10,469	636,872
1977 (3 mos.)		38,247		12,983	

presented in Table 6 and Figure 7 for the pre-demonstration period.

Daytime ridership represented approximately 80 to 90% of total fixed route ridership. Daytime ridership peaked in 1975 in the first full year of service but declined by 5.6% in 1976 with a further decrease evident in early 1977 ridership.

The daytime ridership was very much dominated by the youthful transit dependents of the community. Annual system survey results revealed that 75% of the daytime ridership were between the ages of 12 and 19, 70% did not have a driver's license, 85% used an annual pass, and approximately 70% used the service every day. Valued service attributes were identified as "convenience," "availability," "drivers," and "independence."

The daily peak period of the daytime service has been mid-afternoon following school dismissal. The seasonal peak has occurred during the summer months as a result of the attractions of the coastal recreation area. The WTD has operated a special beach shuttle bus to serve the peak summer ridership.

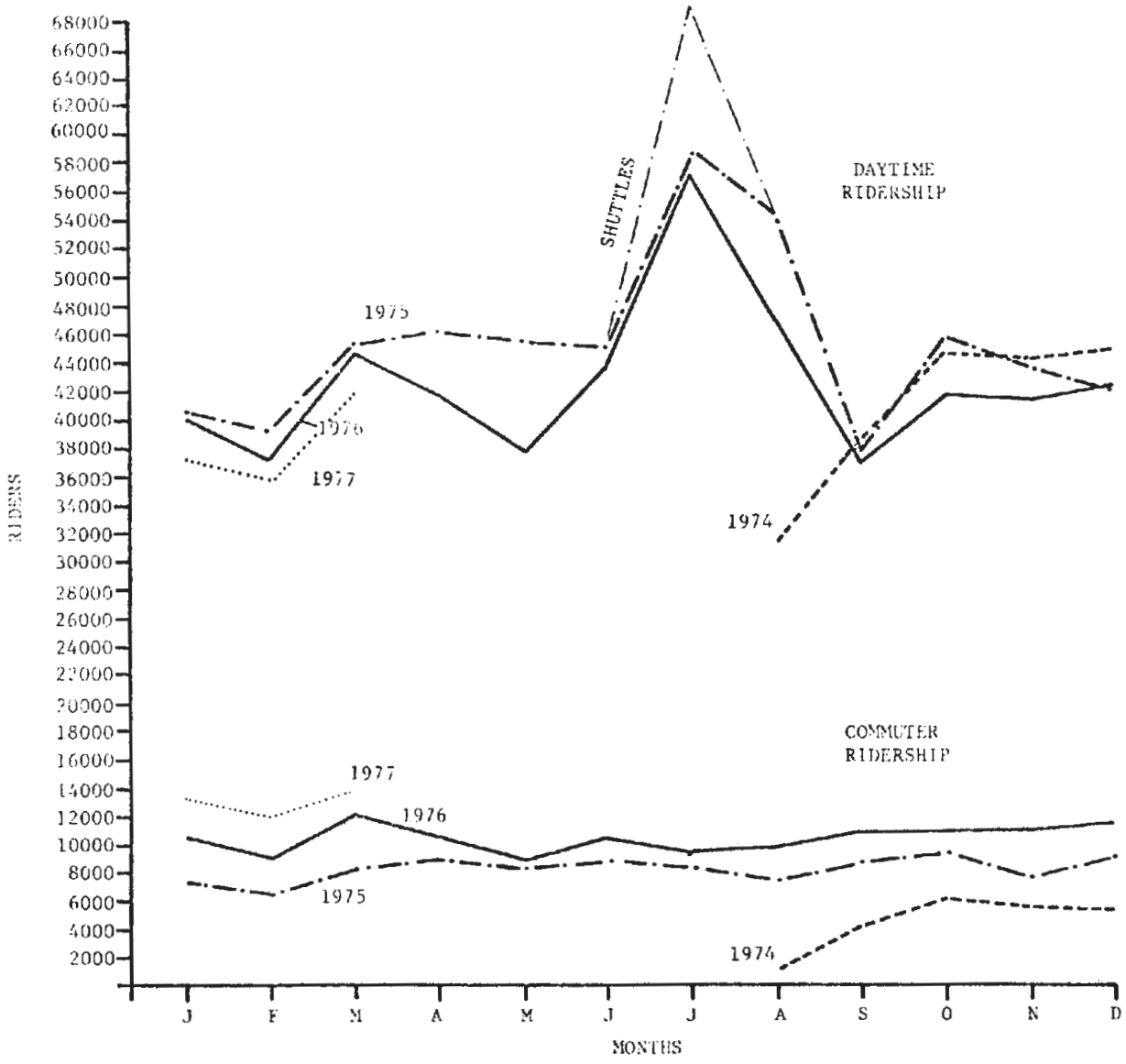

FIGURE 7. Pre-demonstration Fixed Route Ridership

One restriction of the daytime service was the inability to serve many of the workers and shoppers leaving the downtown area during the evening rush hour; the transition to commuter service after the 5:05 p.m. fleet run left many downtown workers with no commuting alternative to the automobile.

Commuter ridership increased each year to the point where it stabilized between 11,000 and 12,000 riders per month in the period preceding the demonstration. Commuter ridership has exhibited a typical seasonal pattern of fairly stable patronage during the winter months followed by an approximate 10% decrease during the summer.

The average number of daily commuters using the service prior to the demonstration was approximately 300. This figure reflected a market penetration of 12.5% to 30% depending upon the base group (see Table 7).

TABLE 7 Market Penetration of Minnybus Commuter Service in 1976

Morning Departures		Morning Minnybus Riders	% Market Penetration
Departures from Westport Stations	2400	300	12.5%
Departures of Westport Residents from Westport Stations	1800	300	16.7%
Departures from Westport Stations on Trains Served By Minnybus	1002	300	30.0%

Any further market penetration was constrained by Minnybus vehicle capacity and the transition to daytime service at 7:45 a.m..

Only 2 of the 8 peak period trains at Saugatuck Station were being served directly, while only 2 of 6 trains were met at Greens Farms Station.

Annual system surveys showed that the commuter ridership was dominated by the relatively affluent, middle aged corporate manager or professional employed in New York City. 90% of the commuter riders earned over $25,000 per year, 97% had drivers' licenses, and 90% used a commuter pass. The most valued service attributes were "schedule reliability" and "convenience." Also noteworthy from the 1976 survey was the fact that 23% of the commuter riders had actually eliminated a household automobile as a result of the service.

Fixed route productivity stabilized at 22 passengers per vehicle hour for the pre-demonstration period (see Table 8). Operating costs had increased an average of 15% per year since service was initiated. The operating cost per vehicle hour was approximately $15.00 just prior to the demonstration. The operating ratio for fixed route service remained steady at approximately .28 for the first three years of service.

The number of annual pass sales peaked in the first year of service but declined by just over 20% in each of the following 2 years; however, higher pass prices each year resulted in pass revenue consistently representing approximately 75% of total system revenue.

2.2.3 Taxi Service and Other Providers

Prior to the demonstration there were two local taxi operators serving the Westport community: Westport Taxi Service, Inc., and Teddy's Taxi Inc.. Each operator had a fleet of 3 to 5 vehicles with the exact number varying from time to time.

TABLE 8 Fixed Route Performance Measures

Average Monthly	1974-75[1]	1975-76	1976-77[2]
Operating expenses	$26,456	$32,940	$38,147
Operating revenue	$ 7,347	$ 9,208	$10,598
Operating subsidy	$19,109	$23,728	$27,549
Revenue/cost	.28	.28	.28
Service hours	2308	2388	2480
Cost/vehicle hour	$ 11.46	$ 13.80	$ 15.40
Cost/vehicle mile	$ .72	$ .86	$ .94
Cost/passenger	$ .53	$ .61	$ .71
Revenue/passenger	$ .15	$ .17	$ .20
Subsidy/passenger	$ .38	$ .44	$ .51
Passengers/vehicle hour	21.7	22.6	21.6
Passengers/vehicle mile	1.4	1.4	1.3
Annual			
Pass sales	6311	4961	3832
Pass revenue	$79,941	$81,060[3]	$94,591[3]
Pass rev./total rev.	.75	.73	.73

[1] Fiscal year from July 1 to June 30.

[2] Includes the first three months of the demonstration.

[3] Pass revenue increased despite decreasing pass sales due to the increase in annual pass prices.

Regulatory control of the taxi operators in the state was vested in the PUCA which issued "Certificates of Public Convenience and Necessity" for the provision of premium ride taxi service. Shared ride service was also permitted under state regulations with the consent of the first rider.

Both taxi companies were operating under an antiquated zone fare structure which originated in the pre-radio dispatch era (see Table 9).

TABLE 9 Fare Structure for Taxi Service in Westport

Distance in Miles	Fare*
1 to 1.5	$1.05
1.5 to 2	1.30
2 to 2.5	1.55
2.5 to 3	1.80
3 to 3.5	2.15
3.5 to 4	2.40
4 to 4.5	2.65
4.5 to 5	2.90
Over 5	.70 per additional mile

* .50 per additional passenger

The zones radiated from the dispatcher's office at Westport center (Westport Taxi Co.) or at Saugatuck Station (Teddy's Taxi). The fare structure included the deadheading distance from the dispatch office to the pick up point as well as the passenger trip distance. Since the last approval of this fare structure in 1970 the only change had been a 10% surcharge granted to all Connecticut taxi operators in September 1975 as a result of the increased price of gasoline.

Annual financial statements submitted to the PUCA indicated that both operators had been losing money for several years (see Table 10). Despite the introduction of local fixed route service in 1974, the losses suffered that year were the least in 5 years for the Westport Taxi Co.

TABLE 10 Selected Annual Financial Statements of Westport Taxi Operators

	Westport Taxi Co.			Teddy's Taxi		
Year	Revenue	Costs	Profit/(Loss)	Revenue	Costs	Profit/(Loss)
1968	$100,072	$100,586	(514)			
1969	99,212	101,973	(2,761)			
1970	105,870	109,067	(3,197)			
1971	97,679	106,500	(8,821)			
1972	86,529	100,123	(13,594)			
1973	86,214	94,502	(8,288)	81,189(taxi) 63,138(other)[1]	136,627	7,700
1974	100,361	102,201	(1,840)	86,189(taxi) 75,610(other)	154,039	7,760

[1] Revenue generated from limousine service.

To offset these losses both operators resorted to a variety of measures including payment of minimum wages, excessive work hours, the use of fully depreciated vehicle fleets, and sharing overhead costs with lateral rent a car (both operators) and limousine service (Teddy's only) operations. Typical operating costs under these conditions ranged from $4.65 per hour for Westport Taxi Co. (see Table 11) to $6.00 per hour for Teddy's Taxi.

TABLE 11 Operating Costs of Westport Taxi Co. in 1975

Labor Cost	Per Hour	Per Mile
Wages [1]	$2.00	
Benefits	.50	
Total labor Cost	$2.50	$.185
Vehicle Operation		
Fuel (17 mpg @ .55 gallon)	$.432	$.032
Repairs	.316	.023
Total vehicle operation cost	$.748	$.055
General and Administrative	$1.14	$.084
Insurance ($3.00 per vehicle per day	$.264	$.020
Total Operating Cost	$4.65	$.344

[1] Drivers received tips in addition to the basic wage rate.

Competition for local business was also strong and was intensified by certain disputes over in town taxi rights. In early 1976 combined taxi operations resulted in extensive weekday coverage (see Table 12)[1], weekend coverage involved 2 to 3 taxis available throughout each day.

The actual demand for taxi service in Westport varied from 200 to 220 trips per day with the number of trips per vehicle hour in the range of 1.6 to 1.8 (see Table 13).

[1] As the year progressed, Teddy's Taxi Inc. gradually reduced its Taxi fleet to two operational vehicles in anticipation of the shared ride demonstration.

TABLE 12 Temporal Weekday Coverage of Taxi Fleets in Westport in Early 1976

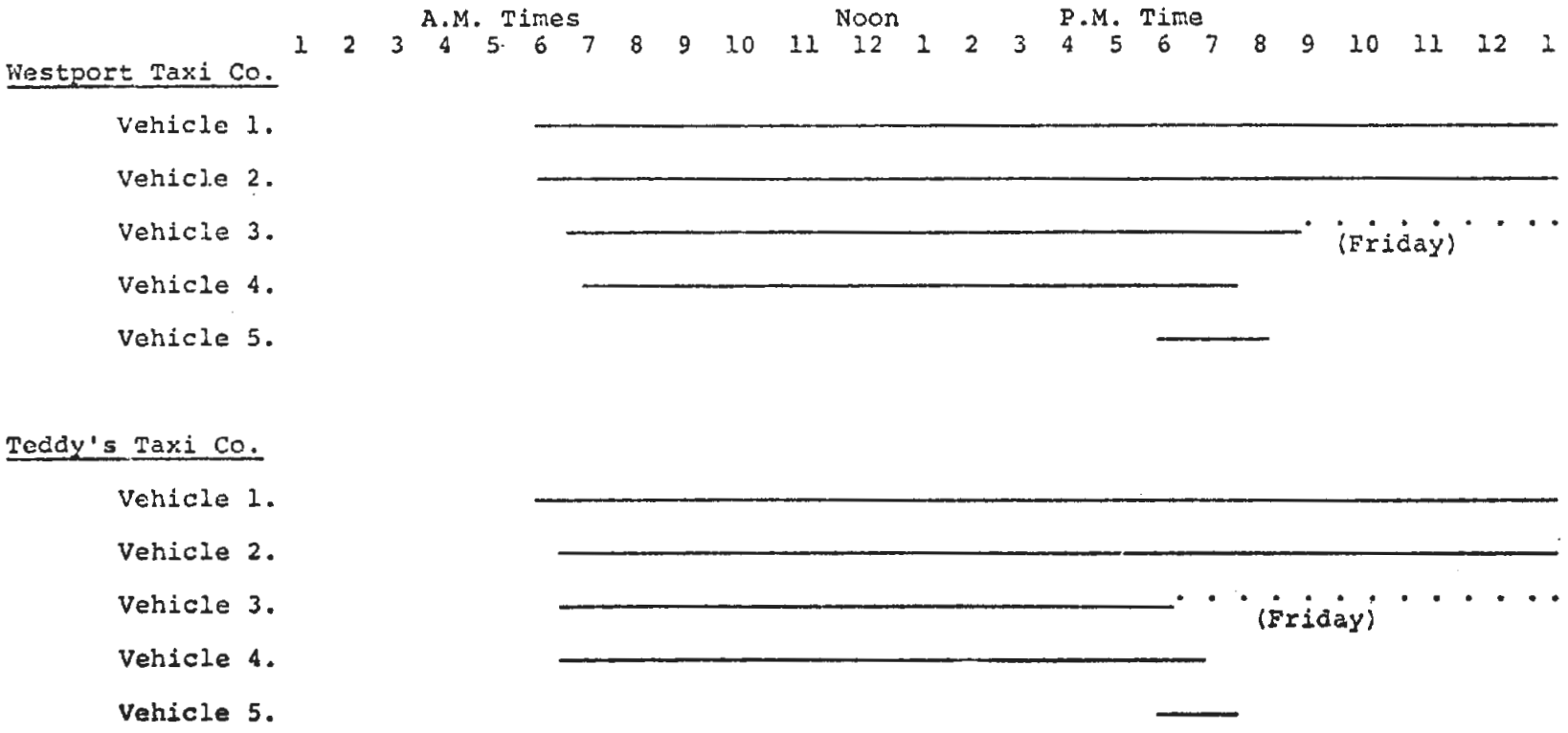

TABLE 13 Demand Information for Westport Taxi Operators[1]

	Westport Taxi		Teddy's Taxi	
	Weekday Avg.	Weekend Avg.	Weekday Avg.	Weekend Avg.
Trips per day	105	56	119	64
Passengers per day	115	66	131	79
Daily Revenue ($)	297	139	436	243
Revenue per trip ($)	2.83	2.47	3.65	3.79
Revenue per passenger ($)	2.58	2.11	3.32	3.09
Miles per trip[2]	8.7			
Cost per passenger ($)	2.73			
Trips per hours per vehicle	1.6			
Average fare for Westport trips ($)	2.40			
Revenue per service hours ($)	4.14			

[1] In a comparative sense, more information was available on the operations of the Westport Taxi Service. Weekend and weekday data given are based on 2 weeks of operations in 1975 from February 2-8 and September 7-13.

[2] Includes trips to New York City area airports, and deadheading.

The demand was largely concentrated in the morning and evening peak periods involving trips to and from the Saugatuck railroad station. Since the advent of Minnybus commuter service in 1974 the daily peak taxi demand periods have been from 8 a.m. to 9:30 a.m., and 8 p.m. to 9:30 p.m..

On board taxi surveys[1] conducted in 1975 confirmed the prevalence of home and work related trips (see Table 14). Shopping, social-recreational, and medical trips each accounted for approximately 8% of all trip destinations.

[1] On board survey conducted in October, 1975 by ECI System, Inc. (now Multisystems Inc.) and Westport Taxi Co.

TABLE 14 Origins and Destinations of Taxi Users

Location	Percentage of Trip Origins	Percentage of Trip Destinations
Home	44	34
Place of Employment	24	22
Retail/Commercial Establishment	9	8
Social/Recreational Facility	8	7
Medical Facility	4	9
Personal Business Site	4	13
Other	7	7

TABLE 15 Frequency of Taxi Use

Frequency (one way trips)	Percentage of Users
Less than 1 a month	23
1 to 7 trips per month	27
1 to 4 trips per week	15
4 to 9 trips per week	12
2 or more trips per day	23

Frequency of use was also high among users reflected by 77% of those surveyed using a taxi at least once a week (See Table 15). 83% of the passengers surveyed were between the ages of 20 and 64, 12% were age 65 and over, while only 5% were below age 20. These results were reinforced by the annual system surveys administered by the WTD (see Table 16).

TABLE 16 Percentage of Individuals Using Taxis in Groups Surveyed by WTD

Group Surveyed	% Using Taxis		% Not Using Taxis	
	1975	1976	1975	1976
General Public*	17	27	83	73
Commuters	52	63	48	37
Elderly*	25	23	75	77
Minnybus Passholders*		18		82

* Telephone survey.

Relatively high percentages of transit dependent groups were not using taxis while over 62% of the Minnybus commuters responded that they did use taxis. Frequency of taxi use by this latter group was relatively low, however, indicating that taxis were used primarily as a back up mode. Survey results also revealed that the overall market penetration of taxi service was not widespread; well over 70% of the general public surveyed in 1976 indicated they had not used taxis during the year.

Other transportation services in Westport included a regional fixed route private bus service and an extensive local school bus system. The regional service was provided by Cross Country Coach and operated between Bridgeport and Norwalk. Buses followed the Route 1 spine though Westport and passed through the community every hour. The school bus fleet comprised 33 coach vehicles and several smaller van type vehicles. On certain occasions the school bus vehicles were used by the WTD for fixed route service in the event of a vehicle shortage or during periods of excessive demand (e.g., summer beach service). The dual responsibilities of the WTD maintenance contractor facilitated this arrangement.

2.2.4. Developments

The period from 1974 to 1976 witnessed the establishment and refinement of a progressive fixed route bus service in Westport. However, the WTD considered this only the first step in providing a range of transportation services to meet some of the unsatisfied needs in the community. The WTD envisioned its role as that of agent for developing local paratransit resources and integrating them as part of a total transportation service program. The WTD viewed this integration in the context of its potential role as a broker of transportation services for the community as a whole.

These visions logically led the WTD to an interest in local taxi service. The WTD thus began a concerted effort to work with the two local taxi operators in the hope of combining some type of demand responsive or shared ride taxi service with the fixed route services of the District. This local interest coincided with a national interest in promoting paratransit services as flexible, cost effective options to expanded fixed route bus and rail systems.

In October, 1974 a letter was sent to UMTA to explore ways of funding a project with taxis. Following a visit by the Executive Director to Washington in December, the WTD initiated official actions to undertake such a project. An application was submitted in April, 1975 to UMTA for $25,000 to fund a study. The application was approved in July 1975, the consultant was selected in August, and the study[1] was completed in December 1975. A public hearing was held in January, 1976 to explain the plan. The system design focused on three sets of objectives:

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[1] ECI Systems, Inc. (presently Multisystems Inc.) Plan For A Service and Methods Demonstration of Integrated Conventional Transit and Paratransit Services in Westport and Weston, Connecticut. December 1975.

Basic Objectives

(1) Demonstration of Service Integration
A broad range of conventional and paratransit services would be developed to serve a broad range of market segments.
(2) Demonstration of Operations Integration
To develop an exemplary model for the integration of services provided by multiple operators functioning in both the public and private sectors.
(3) Demonstration of Suburban Service Potential
To illustrate the market potential for a comprehensive, integrated, and coordinated program of public transportation services in medium and low density areas.

Service and Methods Program Objectives

(1) Improved Coverage
(2) Improved Productivity
(3) Improved Service to Special Markets

Local Objectives

(1) Reduction of Automobile Commuter Traffic at Saugatuck Railroad Station and within the Downtown Area
(2) Reduction of Multiple Car Ownership

Essentially the project was to involve a contract between the WTD and the local taxi operator(s) whereby the operators would set up a private transportation company to supply shared ride taxi service dispatched through a central control room. The Transit District was to act as a broker for a wide range of transportation services. To implement this plan, many meetings were held with the two local operators over methods of cooperation, management contract provisions (especially the management fee) and coordination of the approach to the project. The WTD attempted to act as a broker between the two operators

for an extended period but with little success (see Chapter 4).

In February of 1976 the WTD submitted a request to UMTA for a shared-ride taxi demonstration. On August 4, 1976 the WTD was awarded a $610,000 grant under the SMD Program, to demonstrate the feasibility of combining shared-ride taxi and other para-transit services with conventional bus services in Westport.

3. DEMONSTRATION PROJECT

The Westport Demonstration was based on a major brokerage role played by the Transit District supported by a number of contractual relationships between the WTD and the private sector. The major elements of the operational structure were the management company, the control center, the information center, and system support contracts in the areas of marketing and maintenance (see Figure 8).

This structure enabled the WTD to provide regular and supplemental fixed route services, shared ride taxi service, and special market services to local residents. The structure also provided a foundation for developing expanded brokerage services to meet the needs of local businesses, downtown merchants, and special groups.

All demonstration services were to be provided by an integrated vehicle fleet containing the original Minnybus and Coach vehicles, and 11 vans purchased through the Demonstration Grant.

3.1 Operational Structure

3.1.1 Management Company

The demonstration involved the WTD inviting the two local taxi operators to form a management company to provide the new paratransit services under contract with the Transit District. The formation of this private entity was an attempt of the WTD to integrate the valuable components of taxi structure and operations including taxi type door-to-door service, dispatching capability, administrative experience, and the operators' familiarity with the local community geography and infrastructure.

The management company's contract responsibilities would include the provision of personnel, and supervisory and management functions for the following system elements:

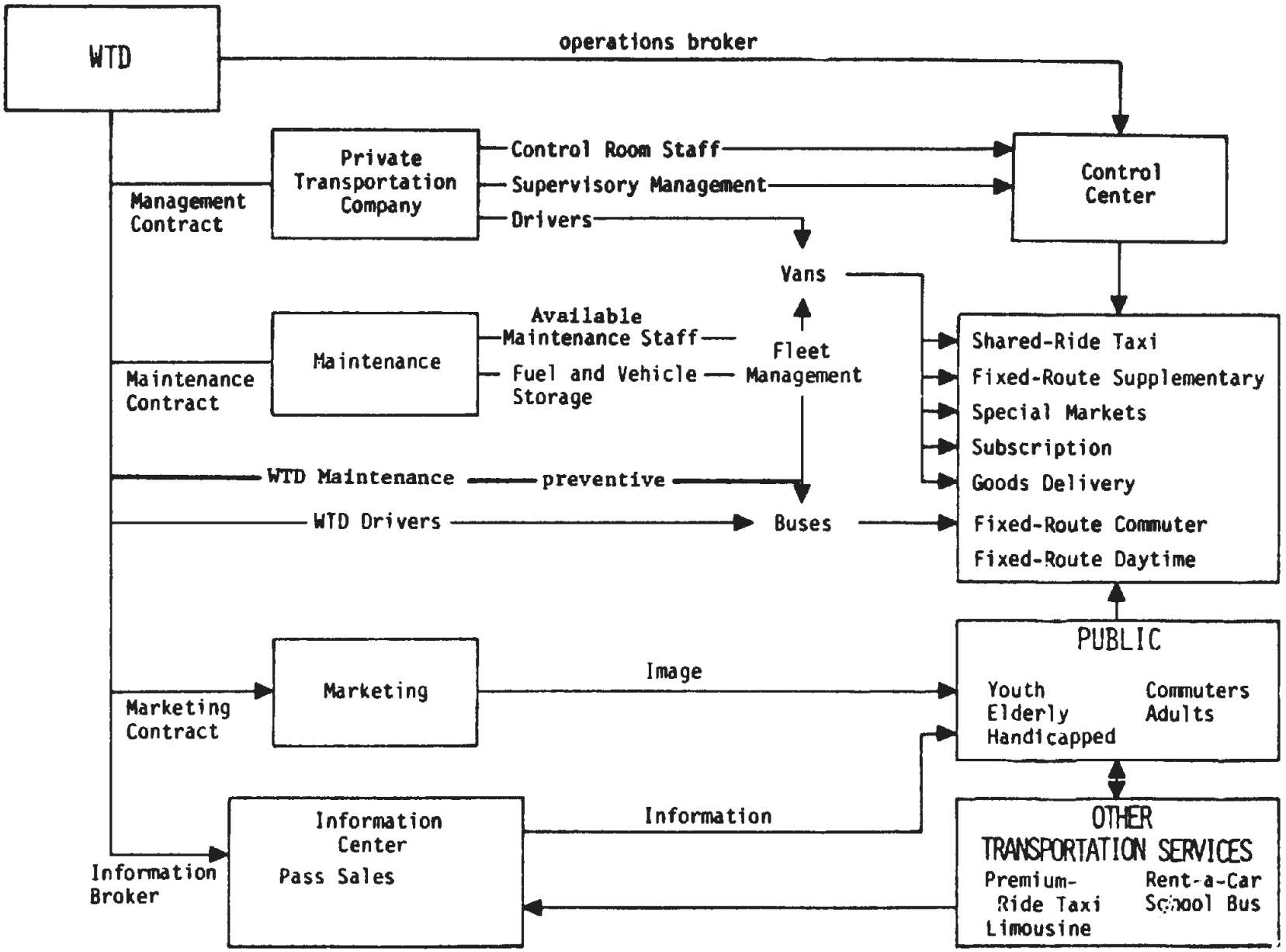

FIGURE 8. STRUCTURE OF WESTPORT DEMONSTRATION PLAN

(1) Paratransit services including shared-ride taxi, special market services, subscription service, and small-goods delivery.
(2) Specified supplementary fixed-route services.
(3) Control center (see section 3.1.2) and dispatching duties for the above named services, as well as for all fixed-route services provided directly by the WTD.

Hiring, payroll, and other personnel activities necessary to perform these functions would be the sole responsibility of the management contractor.

Key elements involved in the negotiation of the contract were to be the use of a cost-plus-fixed fee basis, and the inclusion of a profit incentive program. Under the cost-plus-fixed-fee arrangement the Transit District would collect all revenues derived from the services; the management company submitted bills for salaries, supplies, and other expenses. A fixed annual management fee would be paid on a monthly basis to the private company. A profit incentive program would provide bonus payments to management, dispatchers, and drivers based on various system productivity measures.

3.1.2 Control Center

A base of operations was necessary to house the management company and provide an operational nucleus for all communications, dispatching, and fleet deployment activities. Control center space and equipment would be provided directly by the WTD, while responsibility for the staffing and supervision would be contracted to the management company.

Specific services controlled through the center would include:

(1) Regular fixed-route bus services, both daytime and commuter (operated by the WTD).

(2) Supplementary fixed-route services (operated by the WTD and the private contractor).
(3) Paratransit services including shared-ride taxi, special-markets service, subscription service, and small-goods delivery (operated by private contractor).

The center would also handle additional transportation services in the community (rent-a-car, limousine, premium ride taxi) in the event the WTD was successful in integrating other services through its brokerage role.

For the shared-ride taxi operation the WTD would attempt to utilize a newly developed interactive telephone answering system, in order to minimize the requirements for control center staff. Use of this equipment was intended to enable a single full-time despatcher to handle the entire control system for the majority of the service day.

3.1.3 Information Center

The next system element required was an interface between the service operations and the public. This interface was the objective in the WTD's plan to establish a transportation information center near downtown Westport. The center's function would be to provide comprehensive information on all transit and paratransit services in Westport as well as premium-ride taxi, regional bus service, commuter rail service, and rent-a-car service. In addition, this office would provide information on airline schedules for New York City airports for such flights as Boston and Washington shuttles. An individual would obtain any of this information either by telephone or through visiting the office. Smaller information stands, focusing primarily on local transportation, were to be located in the downtown shopping area and at the railroad stations. The information center would also handle the sale of annual passes.

3.1.4 System Support Contracts

The remaining elements in the operational structure involved contracts for system support in the areas of marketing and maintenance. The importance of extensive and innovative marketing was borne out by the Minnybus experience and was not ignored in the demonstration design. The WTD planned to expand their contract with the professional marketing firm that had successfully marketed the fixed route services. Similar to the Minnybus effort, the first task would be to focus on the vehicle in terms of establishing an image through a color scheme and logo. The red and white color scheme of the WTD diesel bus vehicles was to be extended to the new taxi fleet. The raised roof vans adopted the identifying logo of "Maxytaxy" in the tradition of the other WTD vehicles "Minnybus" and "Maxybus".

In a larger sense, the marketing program would involve the professional promotion of an integrated system of transit and paratransit services. The marketing program would stress the comprehensiveness of the system services and the complementary nature of the services provided. The stated goals of the marketing program were as follows:

(1) To impart to the public a full understanding of the available transportation options within the system.
(2) To provide an increased awareness of taxi services as an alternative to the automobile.
(3) To extend the positive image of WTD services to the new paratransit services.

The marketing program would include local newspaper advertising, radio recordings on local area stations, direct mail promotion, in-vehicle advertising, and information displays at the Jesup Green transfer terminal and Saugatuck Railroad station.

Less visible but equally important was the maintenance support arrangement. Again, the WTD planned to expand an existing contract through utilizing the facilities of the local school bus contractor whose garage was located near the downtown area. This facility offered an almost ideal arrangement for integrated vehicle fleet support and deployment operations. The contract would provide for complete maintenance facilities, fuel and vehicle storage, and maintenance staff when needed.

In addition, the WTD planned to extend its preventive maintenance program to the demonstration vehicles (modified Dodge Maxivans, gas powered). This private/public maintenance effort would provide a strong capability for servicing both the gasoline and diesel vehicles.

3.2 Demonstration Services

The motivation for developing demonstration services was the need to round out the service options available from the WTD. The District wanted to develop and manage an arsenal of services to meet any type of community travel demand. These services could be provided either directly or indirectly (through contract or private party agreement) depending upon the most effective provider arrangement. While the ultimate goal was establishing a comprehensive set of services able to meet any need, the first priority was to establish complementary service to the existing fixed route system.

3.2.1 Shared Ride Taxi (Maxytaxy)

Traditional taxi service had operated primarily on a premium-ride basis, with a single passenger paying a certain fare for a specified trip. The Westport demonstration modified this traditional concept by employing eleven 12 passenger vans to provide shared-ride taxi service which grouped passengers but still provided the same door to door service.

A service request would be initiated similar to a regular taxi service, wherein a passenger would place a call to the dispatch center and state a trip request. The dispatch center would respond with an estimated pick up time and fare information if required. The dispatcher would then deploy one of the taxi vehicles for the pick up based on system considerations at the time of the request. Shared-ride service could also be obtained through hailing a Maxytaxy vehicle or by placing a standing order with the control center for a scheduled periodic pick up. Opportunities would thus arise for grouping passengers by origins and/or destinations, minimizing deadheading, and improving the cost effectiveness of vehicle operations. The dipatcher at the control center would play a critical role in maximizing the efficiency and effectiveness of service.

The fare structure for shared ride service was planned to be approximately 20 percent lower than premium-ride taxi service. Westport would be divided into 15 zones with the fares ranging from $1.00 (intrazonal) to $3.25. Fares were established with the objective of providing the shared-ride taxi service on a breakeven, non-subsidized basis. Hourly vehicle productivities were expected to generate sufficient revenue to cover the hourly vehicle operating cost. To further this goal the WTD also made annual pass holders eligible for discount fares during certain time periods (see section 5.2).

The major significance attached to Maxytaxy, however, was the establishment of a demand responsive service to complement the WTD's fixed route capabilities. The need for this service complementarity was evident in several areas. First, there were certain areas of the town not covered by the Minnybus (see Figures 5 and 6); these included peripheral areas and certain residential neighborhoods not within a short walk of a Minnybus route. Secondly, there were certain types of trips which were difficult or impossible to make by the Minnybus; these included medical and business appointments, house to house visits, shopping trips to the commerial east area, and evening trips to the downtown area. For example, a mid-day

round trip via Minnybus from the northwest section of Westport to the Boston Post East commercial area required two transfers, a travel time of over one hour, and a fare of $1.00. Finally, there were certain travel markets in Westport not always comfortably served by the Minnybus; these included the elderly the handicapped, the very young, the local professional, the busy housewife, and the New York City rail commuter not always able to meet the evening fixed route commuter service.

Integrated transit services would enable the WTD to tap these markets.

3.2.2 Supplementary Fixed Route Service Using Vans

Maxytaxy vehicles would also be used by the WTD for additional fixed route service on both the commuter and regular daytime services, when appropriate. This would enable the WTD to serve two additional morning trains at Saugatuck Station, and also serve downtown shoppers and employees with three additional daytime fleet runs after the last Minnybus pulse at 5:05 p.m.. The use of the vans in the fixed route mode would provide more cost efficient vehicle operations while still providing a 12 passenger seating capacity.

In a larger sense the planned supplemental fixed route service reflected management's ability to utilize the versatility of the van vehicle and meet passenger demand through integrated fleet operations.

3.2.3 Special Market Services

The taxis would also be used to provide an advance-request demand-responsive service for the elderly and handicapped. Two of the taxis would be equipped with electro-hydraulic lifts to provide a special means of entry into the vehicle.

Qualified individuals[1] could use this service provided the request was made at least 24 hours before the desired pickup time; requests, however, would not be taken in advance of one week before the desired trip. The fare for this type of service was $ .25. The elderly would also be eligible for a minimum 25 percent discount off the regular Maxytaxy fare. Social service agencies in the town were to be eligible for low-cost specialized service from the WTD. When five or more individuals could be transported to a scheduled program, the service was to be provided at the cost per unit of time that the particular vehicle was in service, rather than a fare per passenger. Other fare discounts for these groups were also planned.

A special service was also planned for package deliveries within the community. A Maxytaxy would pick up and deliver any small package within the town's boundaries. The individual requesting the service would be required to call the merchant or office involved to arrange payment for the goods. The Maxytaxy would pick up anything that could be easily carried by one person. The cost of this service would be the regular Maxytaxy fare plus a $ .50 surcharge each time the driver had to leave the vehicle. Marketing efforts by the WTD with local businesses having package delivery services were planned in order to negotiate package delivery agreements; this would require the WTD to provide a dedicated vehicle for package delivery during daily business hours.

3.2.4 Other Demonstration Elements

The services to be provided by the Maxytaxy vehicle constituted the backbone of the demonstration program. However, the WTD

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[1] To qualify for this special service, an individual needed to register with the Transit District with a letter from their doctor, nurse, or social service agency stating that the person had a limitation (as described and categorized by the WTD) which prevented them from using the Minnybus system. The four categories of disability certifiable were age, orthopedic difficulty, eyesight, and mental retardation.

also planned other efforts to develop progressive paratransit options through expanded brokerage. These planned efforts included:

(1) Brokerage efforts with local employers in developing car pool and van pool ridesharing programs for employees.
(2) Working with downtown merchants to develop shuttle services to serve seasonal shopping demand.
(3) Researching the potential applicability of sophisticated paratransit service such as shared-ride auto.

The WTD also planned to improve in-house management capability through the development of a management information system which would provide a periodic standardized data source on system operations.

These items are important in that they reflect the progressive attitude of WTD in searching for new ways to serve the community and improve management responsiveness.

4. PROJECT IMPLEMENTATION

The demonstration grant for the Westport demonstration was awarded in August 1976; actual demonstration services were initiated on April 16, 1977, approximately eight and one half months later. In the interim, the WTD performed all the necessary tasks to implement these services. These tasks included: (1) acquisition of the demonstration vehicles and capital equipment, (2) extensive negotiations with the local taxi operators, (3) negotiation and execution of contracts for private operator project management, maintenance, and marketing, (4) setting up the control center, and (5) associated activities relating to fare structure, management, and administration of the project. To coordinate the implementation effort, the WTD hired a project manager in October 1976; this project manager had the responsibility for maintaining liaison with UMTA and developing an operational plan for the system.

The experience of the WTD in implementing the demonstration program is recounted below since it reveals the effort required by a transit property in implementing integrated services, and provides considerable insight into the institutional and legal difficulty involved in negotiating with local private taxi operators.

4.1 Acquisition of Demonstration Vehicles and Capital Equipment

In the summer and fall of 1976, the WTD solicited bids for the demonstration project's capital purchases. The three major capital purchases were:

(1) Eleven twelve-passenger raised-roof vans (Dodge Maxivans), two of which were equipped with hydraulic lifts and other special equipment to serve the needs of the handicapped. (Capital cost: $177,537)
(2) A communication system which included a base station unit and mobile unit for each vehicle. (Capital cost: $21,741)

(3) An automatic voice-activated telephone answering unit for receiving requests for shared-ride services. (Capital cost: $13,475)

The total capital cost incurred through the demonstration was approximately $196,000.[1]

4.2 Negotiations with Local Taxi Operators

The most difficult and time consuming task performed by the WTD involved the negotiations with the two local taxi operators.[2] The official negotiations that took place must be set in the context of the communications between the WTD and the private taxi operators dating back to January, 1974.

The initial contact between the WTD and the taxi operators was precipitated by the proposed implementation of the fixed-route Minnybus transit service in the summer of 1974. At that time, the WTD Directors expressed their support for continuing and revitalizing taxi service in Westport. The Westport Taxi Co., however, expressed concern over the potential damage the fixed-route services could have on their taxi business. A series of meetings were conducted through April 1974, in which the Westport Taxi Co. suggested a buy-out of their business. The parties agreed to take a "wait-and-see" attitude in order to assess the actual impact of the bus service on taxi operations.

A second round of meetings occurred between December 1974 and April 1975. The agenda included a discussion of the impact of the bus operations on the taxi business and a discussion on a WTD proposal to find specific ways to integrate the two local taxi operators through some kind of dial-a-ride service under the management of the Transit District. The Westport Taxi Co., however, still

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[1] Some equipment was acquired with regular capital grant funds.

[2] See Chapter 2 for a description of local taxi operations.

expressed a desire to be bought out by the Transit District; as a second option they suggested the WTD buy out Teddy's Taxi, Inc. and lease that service to Westport Taxi. At this point the Westport Taxi Co. estimated the value of their business at $200,000, an increase of $100,000 from a previous estimate.

From September to December 1975 the two local taxi operators met on numerous occasions with the private consultant performing the demonstration feasibility study for the WTD: information on their businesses and operations was provided. With the completion of the study in January 1976, a public hearing was held to present the plan to the general public. Neither taxi operator attended this meeting; the Transit Directors thus assumed that the taxi operators did not strongly oppose participation in the demonstration.

The period from February to April 1976 witnessed the breakdown in communications between the two taxi operators. In February 1976 the owners of Teddy's Taxi notified the WTD that the formation of a single company to undertake the work in the plan was impossible because of irreconcilable differences between them and the owners of the Westport Taxi Company. In addition to the constant competition for business, the two operators were suing each other over certain in-town rights. Furthermore, the owners of Teddy's Taxi suggested that a buy-out of one operation by the other was the best possibility. A similar meeting with the Westport Taxi Co. confirmed this view. It was clear at this point that meetings with both operators present would not be productive.

Since the demonstration plan had been submitted for funding in April 1976 and the WTD was still interested in involving both local taxi operators, the new negotiation strategy selected was one of mediation and brokerage. The WTD met separately with each operator to discuss various options, including one party buying out the other (no agreement could be reached on franchise values), a third party buy-out of both parties (the third party was a New Haven taxi operator), and the trading of certain in-town and out-of town taxi rights between the two operators. The difficulty in these negotiations was apparent in that Westport Taxi Co. valued its franchise

at $250,000 while Teddy's Taxi Co. valued its franchise, comparable in size and revenue, at $50,000.

The awarding of the demonstration grant in August 1976 made it imperative that these negotiations be resolved successfully in some manner in the relatively near future. By the end of October 1976, after having met with the taxi operators on more than two dozen occasions and having reduced the franchise values to $100,000 for Westport Taxi and $40,000 for Teddy's Taxi (both of these amounts exceeded the funds available for a buy-out in the management fees), the WTD made a final proposal.

Each company was given two weeks (until the second week of November) to respond to the Transit District with a responsible proposal, or the District would request bids for the management of the project. At the end of this period, the Westport Taxi Company returned with two proposals, both of which were cost-prohibitive (more than $100,000) in terms of funds available.

The Transit District, therefore, sent out requests for bids on managing the shared-ride taxi services. Requests were sent to the two local taxi operators, the local school bus contractor (maintenance contractor for the Minnybus), and two other taxi operators in the state who were interested in providing shared-ride services in their own areas. Bidding, however, was not restricted to these five parties. All bids were to be returned by December 14, 1977. A responsive bid was received from Terminal Taxi Co. in New Haven, and a joint bid was received from Teddy's Taxi Co. and the Masiello Bus Co., the local school bus contractor.

The bids received included itemized amounts for drivers and dispatchers, with a detailed breakdown on benefits and incentives for each of these groups. In addition, each bid specified the management fee for each year of the demonstration. Finally, a 5 percent inflation factor was included. The WTD eventually selected the joint Teddy's Taxi/Masiello bid over the Terminal Taxi, Inc. bid; the preference for a local operator was a major factor in this

decision. The other local taxi operator, the Westport Taxi Co., elected not to bid, but rather to contest the demonstration in Federal Court.

4.3 Legal Proceedings Against the Demonstration Project

The plaintiffs, owners of Westport Taxi Co., engaged counsel and placed a petition before the U.S. District Court for a temporary restraining order to prevent the WTD from opening the bids that were received. The court denied the temporary restraining order but ruled that since the Westport Taxi Co. was also seeking an injunction against the project, the WTD would be required to give the Court and the Westport Taxi Co. three day's notice before actually awarding the bid contract.

A hearing on a temporary and permanent injunction was held in U.S. District Court in New Haven on January 11 and 12, 1977. The plaintiffs were seeking to enjoin the U.S. Secretary of Transportation and the WTD from implementing the project; briefs were filed by each of these three parties.

The plaintiffs' brief contended that:

(1) The WTD had not complied with various UMTA regulations relative to holding a public hearing, assessing environmental impact, certifying the project as necessary to the development of a coordinated, comprehensive transportation plan, and providing for maximum feasible participation of private transportation companies.

(2) The demonstration project would unconstitutionally curtail and compete with the plaintiff's publicly licensed and regulated taxi franchise. The brief contended that the demonstration would directly compete with the premium-ride service and eliminate the shared-ride service which was essential for their business.

(3) Westport Taxi Co. was a private transportation company per Section 1602e (3e protections) of the UMT Act and

hence was entitled to the protections in the Act particularly regarding just and adequate compensation for acquisition of their franchise.

The defendant's brief filed by the Federal government focused on the intent of the UMT Act, particularly Section 6, which is to foster short-term projects for testing new methods by which to increase the efficiency and productivity of transportation systems. The brief contended that the demonstration project was not subject to Sections 3(e), 5(i) and 14(c) of the UMT Act which had been identified by the plaintiffs. Various references were cited on the exemption of Section 6 demonstration projects from these requirements.

The Federal brief also contended that Westport Taxi Co. was not a mass transportation company since Congress never intended premium-ride taxi service to be included under this heading. In addition, the brief contended that the "shared-ride" taxi service provided by Westport Taxi also did not qualify it for protection. An important distinction was made between shared-ride service under the Connecticut PUCA and shared-ride services in terms of UMTA policy. Under the PUCA regulation, consent of the patron first hiring the taxi had to be obtained before additional patrons could be carried. Thus an individual by refusing consent could reserve the cab for exclusive use. Under UMTA's policy, "shared-ride services" are only those in which the vehicle may not be reserved for the exclusive use of an individual.

The brief filed in behalf of the WTD contended that Westport Taxi Co. was being subjected to competition from which they had no right to be free; references were cited on the contention that publicly regulated franchises are not free from public competition. Arguments were also made that although Westport Taxi Co. did not qualify as a private mass transportation company, they still had been provided with a "fair and timely opportunity" to participate in the project. The brief cited the length of the negotiating period as well as the non-required public hearing that was held on the project. Two reasons were given for the failure to reach an agreement:

(1) The total inability of the private taxi companies to cooperate or buy each other out.
(2) The continuously rising financial demands of the plaintiffs.

Finally, the WTD brief contended that there was no unconstitutional taking of the plaintiffs' property, and even if there were, state procedures on an alleged economic loss must be followed first.

The U.S. District Court issued its ruling on April 13, 1977. The court denied the plaintiff's request for injunctive relief as well as the request to declare the approval of the grant application invalid. In ruling on the plaintiff's motions, however, the court accepted the standing of Westport Taxi Co. to sue as at least "arguably" within the zone of interests Congress sought to protect by paying special attention to private mass transportation companies. However, the court dismissed the motion on non-compliance with UMTA regulations since Section 6 was clearly exempt from other provisions in the UMT Act applicable to Section 3 projects.

On the issue of a taking of property, the court ruled that no franchise or property interest had been acquired to trigger a duty to compensate. However, the court further stated that the plaintiffs might have a claim for compensation grounded in state law relative to their contention that their franchise from the PUCA assured them immunity from further competition unless there had been a determination by the PUCA that additional service was required by public convenience and necessity.

4.4 Execution of Contracts on Marketing, Maintenance and Management

During the course of the legal proceedings, the WTD continued to pursue project contracts for marketing, maintenance, and project management. Marketing and maintenance contracts were expansions of existing WTD relationships.[1] The marketing contract ($31,962) was executed in January 1977, while the maintenance contract ($53,000) was awarded on April 1, 1977.

[1] See Chapter 3.

The management contract proved to be the most time consuming of the three operational contracts. The new management company termed the "Westport Transport Corporation" had four directors, two directors each from Teddy's Taxi and Masiello Bus Co.. The first and second year management fees were $24,000 and $22,000 respectively.

The compensation package for drivers has a base hourly salary of $4.00, with an additional $ .25 per hour after 60 days, plus $ .05 per passenger as a profit incentive. The management profit incentive payment was geared to shared ride productivity levels while dispatchers were rewarded by the private management personnel out of an earmarked fund.

Three or four major work sessions were required between the WTD and the joint bidders to reach agreement on the management contract provisions. The management contract was also signed on April 1, 1977. In addition, all the contracts for the demonstration required UMTA concurrence.

4.5 Operational Support

With the administrative structure in place, the remaining implementation task concerned structuring a control room and information center. The control room was set up in a section of the maintenance garage building in the same room with the Minnybus radio equipment. The communications equipment was installed to hook-up the voice-activated telephone answering system for shared-ride services.

The information center was set up near the downtown area and was accessible by either personal visit or by telephone. The center worked to develop a comprehensive information base on all local and regional transportation services available to the people of Westport. This included the local transit and paratransit services as well as premium-ride taxi, regional bus, commuter rail, rent-a-car, and airline shuttle services.

The integrated pass program and fare structure[1] was finalized in March 1977 and presented to the community at a public hearing. Formal ceremonies initiating demonstration services were held on April 16, 1977.

4.6 Legal Appeal

Federal litigation continued throughout the first year and one half of service operations. The adverse decision received from the U.S. District Court prompted the plaintiff to appeal the ruling to the U.S. Circuit Court of Appeals. The case was heard on October 5, 1977 and a ruling was issued on January 24, 1978. The Appellate Court ruling reversed the District Court on the issue of whether the demonstration had to comply with the procedural (Section 1602d) requirements of the UMT Act; the Court held that these procedural requirements (public hearing, environmental impact) apply to any application under the Act and cannot be avoided on the basis that a project is funded as a demonstration under Section 6. The criteria established was whether the project would "substantially affect" Westport and its mass transportation service. The Court ruled that the demonstration constituted a substantial effect on the community and mass transportation service in Westport.

On the 3e issue (Section 1602e) the Appellate Court arrived at the same result but for a different reason. The District Court had held that demonstrations were not subject to Section 3e requirements, and that even if they were, the Transit District had complied with the "statutory policy" of encouraging private participation. The Appellate Court held that Section 3e does apply to demonstrations but only to an operator who qualifies as a "mass transportation company." Since the service offered by the Westport Taxi Company could be reserved for exclusive use, the Court held that the company was not a mass transportation company and, hence, not eligible for Section 3e protections.

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[1] Presented in Chapter 5.

The Appeals Court concluded that there had been a failure to comply with Section 1602d and remanded the case to the District Court with instructions to enter an order enjoining further federal expenditures on the demonstration project pending requisite certification and approval of the amended grant application.

Since the WTD had previously complied with the environmental impact finding, the sole remaining task was to conduct an official public hearing on the demonstration project. This hearing was conducted on February 15, 1978. The WTD submitted an amended application to UMTA which was subsequently approved. During this time plantiffs did not request, and the District Court did not issue the recommended injunction.[1] Demonstration services continued to operate during this period.

The final step in the Federal legal process involved a further appeal to the U.S. Supreme Court. The plaintiffs filed a petition for a Writ of Certiorari for the October 1978 term. The Court refused to review the case, thus leaving the Appeals Court ruling intact.

Federal litigation in the Westport demonstration is summarized in Figure 9. The outcome of potential state litigation has not been determined.

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1 The decisions of the U.S. District Court and the U.S. Circuit Court of Appeals are contained in Appendix A.

ISSUE	PLAINTIFFS' ARGUMENT (Westport Taxi Inc.)	DEFENDANTS' ARGUMENTS (UMTA & WTD)	U.S. DISTRICT COURT RULING	U.S. COURT OF APPEALS RULING	U.S. SUPREME COURT
1. Standing to sue		Lack standing to sue	Plantiffs have standing to maintain the suit	Affirmed	Refused to review
2. UMTA Requirements					
2.1 Procedural requirements of public hearing and environmental impact	No official hearing, no finding on environmental impact	Section 6 demonstrations exempt from Section 3 procedural requirements	Demonstrations need not comply with procedural requirements applicable to Section 3 projects	Reversed-procedural requirements apply to any application under the UMT Act based on the impact of the project, not its type	
2.2 Section 3e Protections	Apply to demonstrations; violations of 3e, re: maximum participation of private transit companies, compensation, and finding that project is essential to transportation plan	UMTA-plaintiff not a mass transportation company, hence not entitled to 3e protections. WTD has complied with 3e requirements anyway	Section 3e protections not applicable to demonstrations. WTD has complied with "statutory policy" nevertheless	Reversed in principle--same rationale as procedural requirements. However, plaintiff not entitled to 3e protections as Westport Taxi Inc. is not a mass transportation company due to its exclusive ride service.	
3. Taking of property	Violation of fifth and fourteenth amendments re: just and adequate compensation	No injury in fact; not free from competition; claims not ripe	Competition not a taking per se under federal law; plaintiff may have a claim in state court	Not reviewed	
4. Requested action and rulings	Preliminary and permanent injunction; declare grant application invalid		Denied requests for injunctive relief and request to declare grant application invalid	Remanded to District Court with instructions to enjoin further federal funding of the project pending amendment of the Application. Remanded with instructions to conduct official public hearing and amend grant application.	

Figure 9. Federal Litigation in the Westport Demonstration

LEVEL OF SERVICE

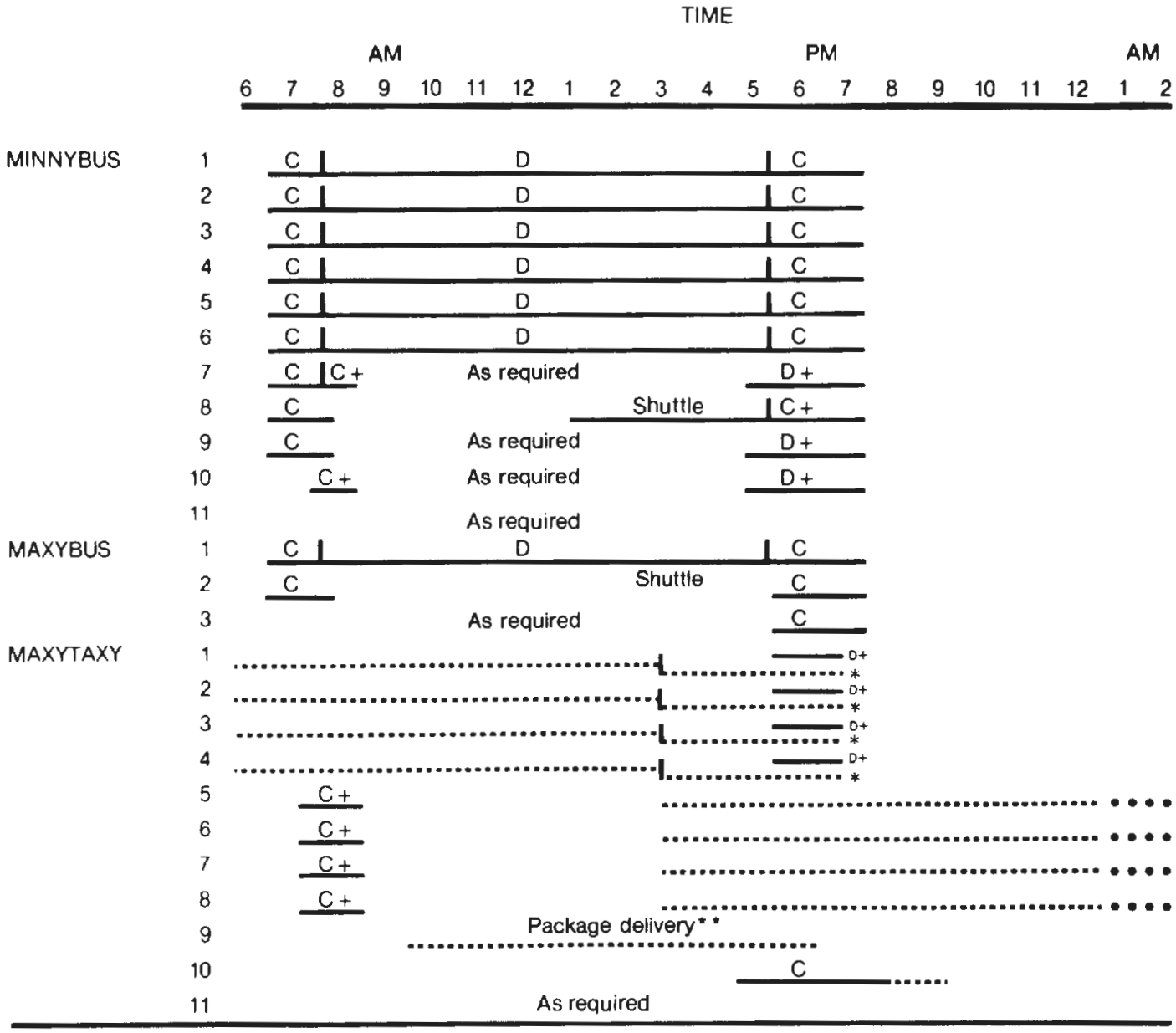
5.1 Coverage

Services provided through the demonstration project complemented and expanded the WTD fixed route system. With three types of vehicles, the WTD provided regular fixed route service, supplementary fixed route service, shared-ride taxi service, and special market services. The basis of service delivery was an integrated fleet utilization scheme (see Figure 10) which used the van vehicles as complements to, and substitutes for the regular bus fleet.

5.1.1 Complementary Service - Shared-Ride Taxi

The Maxytaxy was used to complement fixed route service through the provision of a shared-ride taxi operation which offered 100% geographic coverage in the community. Service was provided daily from 6 a.m. to 1 a.m., and to 2 a.m. on Friday and Saturday evening. The service day was split into two shifts with 4 to 5 Maxytaxys normally in service at any given time; shifts were also slightly overlapped in the late afternoon period to insure taxi availability during the transition hour. The precise time a taxi shift ended depended upon system demand considerations at the time. Maxytaxy drivers usually worked a 4-day week.

The positioning of the Maxytaxys was controlled by the dispatcher in the operations center. Interviews with dispatchers revealed that they usually employed a combination of roving and stationary coverage (e.g., directing taxis back to Jesup Green or the railroad station after a drop off, or keeping a taxi in a general sector in anticipation of a scheduled pick up). Although Maxytaxy was an innovative service, the coverage strategy benefited from the private management company's taxi experience in the community.



Fixed Route ——————

C: Commuter

C+: Supplemental Commuter

D: Daytime

D+: Supplemental Daytime—discontinued Feb. 1978

Shared Ride Taxi ••••••••••

*: Effective Feb. 1978

• • • • Fri. & Sat. only

**: Private vehicle also used for this service for a short period.

Figure 10. Typical Fleet Service Coverage

Special services for the elderly, handicapped and package delivery were interwoven with the regular Maxytaxy coverage. Two of the Maxytaxys were lift equipped and could be used by qualified individuals with 24 hour advance notice. Package delivery service was available from any vehicle; the dedicated package delivery vehicle serving local businesses normally operated from approximately 10 a.m. to 7 p.m.. In order to increase vehicle availability, the WTD leased a private vehicle for several months to substitute for the dedicated Maxytaxy.

All telephone requests for Maxytaxy service were answered manually by the dispatcher or an assistant. An initial effort to utilize the voice activated telephone answering system was unsuccessful due to the inflexibility of the automated responses. Callers usually desired some form of personalized information concerning their planned trip; the system could not respond to personalized or successive questions from a caller. The WTD also reported that callers expressed a preference for a direct verbal trip confirmation over a recorded response.

5.1.2 Supplementary Fixed Route Service

The Maxytaxy vehicle was also used as a substitute for the regular Minnybus in the provision of supplementary fixed route service on both the commuter and daytime services. Expanded temporal and geographic coverage of the commuter service was achieved through additional runs on 6 routes (A, C, D, E, F, and G) for the 7:51 a.m. and 8:28 a.m. trains, [1] and through modest extensions to several Saugatuck routes, and the addition of one route (GF_3) to Greens Farms Station (see Figure 11).

An extension of the temporal coverage of the daytime service (reference Figure 6) was also achieved through the use of the Maxytaxy vans. Additional fleet pulses from Jesup Green were provided at 5:15, 5:50, and 6:25 p.m.. Downtown employees were offered

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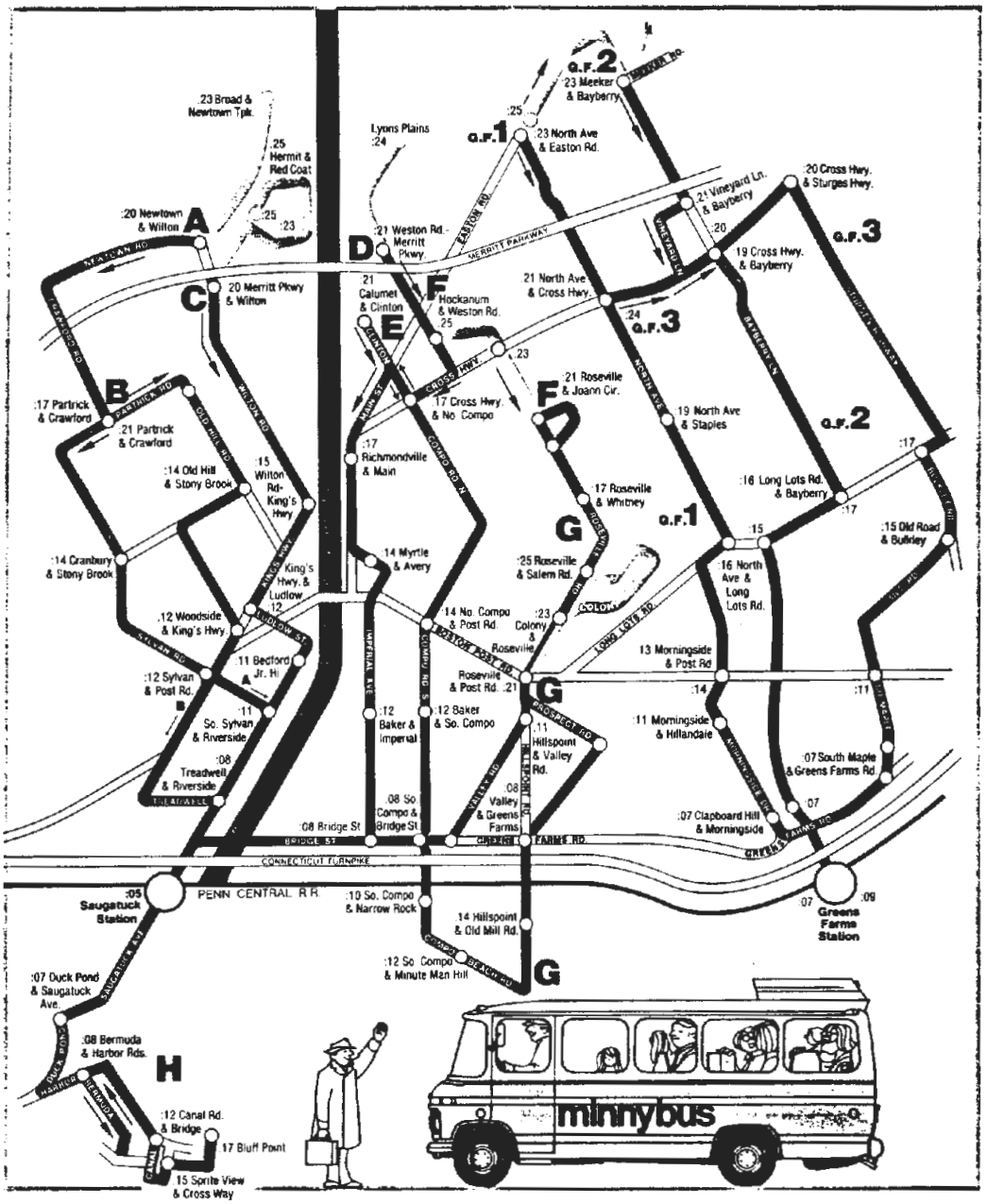
[1] Reference Table 2 for a complete commuter rail schedule.



Note:

To find the time Minny will be at your stop in the morning, "count down" or subtract the indicated number of minutes from train time. If evening trains are late — we'll wait at least til 8 p.m.

Services in red meet only the 7:09, 7:51 and 8:29 in the morning, 5:20 and 6:07 in the evening.

Commuter minnys and maxytaxys meeting trains shown in red travel their full routes as well as the new extensions also shown in red on the map.

Commuter Minny timetable:

Saugatuck Trains	Greens Farms Trains
7:09 AM	7:04 AM
7:32	7:27
**7:51	*4:40 PM
**8:28	*5:20
*5:02 PM	*6:07
*5:20	
*6:07	

*Leaves Grand Central **Routes A, C, D, E, F, G only

FIGURE 11. Coverage of Fixed Route Commuter Service

preferential seating arrangements on the 5:15 run. This evening supplemental fixed route service formally operated for approximately 8 months. In January 1978 the WTD decided to employ more vans in taxi service due to increased demand in the late afternoon early evening period. As a substitute the WTD provided several Minnybuses to serve downtown employees and shoppers. This service change was also supported by economic considerations as the Maxytaxy operated at a higher revenue/cost ratio while in taxi service.

5.2 Integrated Pass Program and Fare Structure

The demonstration continued and expanded upon the annual pass program which had been used for the Minnybus service for the past three years (reference Table 5).

The demonstration annual pass pricing scheme resulted in a further breakdown of the markets being served consistent with the demonstration services provided (see Table 17).

TABLE 17 Annual Pass Prices for Demonstration

Type of Pass	Annual Price (per person)
Adult	$ 40.00
Child	35.00
Each additional family member	25.00
Elderly	15.00
2nd Elderly	12.50
College Student	20.00
Commuter	65.00
Maxytaxy Pass	395.00
Super-Pass	995.00

The Maxytaxy Pass (50% discount on all shared-ride taxi trips) and the Super-Pass (free travel on all services) were attempts to market the new shared-ride mode and the comprehensiveness of system services.

The regular cash fare for the Maxytaxy was based on a zonal system with fares ranging from $1.00 to $3.25. (See Figure 12 and Table 18). There was no tipping[1] in the Maxytaxy service as drivers were rewarded through the profit incentive program ($ .05 per passenger).

The elderly (over 65) were entitled to a 25% discount off the regular zonal fare at all times; the handicapped could use the Maxytaxy or Minnybus for $ .25. The WTD set fares for the transportation disadvantaged while working in close coordination with local social service agencies such as the Council on Aging.

The WTD also employed a conscious pricing policy to induce regular pass holders to use the Maxytaxy. Commuter pass holders arriving on evening trains not served by the Minnybus were eligible for a 50% discount off the regular Maxytaxy fare. Minny pass holders could use the Maxytaxy on Friday and Saturday evenings for discounts up to 55% off the regular fare.

As an additional convenience, the WTD marketed discount coupons called "Maxymony" for use on the Maxytaxy; $25 worth of Maxymony was sold in pocket size booklets for $20.

The charge for package deliveries was the regular zonal fare plus a $ .50 surcharge for each time the driver had to leave the vehicle.

The fixed route Minnybus fare remained at $ .50 and still included one free transfer to another Minnybus.

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[1] Drivers were instructed not to accept tips.

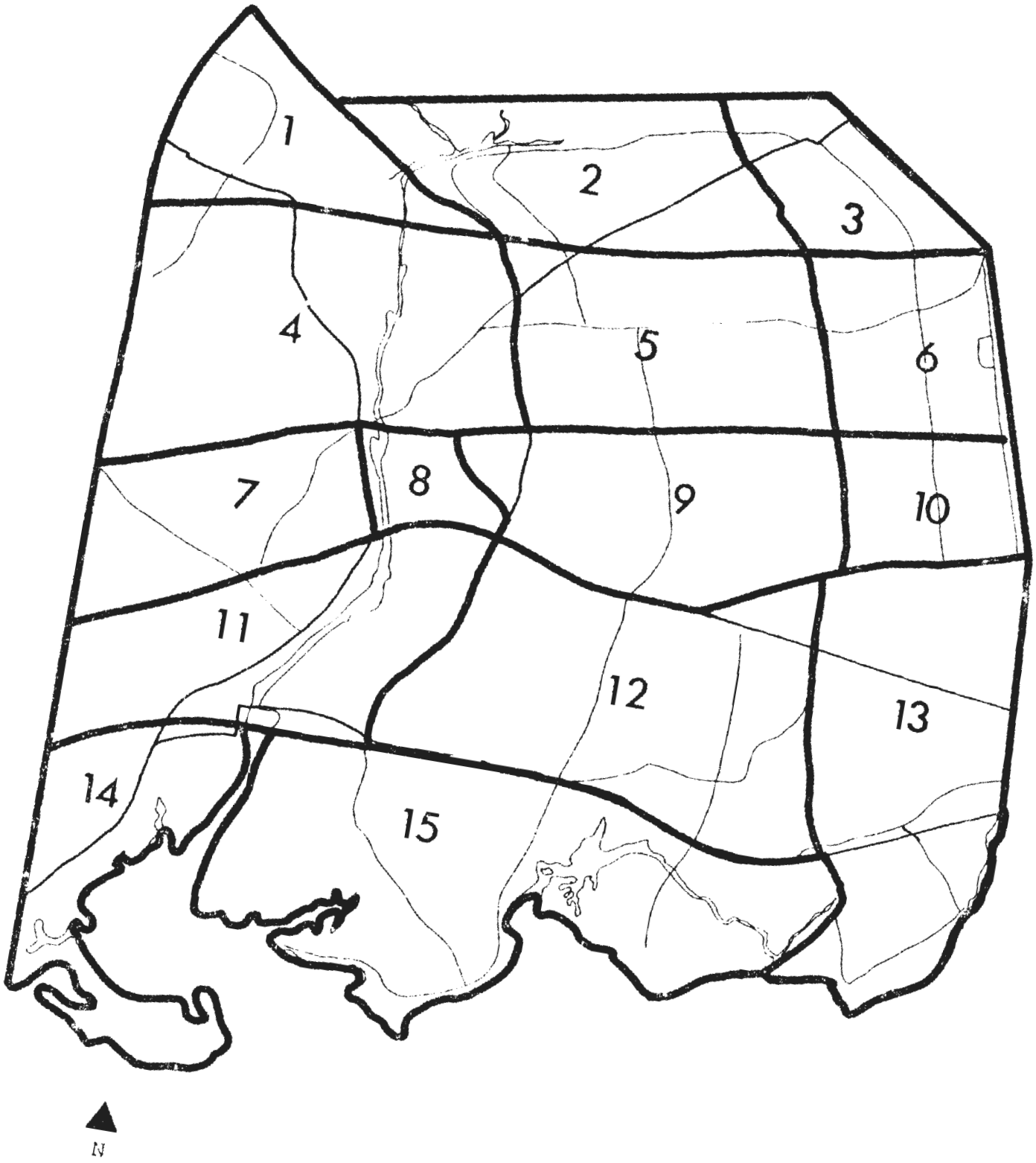

FIGURE 12. SHARED-RIDE TAXI FARE ZONES IN WESTPORT

TABLE 18 Zonal Fare System for Shared-Ride Taxi[1]

1	$ 1.00														
2	1.25	$1.00													
3	1.50	1.25	$1.00												
4	1.25	1.50	1.75	$1.00											
5	1.50	1.25	1.50	1.50	$1.00										
6	1.75	1.50	1.25	1.50	1.25	$1.00									
7	1.50	1.75	2.00	1.25	1.75	2.00	$1.00								
8	1.50	1.50	1.75	1.00	1.25	1.50	1.00	$1.00							
9	1.75	1.50	1.75	1.50	1.25	1.50	1.50	1.00	$1.00						
10	2.00	1.75	1.50	1.75	1.50	1.25	1.50	1.25	1.25	$1.00					
11	2.00	2.25	2.50	1.50	1.75	2.50	1.25	1.00	1.50	2.25	$1.00				
12	2.50	2.00	2.00	1.75	1.50	1.75	1.50	1.25	1.25	1.50	1.50	$1.00			
13	3.00	2.75	2.25	2.75	1.75	1.75	2.50	1.50	1.50	1.50	2.00	1.50	$1.00		
14	2.75	2.75	3.25	2.00	2.50	2.75	1.50	1.25	2.25	2.50	1.25	1.50	2.25	$1.00	
15	3.00	2.75	3.00	2.25	2.00	2.50	2.00	1.50	1.75	2.50	1.50	1.50	2.00	1.50	$1.00
Zone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

[1] In December 1978 shared ride taxi fares were increased by an average of 28 percent.

5.3 Reliability

5.3.1 Vehicle Reliability

The WTD employed a staff of two full time mechanics to maintain both the diesel bus and gas powered van vehicles. The use of its own mechanics enabled the WTD to solve a previous problem involving the transit vehicles not receiving priority maintenance in the school bus garage. Slightly less than half of the total mechanics' time was expended on the Maxytaxy fleet. A review of the mechanics' time logs revealed that approximately 60 percent of Maxytaxy maintenance was related to prescription work (preventive) while 40 percent was related to additional maintenance (non-preventive). The comparatively high percentage of maintenance time devoted to non-preventive work (25 percent was considered average by WTD staff) appeared to be related to operating the Maxytaxy vehicle approximately 9 hours per day largely in the taxi mode. A sample of additional maintenance items included flat tires, repairs related to minor accidents,[1] seat repairs, master cylinder repairs, and transmission failure.[2] Interestingly, there were very few repairs related to vandalism, perhaps a reflection of the nature of the clientele and the community's affection for the service.

There were no serious problems with vehicle subsystems other than expected continual adjustments to the air conditioning systems. Wheel chair lifts were operated by the drivers without difficulty.

Scheduled service availability was never adversely affected by the additional maintenance requirements but it did require occasional vehicle substitution schemes where, for example, a Minnybus was used on a supplemental fixed route commuter run in place of a van out of service. These substitution schemes generally occurred on a Monday (with maintenance staff unavailable on the weekend) or a Friday during peak demand periods

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[1] For example, scraping the roof of the van on a driveway tree branch.

[2] Two Maxytaxys suffered relatively early transmission failures, one at 25,000 miles and one at 40,000 miles; these were, however, considered atypical in view of the performance of the other 9 vans in the fleet.

which required extensive fleet deployment. Integrated fleet management was thus an important element in facilitating service availability.

In terms of operational performance, the Maxytaxys (8 cylinder, 360 cubic inch engines) operated at a fuel rating of 10 to 15 miles per gallon on regular gasoline. This was approximately the same fuel performance as the diesel powered Minnybus. Engines were equipped with an emission control system (designed to California standards) which reportedly detracted from the fuel rating and overall performance. One noteworthy operational safety item related to a mirror blind spot directly behind the vehicle. This was caused by the restrictive angles of the outside mirrors, and the central mirror vision being restricted by the rear door and rear seat. Though common to most vans and buses, this problem was a safety handicap for the Maxytaxy since the vehicle was backing out of many driveways while in taxi service. Drivers were instructed to get out and walk around the vehicle in the event there was any uncertainty over the clearness of their path.

Another aspect of vehicle reliability related to the drivers' opinions of the Maxytaxy's handling. A survey of 11 drivers rated the vehicle's handling ability as follows:

Excellent	3
Good	3
Fair	2
Poor	3

Two common concerns expressed were the difficulty in maneuvering in narrow driveways and the poor handling characteristics of the vehicle in adverse weather conditions, especially snow.[1] Attaining good traction was difficult due to the high center of gravity associated with the modified vehicle design, and

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[1] Despite this deficiency, the Maxytaxys were deployed as emergency vehicles during the Great Blizzard of February 1978; many valuable services were performed during the emergency period.

the location of the engine in the front of the vehicle. Both snow tires and chains were used in snow and ice conditions; this equipment was extremely important in view of service hours (6 a.m. - 2 a.m.) and the need to negotiate roads and driveways located in comparatively remote sections of the community.

5.3.2 Service Reliability

Service response times were measured quarterly during the demonstration (see Table 19). Average wait time was calculated two ways depending on whether packages, hailers (including railroad station pick ups), and advance requests (greater than one hour) were included in the analysis. During the first year of the demonstration, the average wait time was approximately 17 minutes for regular service requests and about 9 minutes when all trips were included.

TABLE 19 Maxytaxy Response Times

	Aug 5, 1977 Friday		Nov 3, 1977 Thursday		Apr 6, 1978 Thursday		Oct 25, 1978 Wednesday	
	A[1]	B[2]	A	B	A	B	A	B
Wait time (mins) Avg.	-	6.40	17.46	9.01	17.28	8.31	16.13	8.10
Standard Deviation	-	7.51	8.56	10.40	9.02	10.66	8.53	9.46
Coefficient of Variation (%)	-	117.34	49.03	115.43	52.20	128.28	52.88	116.79
SERVICE DATA								
Total passengers	322		311		415		552	
No shows	4		2		6		5	
Cancellations	2		1		0		0	
Total trips	282		280		329		456	
Vehicle miles	1217		1141		1342		1581	
Vehicle hours	84		84.4		95		106.2	
Pax/veh. hour	4.55		3.68		4.37		5.19	
Trips/veh. hour	3.36		3.32		3.46		4.29	
Veh. mi./veh. hour	14.5		13.5		14.1		14.9	
No shows/Total trips	.014		.007		.018		.011	

[1] Excluding packages, hailers and advance requests

[2] Including all trips

As the demonstration progressed, however, the manner in which individuals reserved their ride changed significantly (see below).

Type of request	Fall 1977 (%)	Fall 1978[1] (%)
Regular	65	48
Advance	--	15
Standing (subscription)	10	15
Hailers	10	6
Railroad Station pick-up	13	16

Greater percentages of advance and standing requests entered the system as people "adjusted" to the service. This adjustment was the result of several factors at work in the supply-demand framework. First, the initial service design (4 Maxytaxys per shift) was increasingly overwhelmed by passenger demand, especially during the early evening period; this led to a vehicle shortage and contributed to the elimination of evening supplemental fixed route service in favor of greater taxi availability. Second, the Maxytaxy gradually became the only taxi service in town. Teddy's Taxi retired 2 vehicles during 1977 and focused the remaining vehicles on out of town trips until the sale of the business in October, 1978. The Westport Taxi Co. terminated operations in early May, 1978; despite reports of increased business the company continued to incur losses as a result of the low fare structure and increased fixed and operational costs. A third factor related to individuals who had experienced any prior problems with response times; these individuals learned to anticipate the "worst case" in the system and call in advance. A final factor related to an increase in the number of subscription riders; more people made the Maxytaxy part of their daily or weekly trip routines.

The impact of these changes is shown in the October 1978 wait time results of approximately 16 minutes for regular requests and just over 8 minutes for all trip requests.

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[1]Based on survey results and dispatcher interviews.

For regular requests (excluding package, hailers, and requests more than one hour in advance) the standard deviations of the average wait times were relatively high, averaging approximately 9 minutes in each of the sampling periods. However, the relative variation of wait times was fairly constant throughout the demonstration as indicated by the coefficient of variation gravitating around 50 percent for regular requests.

Further insight into the service reliability experienced by users was gained from on board survey results wherein Maxytaxy riders indicated whether Maxytaxy had arrived on time (see Table 20).

TABLE 20 Maxytaxy Arrival (Pick-up) Times by Request

	Request Type		
	Regular[1]	Advanced[2]	Standing
Arrival Time			
Early	9.7%	21.4%	80%
On Time	71.0%	71.4%	20%
Less than 15 minutes late	12.9%	--	
More than 15 minutes late	6.4%	7.2%	

[1] Less than one hour in advance of requested pick up time

[2] More than one hour in advance of requested pick up time

Approximately 70% of regular request pick ups were indicated as on time; slightly over 6% of regular pick-ups were indicated as being more than 15 minutes late.

No shows as a percentage of daily trip demand averaged approximately 1%; under worst case conditions (see below) this figure approached 2%.

The number of no shows and cancellations reported indicate that the periods of most unreliable service occurred during January-February 1978 and July-August 1978. The first occurrence derived from a vehicle shortage coupled with adverse weather conditions; the second occurrence may have been supported by the decline of private taxi operations. In each case, the WTD responded with increased taxi deployments. The most common day for no shows and cancellations, regardless of season, was Friday (see Figure 13) especially during the early evening peak.

5.4 Travel Time and Circuity

An average Maxytaxy trip was approximately 3.5 miles in length, 11 minutes in duration, and $1.40 in fare charge (see Table 21).

Average travel time and the variability of travel time decreased slightly as the demonstration progressed into the second year of operations. This decrease may have been a reflection of the increasing number of railroad commuters using the shared ride service[1] in conjunction with improved tour make-up procedures; several Maxytaxys were deployed to meet incoming trains in the evening and passengers were assigned to vehicles based on general destination areas.

This practice also reduced the circuity of travel on the shared ride service. Indirect routing was most applicable for the last one or two passengers on a multi-trip tour from the railroad station. A sampling of trips for this "worst case" indicated that these passengers traveled from 1.3 to 1.7 times the distance[2] associated with a direct auto trip from the same origin to the same destination.

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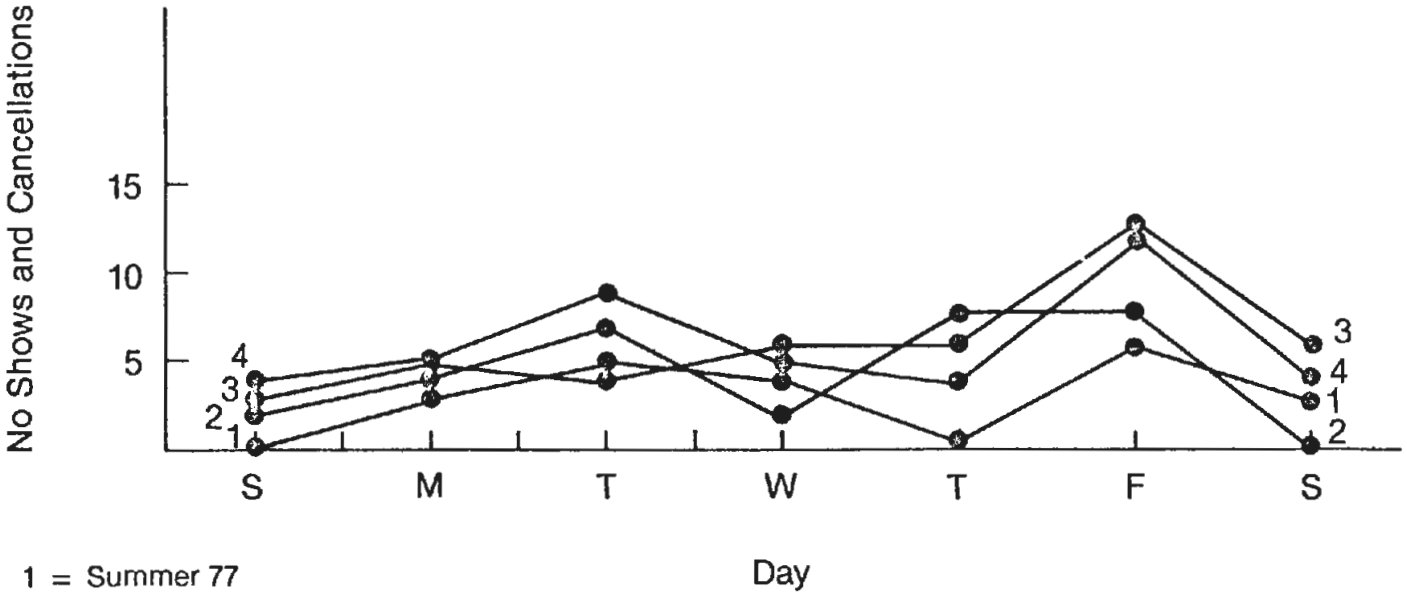
[1] Discussed in Chapter 6.

[2] The direct trip distance was calculated by measuring the point to point distance on a scaled map and multiplying the result by a 1.2 street adjustment factor.



1 = Summer 77
2 = Fall 77
3 = Spring 78
4 = Fall 78

Figure 13. No Shows and Cancellations by Day

TABLE 21 The Average and Variability of Maxytaxy Trip Data

Average	Aug 77	Nov 77	Apr 78	Oct 78	Overall Average
Trip time (mins.)	11.36(6.88)[1]	11.45(7.23)	10.44(5.91)	10.01(5.64)	10.82
✓ [2](%)	61	63	57	56	59
Trip distance (miles)	3.50(2.04)	3.65(2.44)	3.33(1.93)	3.28(1.89)	3.46
✓ (%)	58	67	58	58	60
Fare per trip ($)	1.58(.66)	1.43(.49)	1.43(.53)	1.16(.44)	1.40
✓ (%)	42	34	37	38	38

[1] ( ) denotes standard deviation

[2] ✓ denotes coefficient of variation

Comparisons of travel time for trips that could be serviced by either shared ride taxi or fixed route bus are presented in Table 22. In general, the shared ride service had certain travel time advantages over the fixed route Minnybuses; these included a smaller vehicle, the ability to avoid the central spine whenever possible and travel on back roads, fewer stops for passenger boardings, and the absence of roundabout loop routes. These advantages translated into approximately a 20% travel time savings on the assumption that the maxytaxy trip was direct from the same origin.

In case of trips originating from Saugatuck Station the shared ride travel times were burdened (by a multiplication factor of 1.5) to reflect the potential indirect routing resulting from a near capacity ridership. Travel time comparisons with the commuter service must thus be viewed in terms of a range which is dependent upon the number and destination of trips assigned to the Maxytaxy.

TABLE 22 Comparative Travel Times for Selected Trips on Shared Ride and Fixed Route Services

Origin	Destination Area	Travel Times (mins.)		
		Shared Ride		Fixed Route[1]
CBD	Staples (west)	8		10 (D)
CBD	Compo (south)	12		15 (D)
CBD	Coleytown (north)	12		15 (D)
		Direct	Burdened[2]	
Saugatuck Station	CBD	8	12	12 (C)
Saugatuck Station	Cross Highway	10	15	17 (C)
Saugatuck Station	Coleytown	15	22.5	22 (C)

[1]Fixed route travel times are based on schedules for daytime (D) and commuter (C) services.

[2]Travel time circuity was assumed to be proportional to the distance circuity factor which ranged from 1.3 to 1.7; direct travel times were multiplied by a factor of 1.5 to arrive at the burdened travel time.

5.5 Marketing, Promotion and Information Services

Marketing was given special recognition by the WTD as an important factor in influencing travel behavior and was funded at a level to make it an effective force. The major marketing challenge was to sell the new services to the community. Attaining professional support was a priority item and was accomplished through enlarging the scope of an existing private contract. The WTD worked with the private contractor to design a system marketing program which gained expression through color schemes, logos, flyers, press releases, advertisements, passes, and coupons.

In a larger sense, however, marketing was a pervasive element in the WTD system. It was expressed in the vehicle image, driver selection, integrated fare system, system surveys, and the overall interface with community groups, businesses, and professional organizations.

The promotion of the shared-ride service thus benefited from both this marketing "base" and the professional support. The system terms ("Maxytaxy," "Maxymony," "Transportation Doctor") were simple expressions of a sophisticated marketing approach.[1]

The WTD also provided a comprehensive transportation information service from an information center located near the downtown area. This service complemented the Maxytaxy marketing and promotion effort by providing specific information on Maxytaxy service and operations.

5.6 Qualitative Service Attributes

A major effort was made by the WTD to make Maxytaxy service convenient, personalized, comfortable, and enjoyable. The key figure in achieving these management objectives was the Maxytaxy driver. Following in the Minnybus tradition an effort was made by the WTD and the management contractor to recruit and train friendly, courteous drivers who would interface well with the public.

The success of this effort was reflected in driver survey results (11 responses) which indicated that a majority of drivers felt that driver courtesy was a major selling point of the Maxytaxy service, and that customers asked more of Maxytaxy drivers than of regular taxi drivers (e.g., carrying groceries). In addition, 80% of the respondents indicated what they liked best about driving Maxytaxy was meeting people.

Employing drivers who were responsive to customer needs made the service safe for youth, gentle for the elderly, usable for the

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[1] Representative marketing material is presented in Appendix B.

handicapped, efficient for the commuter, and instructive to the visitor. This personalized service added another dimension to taxi service and was a major element in attempting to diversify the market penetration of Maxytaxy and attract regular customers as well. As the primary point of contact with the public, the drivers opened the avenue for an affectionate community response to Maxytaxy.

The objective of customer comfort was also furthered through vehicle amenities including comfortable seating,[1] air conditioning, and an interior standing height of 6 feet 3 inches. The interior height was particularly important in terms of enabling riders to comfortably access and egress the vehicle. When a wheelchair occupant was accommodated in one of the lift equipped vehicles, 6 spare seats remained for companions or other riders.

Service quality was also enhanced by the homogeneity of the potential demand markets in the town; this was conducive to the expectation of a pleasant social experience while on the vehicle.

5.7 User Perceptions of Service Levels

The Maxytaxy's reception in Westport clearly benefited from several years of community affection for the Minnybus service. Both the commuters and daytime riders had made the Minnybus part of their life style. This tradition coupled with the effort to provide convenient and reliable service paved the way for a positive reaction to Maxytaxy by community residents. Almost 45% of the riders gave an "excellent" rating to the service while 39% rated it as "very good"; the reactions of elderly users to the service, while not as enthusiastic, were still strongly supportive. In a survey of the general public only 2% expressed a negative reaction to the Maxytaxy. (See Table 23).

[1] The two front seats in the Maxytaxy were the individual swivel rock type; rear seating was bench design. While the individual swivel seats provided comfort, they also presented a problem with wear.

TABLE 23 Reactions to Maxytaxy

	Users(%)	Elderly Users(%)	General Public(%)
Excellent	44.2	19.2	35.4
Very Good	39.0	30.4	24.5
Good	7.8	29.4	14.3
Fair	2.6	2.6	4.8
Poor	--	.5	2.0
Neutral	1.3	2.6	2.7
Don't know/no answer	5.2	15.3	16.3

Regarding the importance of specific service attributes the highest ratings were accorded to "convenience" and "reliability" followed by "price" and "courteous drivers" (see Table 25).

The positive community attitude expressed toward the service was clearly related to word of mouth communications among WTD riders; survey results indicated that personal communication was the most influential factor in creating an awareness of the service (See Table 24).

TABLE 24 Methods By Which Riders Became Aware of Maxytaxy[1]

	1977(%)	1978(%)
Word of Mouth	48.1	54.7
Newpaper Ads	40.3	29.7
Pamphlet-Flyer	15.6	6.3
Newspaper Stories	--	25.0

[1]Multiple answers increase percentages over 100.

MAXYTAXY SERVICE ATTRIBUTES

RATINGS (%)	Convenience	Reliability	Price	Comfort	Courteous Drivers	Avoidance of driving & parking problems	Tipping	Minny Pass for Reduced Rates	Maxymony
Extremely important	57.1	48.1	39	18.2	35.1	19.5	24.7	29.9	22.1
Very important	27.3	22.1	20.8	16.9	20.8	22.1	11.7	7.8	11.7
Somewhat important	3.9	15.6	16.9	36.4	22.1	24.7	15.6	9.1	10.4
Not very important	---	---	6.5	11.7	6.5	7.8	14.3	9.1	11.7
Not At All Important	---	---	3.9	---	---	7.8	14.3	14.3	14.3
Don't know No answer Refused	11.7	14.3	13.0	16.9	15.6	18.2	19.5	29.9	29.9

TABLE 25. User Ratings of Maxytaxy Service Attributes

6. DEMAND

6.1 Shared-Ride Taxi Ridership (Maxytaxy)

The demand response to the Maxytaxy service was significant in terms of both quantity and composition. Ridership was recorded by payment method thereby providing an indication of the general market segments being served (see Table 26). After approximately 15 months of service the taxi ridership began to stabilize between 13,000 and 15,000 riders per month (see Figure 14).

TABLE 26 Shared-Ride Taxi Ridership

Year	Month	Reg.	Eld.	Hand.	Comm. Pass	Minny Pass	Pkg.	Tot.	% Change
1977	Apr	1425	33					1458	
	May	3963	215	27	29	159	1	4394	
	Jun	4947	416	49	44	332	31	5619	+27.9
	Jul	6451	653	185	46	171	56	7562	+34.6
	Aug	6823	681	164	40	162	39	7909	+ 4.6
	Sep	6557	696	127	67	275	775	8497	+ 7.4
	Oct	7091	614	229	116	255	974	9279	+ 9.2
	Nov	7222	640	222	233	397	1027	9741	+ 5.0
	Dec	8022	775	199	256	308	1288	10,848	+11.4
1978	Jan	8620	770	303	254	209	1163	11,319	+ 4.3
	Feb	8025	626	293	241	190	1024	10,399	- 8.1
	Mar	9427	715	468	353	279	1196	12,438	+19.6
	Apr	8715	1000	433	372	312	1091	11,923	- 4.1
	May	9863	1115	458	364	252	1282	13,334	+11.8
	Jun	10,470	1287	475	311	242	1235	14,020	+ 5.1
	Jul	11,001	1264	440	259	170	1270	14,404	+ 2.7
	Aug	11,736	1102	433	323	112	1213	14,919	+ 3.6
	Sep	10,466	1123	544	352	303	1095	13,883	- 6.9
	Oct	10,855	1159	323	405	293	1353	14,388	+ 3.6
	Nov	11,056	1057	316	355	298	1036	14,118	- 1.9
	Dec	10,564	1109	408	429	235	1112	13,857	- 1.8
1979	Jan	10,878	1127	588	464	263	1262	14,582	+ 5.2
	Feb	9,791	1012	458	450	229	1061	13,001	-10.8
	Mar	10,140	1206	514	467	266	1147	13,740	+ 5.7

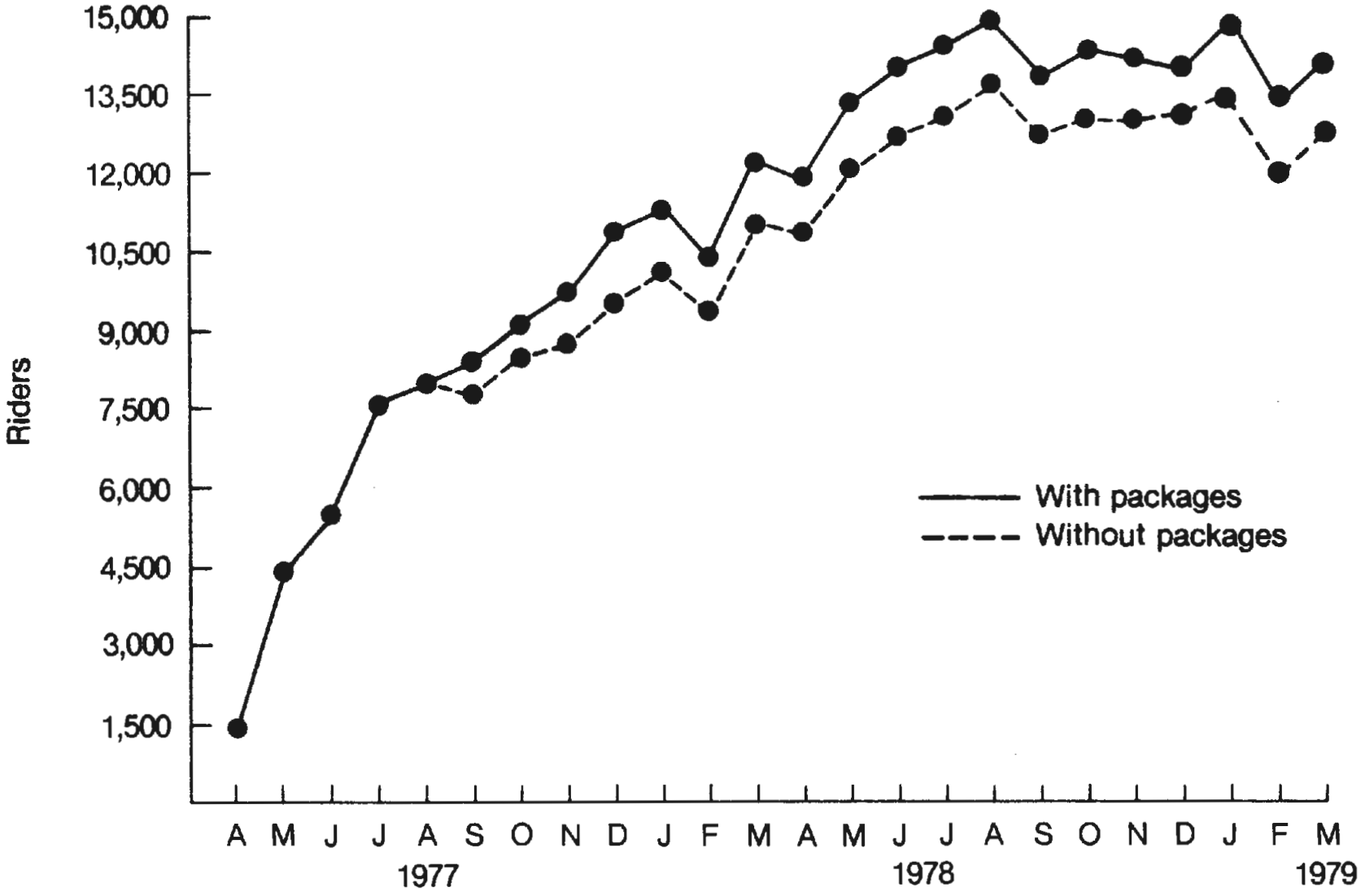


Figure 14. Total Shared Ride Taxi Ridership by Month

Regular fare passengers constituted approximately 75% of the total monthly ridership. The balance of the ridership was attracted from special services for package delivery and transit dependent groups, and from fare inducement programs. Commuter usage of the Maxytaxy increased steadily throughout the demonstration and appears to be still growing.

The number of Maxytaxy package deliveries increased substantially starting in September 1977 as a result of delivery agreements with several local businesses and the use of a dedicated vehicle for goods delivery; this arrangement resulted in package deliveries representing approximately 8% of stable monthly ridership. The rate structure for contract deliveries was lower than the normal package delivery rate structure.

Ridership by the transportation disadvantaged exhibits a strong seasonal influence with peaks during the warm weather months followed by significant decreases in the winter. Nevertheless, the elderly (4%) and handicapped (8%) represented approximately 12% of stable system ridership (see Figure 15); early 1979 data indicates that ridership by individuals in these groups may still be growing.

Pass holder discounts were also important in attracting Maxytaxy riders; the use of the commuter pass on weekday evenings and the Minny pass on Friday and Saturday evenings represented approximately 5% of total steady ridership on the shared-ride service. The use of Maxymony also became popular with all ridership segments; approximately 5% of all trips were paid for with Maxymony coupons.

6.2 Fixed Route Ridership

6.2.1 Regular Fixed Route Ridership

The ridership on the regular (excluding supplemental) fixed route services continued the pre-demonstration trend of declining daytime ridership and relatively steady commuter

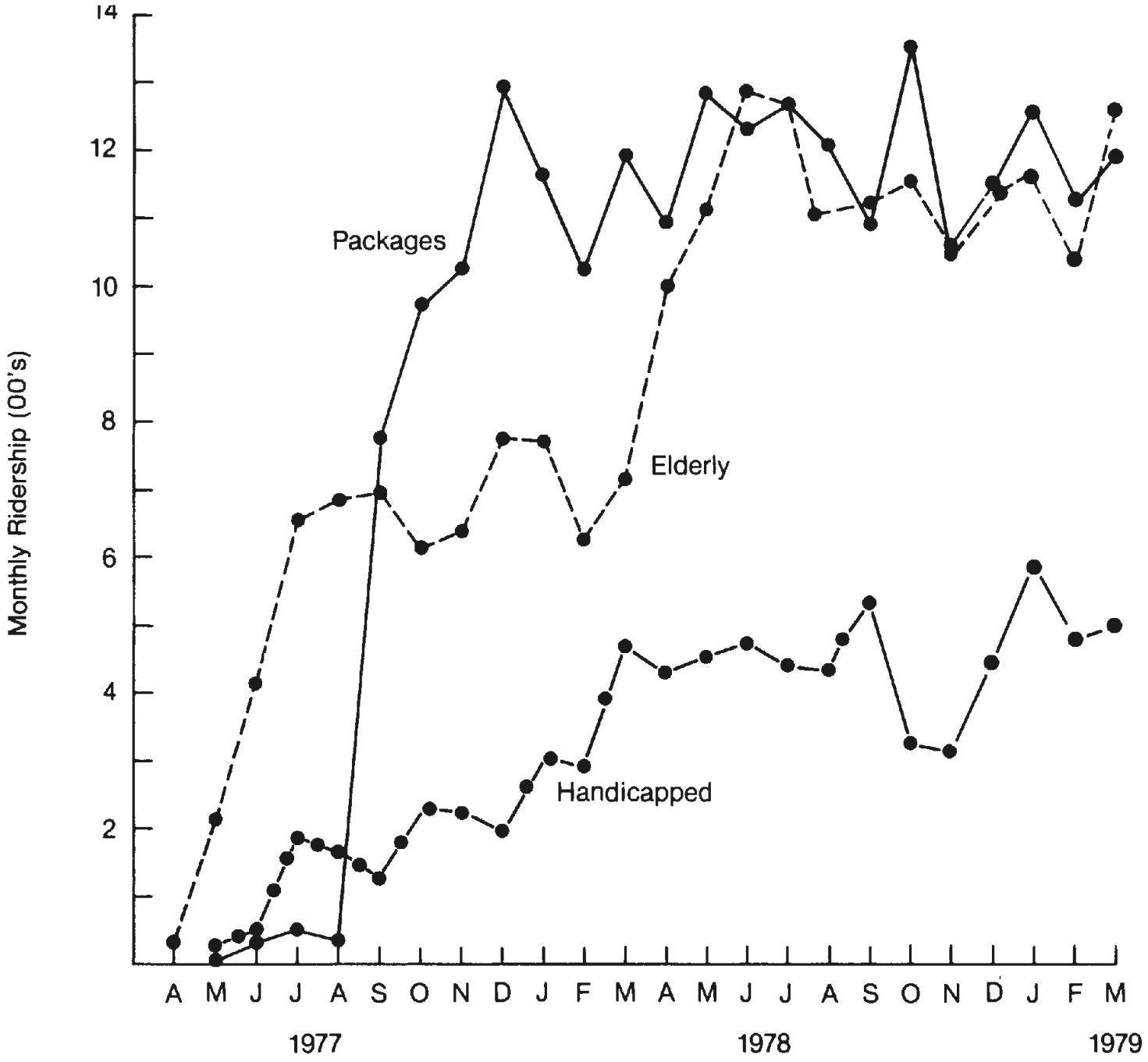


Figure 15. Shared Ride Taxi Special Markets' Ridership

ridership. Regular daytime ridership decreased by 9.5% in the first year of the demonstration, and by 11.9% in the second year (see Table 27). Moreover, with a few exceptions, the ridership decreases were evident every month of each year.

The reasons for the steady and gradual nature of this ridership decline over 3 years (see Figure 16) is discussed in Section 7.2.

6.2.2 Supplemental Fixed Route Ridership

The use of the demonstration vans in providing supplemental fixed route services during peak periods was partially successful in terms of ridership response. Morning commuter service was effectively supplemented by serving 2 additional trains at Saugatuck Station. During the first year of the demonstration, the supplemental commuter ridership represented 6 to 8 percent of the regular commuter ridership; this figure increased to 10 to 12 percent relative to the second year commuter ridership (see Table 28). Ridership on the morning commuter service was also supported by the knowledge that one could take the Maxytaxy home in the evening (at a reduced fare for passholders) if an individual missed the regular evening commuter service.

The effort to provide supplemental daytime service during the evening peak period did not attract as significant a ridership market. Three additional evening fleet pulses only marginally increased daytime ridership (see Figure 17). In addition, the taxi demand during the same time period increased to the point where 4 Maxytaxys could not provide an adequate level of service to the community. Consequently the supplemental daytime service was phased out in early 1978 in favor of additional taxi deployments.

As a substitute for the evening supplemental fixed route service, the WTD provided for reduced Maxytaxy fares for Minny pass holders departing from the downtown area. A temporary

TABLE 27 Change in Fixed Route Ridership During Demonstration

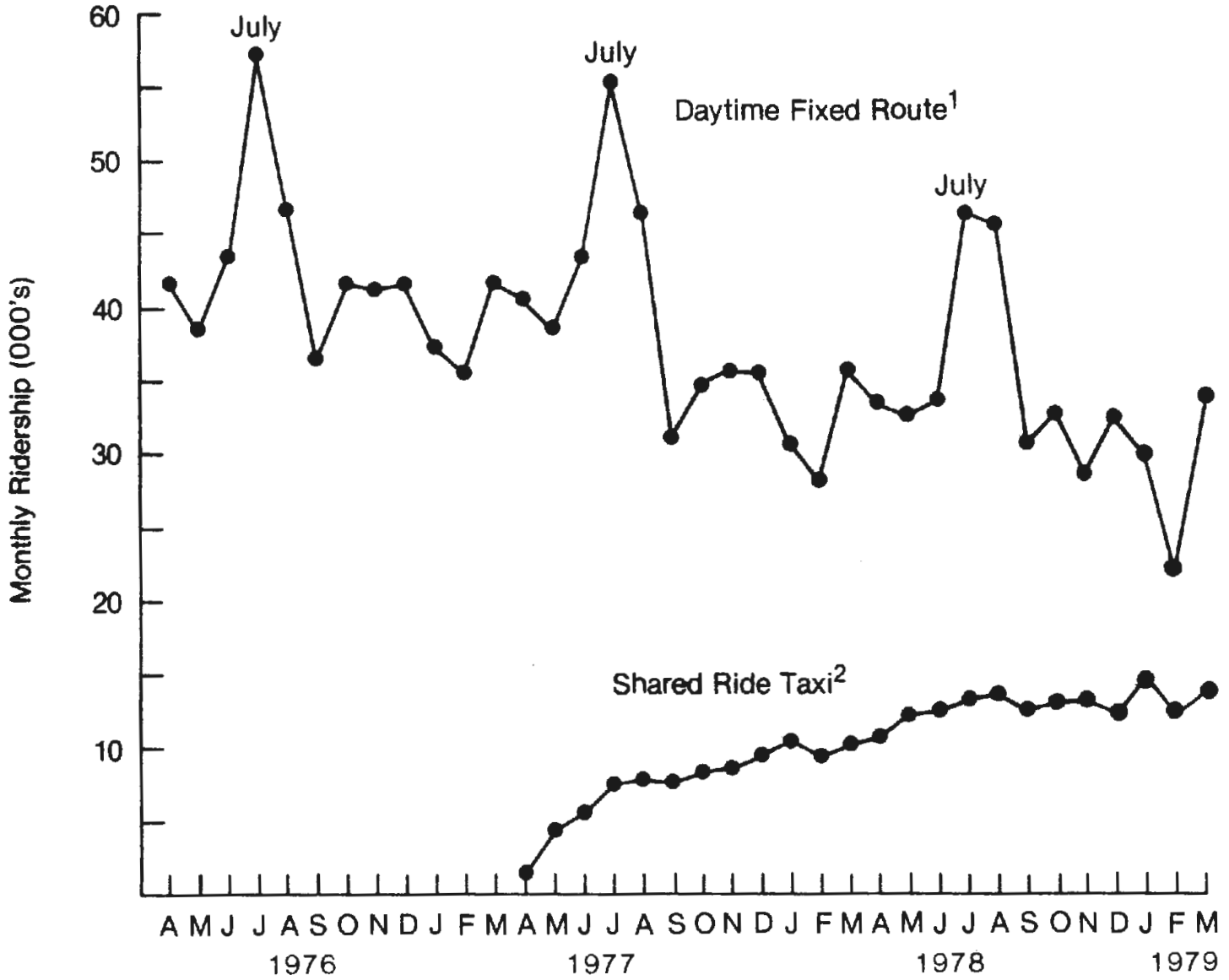
	Ridership Pre-Demonstration Year 76-77				Ridership[2] 1st Demonstration Year 77-78				Ridership[2] 2nd Demonstration Year 78-79			
	D[1]	C[1]	Tot.	Change[3]	D	C	Tot.	Change[3]	D	C	Tot.	Change[3]
Apr	41931	10410	52341	- 4.6%	40621	11865	52486	+ 0.3%	33486	11145	44631	-15 %
May	38564	9170	47734	- 9.8%	38991	11853	50844	+ 6.5%	32606	12472	45078	-11.3%
Jun	43510	10363	53873	+ 1. %	43301	12614	55915	+ 3.8%	33984	12218	46202	-17.4%
Jul	57136	9838	66974	-14. %	55014	10382	65396	- 2.4%	46274	10633	56907	-13 %
Aug	46919	9827	56746	- 8.4%	46490	11662	58152	+ 2.5%	45789	12663	58452	+ 0.5%
Sep	36551	10781	47332	+ 2.3%	31020	10946	41966	-11.3%	30718	11019	41737	- 0.5%
Oct	41777	11064	52841	- 4.5%	34811	11515	46326	-12.3%	32704	11958	44662	- 3.6%
Nov	41210	10911	52121	+ 5.7%	35826	12348	48174	- 7.6%	28811	12114	40925	-15 %
Dec	41973	11637	53610	+ 4.8%	35457	11728	47185	-12 %	32448	10402	42850	- 9.2%
Jan	37404	13462	50866	+ 1.1%	30774	12292	43066	-15.3%	30112	13012	43124	+ 0.1%
Feb	35553	11627	47180	+ 1.3%	28015	10034	38049	-19.4%	22080	10481	32561	-14.4%
Mar	41786	13861	55647	- 1.4%	35894	12389	48283	-13.2%	33001	12193	45194	- 6.4%
Average	42026	11079	53105	- 2.2%	38018 (-9.5%)[4]	11636	49654	- 6.5%	33501 (-11.9%)[4]	11693	45194	- 9.0%

[1] D = daytime ridership; C = commuter ridership

[2] Excludes fixed route supplemental ridership

[3] Percentage change in total fixed route ridership from previous year

[4] Percentage change in daytime ridership from previous year



[1]Excludes supplemental fixed route ridership

[2]Excludes packages

Figure 16. Daytime Fixed Route vs. Shared Ride Taxi Ridership

TABLE 28 Supplemental Fixed Route Ridership

	C	C+	C+/C	Tot. C	D	D+	D+/D	Tot. D	Tot.FR
Apr	11865	---	---	11865	40621	---	---	40621	52486
May	11853	---	---	11853	38991	---	---	38991	50844
Jun	12614	775	.06	13389	43301	1967	.05	45268	58657
Jul	10382	617	.06	10999	55014	1706	.03	56720	67719
Aug	11662	895	.08	12557	46490	1573	.03	48063	60620
Sep	10946	791	.07	11737	31020	1855	.06	32875	44612
Oct	11515	819	.07	12334	34811	3583	.10	38394	50728
Nov	12348	796	.06	13144	35826	2262	.06	38088	51232
Dec	11728	915	.08	12643	35457	2143	.06	37600	50243
Jan	12292	909	.07	13201	30774	1991	.06	32765	45966
Feb	10034	715	.07	12132	28015	709	.03	28724	39473
Mar	12839	1160	.09	13694	35894	130	---	36024	50023
Apr	11145	987	.09	12132	33486	---	---	33486	45618
May	12472	1222	.10	13694	32606	---	---	32606	46300
Jun	12218	1125	.09	13343	33984	---	---	33984	47327
Jul	10633	990	.09	11623	46274	---	---	46274	57897
Aug	12663	1334	.11	13997	45789	---	---	45789	59789
Sep	11019	1233	.11	12252	30718	---	---	30718	42970
Oct	11958	1542	.13	13500	32704	---	---	32704	46204
Nov	12114	1431	.12	13545	28811	---	---	28811	42356
Dec	10402	1375	.13	11777	32448	---	---	32448	44225
Jan	13012	1660	.13	14672	30112	---	---	30112	44784
Feb	10481	1035	.10	11516	22080	---	---	22080	33596
Mar	12193	1600	.13	13793	33001	---	---	33001	46794

C : regular commuter service
C+: supplemental commuter service
D : regular daytime service
D+: supplemental daytime service

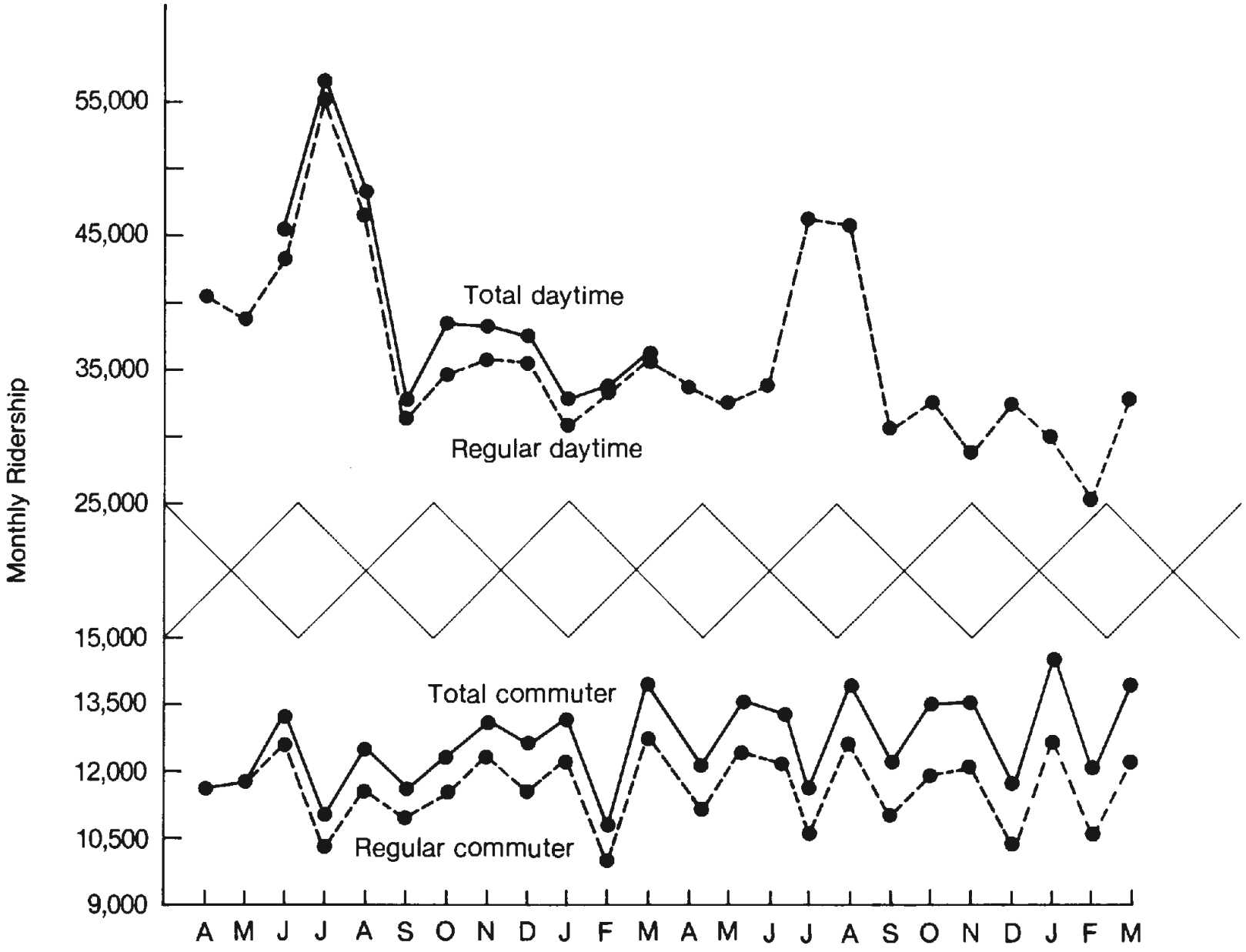


Figure 17. Ridership Increases from Supplemental Fixed Route Services

effort was also made by the WTD to utilize several Minnybuses in an experimental service from 5:30 PM to 6:30 PM. Several buses would meet at Jesup Green with each bus collecting passengers based on general destination ares. Buses departed the Green in accordance with dynamic scheduling and routes were established based on trip generation.

6.3 Demand Characteristics

6.3.1 User Profile

Survey results revealed that the Maxytaxy attracted a more balanced ridership than either the teenage dominated daytime service or the middle aged dominated commuter service (See Table 29). Maxytaxy riders were more uniformly distributed in terms of age and bridged the generation gap between the two fixed route services (see Figure 18). The highest percentage of riders were in the 30 to 44 age bracket but approximately equal ridership percentages were attracted from those under 30 and over 45 years of age respectively. In addition, most Maxytaxy riders were not transit dependent as indicated by the percentage of riders with drivers' licenses (about 70%) and Minnybus passes (only 23.4% in 1978).

Maxytaxy riders also had high levels of household income and automobile ownership; 66% of the riders lived in households with two or more cars.

On the fixed route system the most important change in user characteristics related to a shift in the age distribution of the ridership; a large percentage of daytime riders moved from the 12-15 age cohort into the 16-19 cohort (see Figure 18); this shift was reflected in the increased percentage (from 22.6% to 40.5%) of riders with drivers' licenses and the decreased percentage (from 80.1% to 64%) of riders with annual passes.

TABLE 29 WTD Rider Characteristics (%)

	Minny--Commuter		Minny--Daytime		Maxytaxy	
	1977	1978	1977	1978	1977	1978
SEX						
male	90.0	87.8	41.1	36.9	39	35.9
female	8.8	10.0	47.7	45.8	48.1	59.4
AGE						
under 6	--	--	--	--	--	--
6-11	--	--	3.5	1.8	2.6	4.7
12-15	1.2	1.7	38.7	26.2	5.2	3.1
16-19	--	.9	30.0	40.0	13.0	18.8
20-29	8.8	5.6	6.3	5.3	15.6	17.2
30-44	43.1	42.6	4.9	8.0	28.6	26.6
45-64	44.2	44.8	3.8	4.0	18.2	20.3
65 +	1.2	2.2	5.2	7.1	11.7	6.2
DRIVERS LICENSE						
yes	96.9		22.6	40.5	70.1	65.6
no	2.3		73.9	58.2	24.7	31.3
MINNYBUS PASS						
yes	89.6	89.1	80.1	64.0	31.2	23.4
no	10.4	10.0	19.9	36.0	61.0	71.9
HOUSEHOLD AUTO OWNERSHIP						
0	--	--	3.5	5.8	6.5	10.9
1	41.5	40.4	21.3	23.6	32.5	20.3
2	47.3	43.5	49.8	39.5	41.6	50.0
3	8.1	11.3	11.1	20.9	7.8	9.4
4 +	1.5	2.6	8.4	7.1	3.9	6.3
ANNUAL HOUSEHOLD INCOME ($)						
under 10,000	--	.4	8.0	4.9	3.9	7.8
10,000-14,999	--	--	7.7	4.4	3.9	1.6
15,000-24,999	5.0	3.9	10.5	10.7	7.8	17.2
over 25,000	90.0	76.1	37.6	40.9	54.5	46.9
no answer	5.0	19.6	36.2	39.1	29.9	26.5

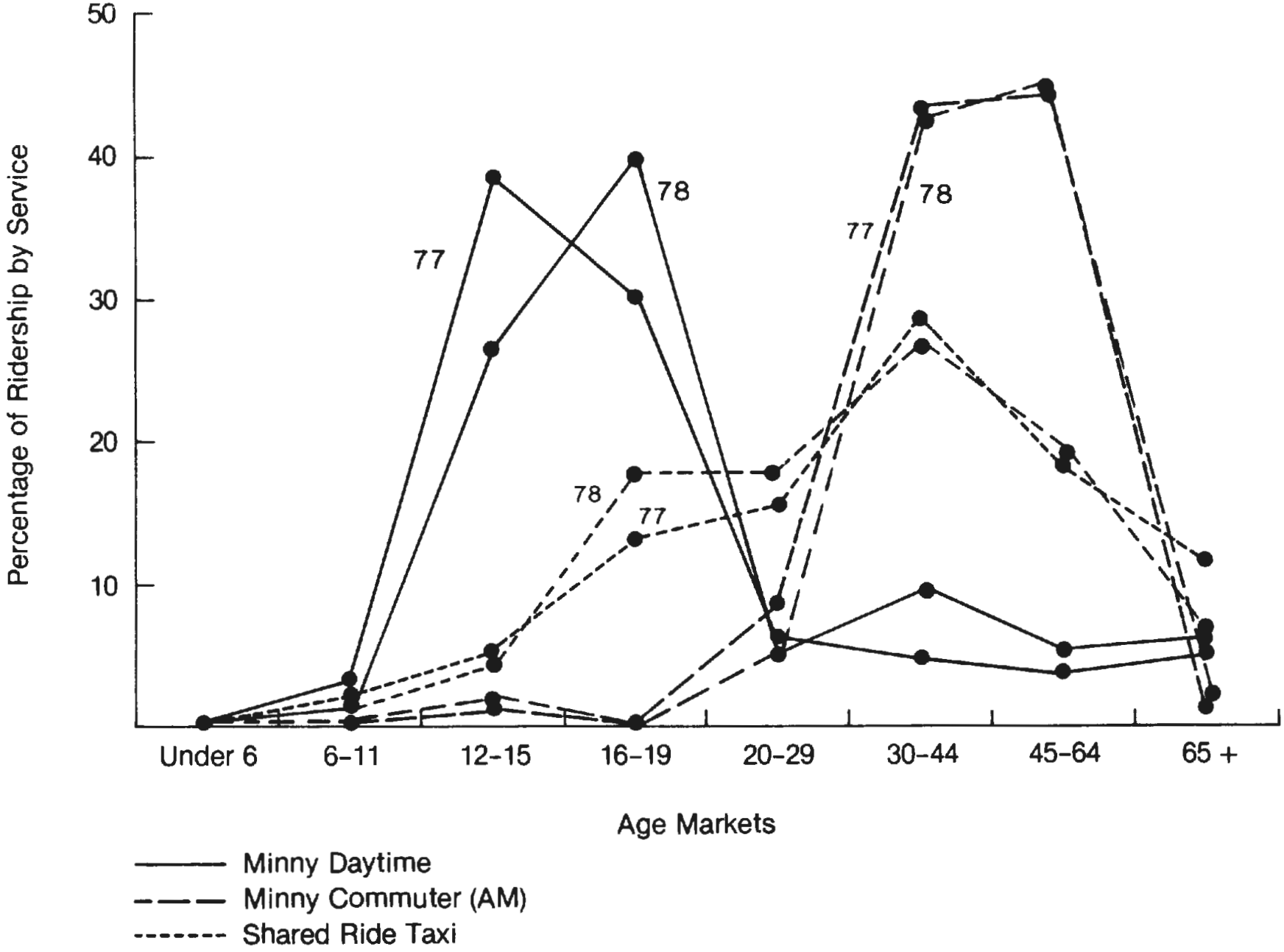


Figure 18. WTD Ridership by Service and Age Markets

6.3.2 Market Penetration

Prior to the demonstration, private taxi service accounted for approximately 1400 trips per week in the community; after 15 months of service the Maxytaxy accounted for approximately 2500 trips per week (excluding the dedicated package vehicle). System surveys indicated that this increased trip generation was well distributed among various market segments in the community. (See Table 30).

The most significant market penetration was among previous non-taxi users. Approximately 60% of Maxytaxy riders in both 1977 and 1978 had not used private taxi in the previous year; approximately 68% of the new users were in the 20-64 age range while 20% were between the ages of 16 and 19.

The market penetration of Maxytaxy service relative to WTD fixed route patrons was high; in 1977 approximately 72% of commuter riders and 63% of daytime riders had used Maxytaxy. The commuter figure is significant since only 63% of the commuter riders were private taxi users the previous year. Maxytaxy penetration increased in 1978 to 90% and 72% of commuter and daytime riders respectively. The high market penetration of commuter riders was achieved through providing extensive coverage of the railroad station in the evening in conjunction with reduced fares for passholders. Approximately 80% of all WTD passholders used the Maxytaxy in 1978. The integrated fare structure and pass program was thus a key element in promoting service integration.

Telephone surveys indicated that use of the Maxytaxy by the elderly and the general public increased significantly as the demonstration progressed. The percentage of the elderly using the shared ride service increased from 25% (1977) to 60% (1978); approximately 50% of the elderly who used Maxytaxy used the service on a regular (weekly basis). The percentage of the general public using the service increased from 37% (1977) to 60% (1978).

TABLE 30 Percentage of Those Surveyed Using Taxis in Past Year

	1975	1976	1977		1978	
On Board Survey	Priv.	Priv.	Priv.	Maxy Taxy	Priv.	Maxy Taxy
Maxytaxy	--	--	39	--	31.3	--
Minny Daytime	--	--	22.3	63.1	14.7	72.0
Minny Commuter	51.8	62.6	57.7	71.5	13.0	90.4
Telephone Surveys						
General Public	17	26.4	27.9	37.4	13.4	60.5
Elderly	25	22	19.2	24.7	22.1	60.3
Passholders	--	18.4	20.1	63.4	30.2	79.2

Penetration of the local handicapped market has been one of the most important accomplishments of the shared ride service. Handicapped individuals with severe mobility limitations had to be certified by a medical authority and registered with the Transit District in order to be eligible for service from the lift equipped vehicles. Other handicapped individuals with less severe mobility limitations would use a regular Maxytaxy vehicle and pay the special $.25 fare or use a pass. Monthly handicapped ridership averaged approximately 500 under steady state conditions; this ridership was drawn form a local handicapped population of approximately 750. 75 of the estimated 750 handicapped individuals in the community were officially certified with the Transit District for special vehicle service. 10 of the 40 individuals using wheelchairs in the town were Maxytaxy users.

Clearly the Maxytaxy succeeded in tapping new markets and expanding the appeal of taxi service.

6.3.3 Travel Behavior

Maxytaxy riders used the service relatively frequently with approximately 45% using the service at least once a week; an additional 31% of the ridership used the service 1 to 5 times per month (see Table 31). A good portion of this latter group appeared to be drawn from Minnybus riders; approximately 25% of the commuters and 32% of the daytime riders indicated they used the Maxytaxy 1 to 2 times per month.

There was also some evidence of service backup in the WTD system. The Maxytaxy was the backup mode for approximately 6% of the Minnybus daytime respondents, while the Minnybus was the back up mode for approximately 20% of the Maxytaxy respondents. Approximately 30% of the Maxytaxy riders indicated they would use a private taxi if there were no Maxytaxy.

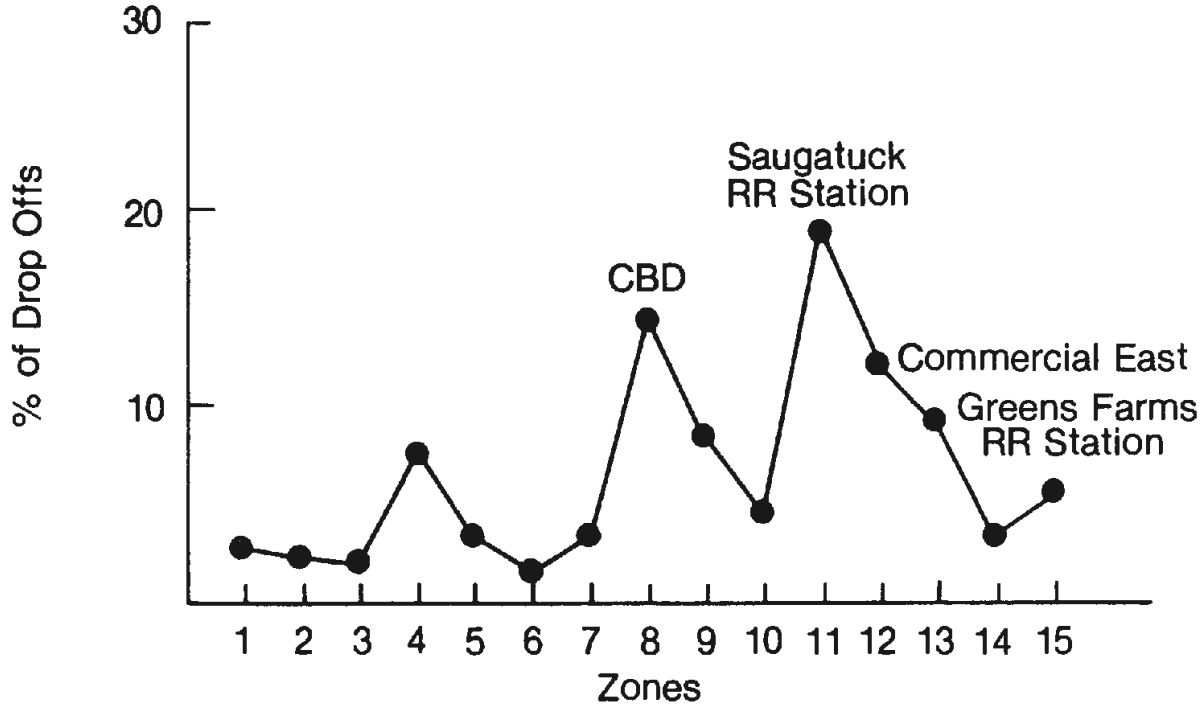
Major trip purposes were home (27.7%) and work (28.7%) related. The most popular trip origin and destination points were Saugatuck railroad station, the central business district, the Post Road east commercial area, and Greens Farms railroad station (see Figure 19). Saugatuck railroad station represented almost 40% of all service pick ups. The extensive railroad station business when combined with the shopping and business activity in the CBD largely explained the two daily peak demand periods from 7:00 a.m. to 9 a.m., and from 4 p.m. to 7 p.m..

The late afternoon - early evening peak was not sharp in nature but spread out rather evenly over a 3 to 4 hour period (see Figure 20). Travel by commuters, shoppers, local workers, and youth was concentrated in this time period and produced an intense demand for the shared ride service over several hours. The busiest service day was consistently Friday followed by Thursday; the average number of daily weekend trips was significantly lower than the average weekday level (see Figure 21).

TABLE 31 WTD Patrons' Travel Behavior[1]

	FR-Commuter		FR-Daytime		Maxytaxy	
FREQUENCY OF USE	77	78	77	78	77	78
Once a day	15.8	21.7	17.4	12.9	7.8	9.4
6-10	76.2	64.3	34.1	28.9	7.8	12.5
1-5 week	6.9	7.4	38.7	40.9	29.9	32.8
1-5 month	.4	.9	5.6	10.7	31.2	25.0
Less than once a month	.8		1.4	4.9	13.0	14.1
First ride	--	.9	.7	.4	10.0	6.2
TRIP PURPOSE						
Work			12.9		28.7	21.9
Home			53.0		27.7	31.3
School			9.4		4.3	6.3
Shop			15.3		9.1	4.7
Recreate			11.8		7.4	10.9
Train			2.4		6.4	18.8
MAKE TRIP IF NO ____						
yes			53.7		79.2	71.9
no			45.3		20.8	23.4
IF SO, HOW						
Drive self	65.0	68.7	15.6	18.8	15.0	21.7
Be driven	35.8	32.2	49.4	41.0	30.0	34.8
Minnybus	--	--	--	--	17.0	21.7
Maxytaxy	3.1	2.6	11.0	10.3	--	
Other taxi	1.2	1.7	3.2	6.8	28.0	19.6
Walk	5.4	5.2	20.8	25.6	5.0	6.5
USED MAXYTAXY						
yes	71.5	90.4	63.1	72.0	--	--
no	27.7	8.7	29.3	16.4		
TIMES IN PAST MONTH						
0	8.8	16.0	9.7	16.8		
1-2	34.8	35.8	51.6	89.0		
3-4	21.0	13.0	23.1	16.4		
5-6	9.4	7.4	7.5	10.1		
7 or more	9.9	14.8	5.4	9.1		
USED OTHER TAXIS IN WESTPORT IN PAST YEAR						
yes	57.7	13.0	22.3	14.7	39.0	31.3
no	40.4	83.5	68.3	72.9	57.1	60.9
ELIMINATED 2nd CAR AS Result of ____	32.7	30.0	10.0	7.0	--	3.1

[1]Multiple responses cause some percentage totals to exceed 100.



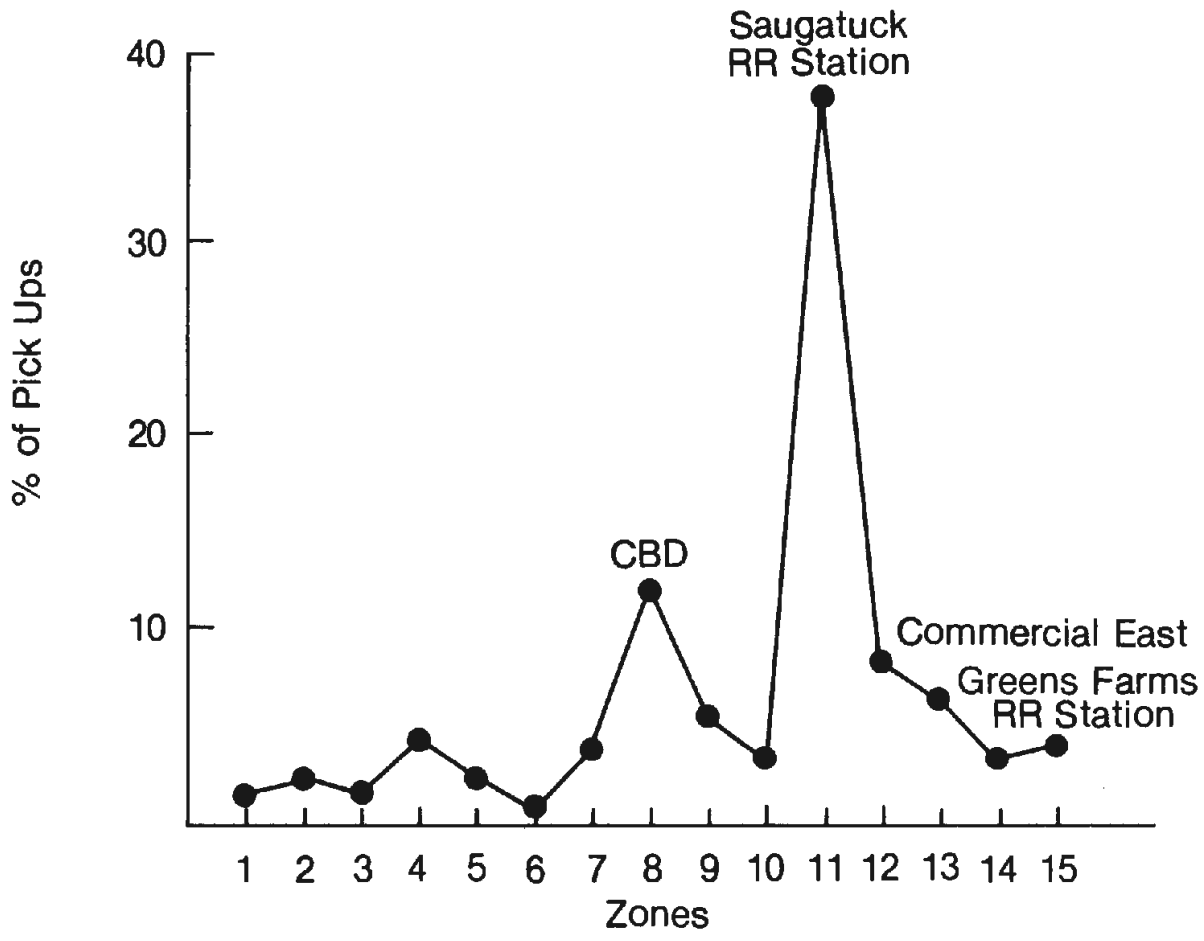


Figure 19. Origin-Destination of Maxy Taxy Trips by Zone

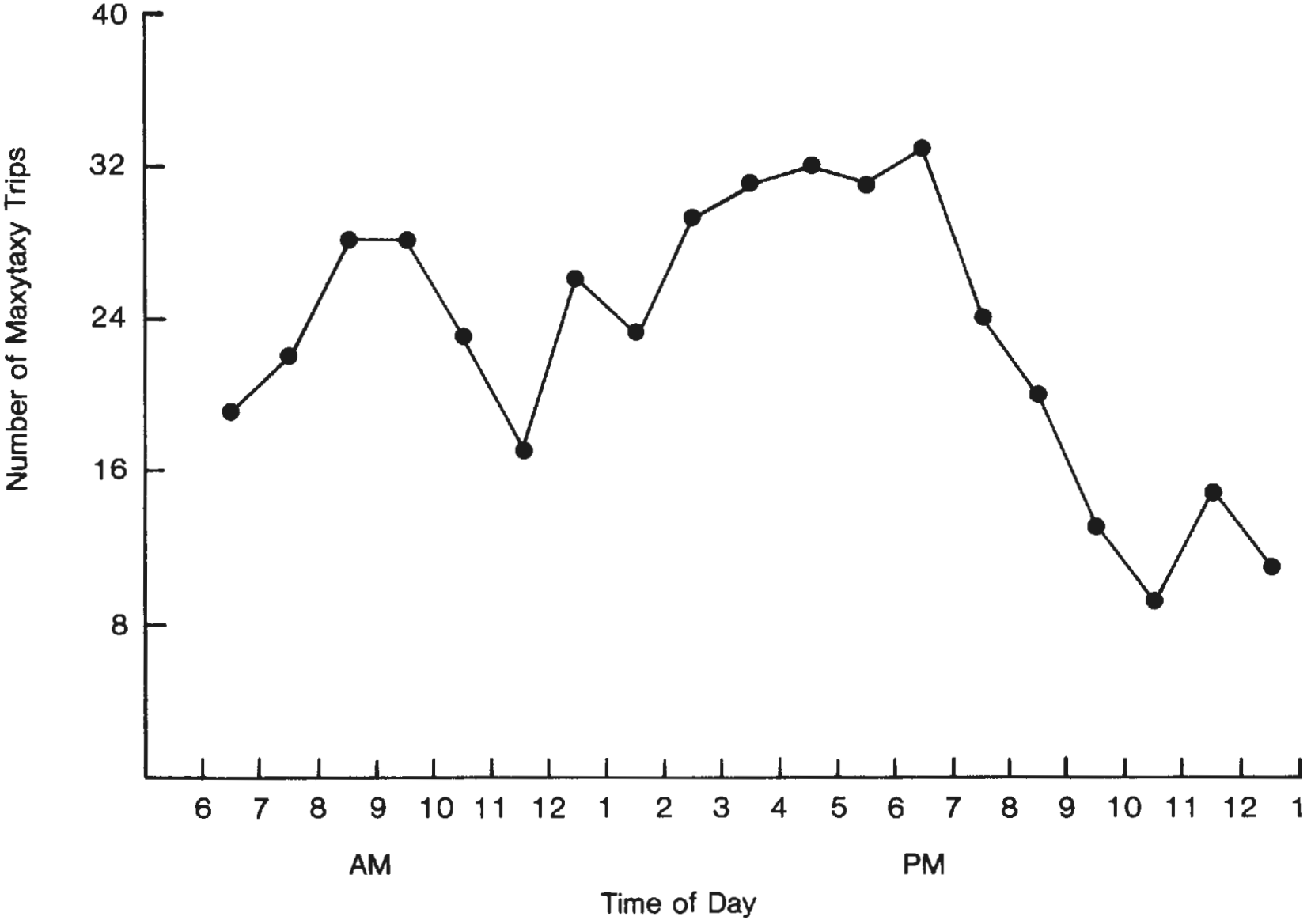
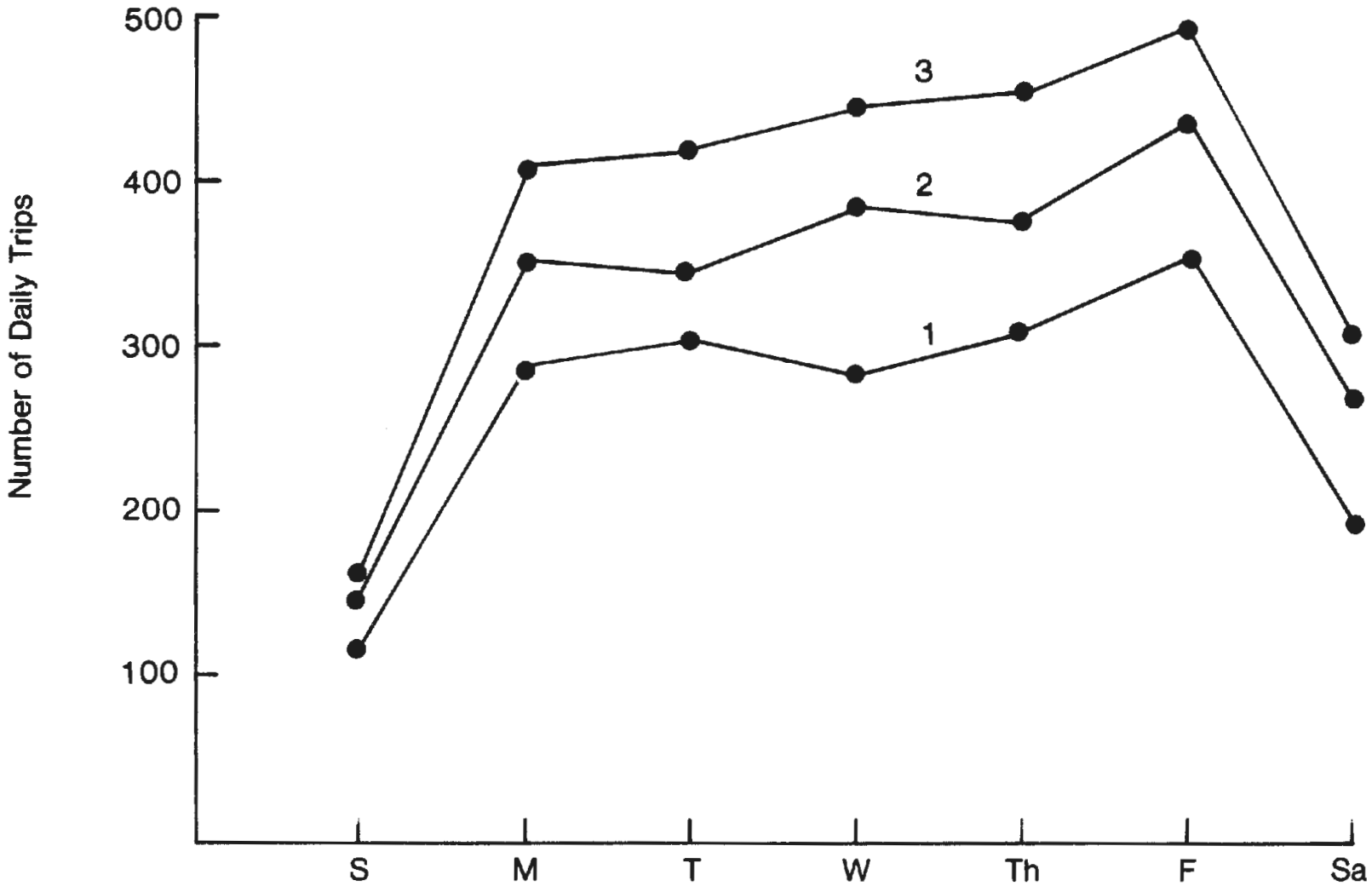


Figure 20. Maxytaxy Trips by Time of Day



Week Ending

1: 10/22/77
2: 4/15/78
3: 10/21/78

Figure 21. Maxytaxy Trips by Day of Week

WTD patrons were also influenced by the demonstration to further reduce the level of household automobile ownership in the community. Prior progress had been made in this area with approximately 23% of commuter service riders indicating in 1976 that they had actually eliminated an automobile as a result of the Minnybus service. Minnybus commuter surveys in 1977 and 1978 indicated that approximately 30% of commuter riders had actually eliminated a household automobile. At face value Maxytaxy's impact in this area was marginal; 3% of the Maxytaxy riders surveyed in 1978 indicated that they had eliminated a second household car as a direct result of the shared ride service. However, the complementary nature of the shared ride service clearly made the commuter service more attractive and contributed to its effectiveness in reducing auto ownership. In a larger sense the shared ride service enabled the WTD to provide an integrated system of service which clearly made it easier for a family to function with one automobile, and to possibly defer or eliminate the purchase of a second automobile. Additional information should be available in this area following the local transition to non-demonstration operations.

7. SERVICE PRODUCTIVITY AND ECONOMICS

This chapter discusses the productivity and economics of the Westport integrated transit services system. Special emphasis is placed on the operational and financial performance measures associated with the shared ride taxi service. Factors influencing performance measures are also discussed.

7.1 System Plan for Productivity and Operating Cost Recovery

System performance must be evaluated in the context of the assumptions and objectives of the original integrated services plan[1]. Operating cost, revenue, and productivity elements were interrelated to achieve the objective of operating a non-subsidized paratransit shared ride taxi service. The operating cost of shared ride services was estimated in the range of $6 to $8 per vehicle hour and was based upon an analysis of private taxi operations in the community.

The pricing policy for shared ride service was based on a projected eventual system productivity level of 4.0 (trips per vehicle hour). The required average fare to recover operating cost was thus $2.00; the zonal fare structure was designed with this average are level as an objective. The demonstration financial plan also included a provision for a pass sales surcharge whereby $5 from the sale of each regular pass, and $40 from the sale of each commuter pass, was to be credited to demonstration revenues.[2] The pass sales surcharge was designed to offset a portion of demonstration project service costs. It was justified on the basis that the integrated pass program and fare structure provided shared ride taxi discount fares during certain time periods (see Section 5.2).

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[1] ECI Systems Inc. (presently Multisystems) Plan for a Service and Methods Demonstration of Integrated Conventional Transit and Paratransit Services in Westport and Weston, Connecticut. December 1975.

[2] Revenue projections estimated the annual sale of 450 commuter passes and 5000 regular passes; the commuter pass surcharge was later changed to $25.

The productivity of the shared ride taxi service was estimated to increase in accordance with the following time schedule:

Trips per day	Time frame
200	Months 1 to 3
225	Months 3 to 6
250	After 9 months
300	By end of demonstration

To encourage the private management contractor to achieve the desired productivity levels, a profit incentive program was designed; the management company was to be paid a profit per passenger based on the system productivity levels in Table 32.

TABLE 32 Profit Incentive Program for Management Contractor

Profit per Passenger ($)	System Productivity
.05	$\leq$ 2.0
.06	2.1 to 2.5
.07	2.6 to 3.0
.08	3.1 to 3.5
.09	3.6 to 4.0
.10	$\geq$ 4.1

Drivers were also to receive a productivity payment of $.05 per passenger. The annual system management fee was estimated at $24,000 including the profit incentive program payments.

The plan also included a provision for adjusting fares and surcharge amounts in order to gradually achieve the goal of a self sustaining service.

7.2 System Productivity

The Maxytaxy achieved the productivity objectives of the demonstration well ahead of schedule. Within 6 months the Maxytaxy was serving over 300 daily trips on weekdays. After approximately one year of service operations, passenger productivity stabilized at just under 5 passengers per vehicle hour while vehicle productivity (trips per vehicle hour) stabilized at slightly over the 4.0 level (See Table 33 and Figure 22). Seasonal influences were evident as productivity surged in mid-summer and during the holiday season. In mid-winter, difficult driving conditions worked against productivity increases.

The average number of passengers per trip* was just above 1.0, indicating that most people traveled by themselves; this does not mean, however, that the Maxytaxy was always close to premium ride status. The predominance of travel to and from the railroad stations resulted in the frequent grouping of taxi trips especially during peak operating hours.

The Maxytaxys were also highly mobile in terms of vehicle miles travelled per vehicle hour. The average fleet speed was over 13 miles per hour for the first year of service and almost 15 miles per hour thereafter.

The passenger productivity on the regular fixed route system decreased due to falling daytime service ridership levels. Over the demonstration period the passengers per vehicle hour on the total fixed route service decreased by approximately 20%:

Year	Passengers Per Vehicle Hour
1976-77	21.6
1977-78	19.4
1978-79	17.1

*A trip is defined as the number of people going from one origin to one destination.

TABLE 33 Maxytaxy Demand Productivity

Yr.	Month	Veh.miles	Veh.hrs.	Pass.	Trips	Pass./trips	Pass/veh.mi.	Pass./veh.hr.	Trips/veh.hr.	Veh.mi./ Veh.hr.
77	Apr	7485	884	1458	1146	1.27	.19	1.65	1.30	8.47
	May	20,127	1822	4394	3478	1.26	.22	2.41	1.91	11.05
	Jun	22,145	1910	5619	4633	1.20	.25	2.91	2.43	12.12
	Jul	28,943	2109	7562	5823	1.30	.26	3.59	2.76	13.72
	Aug	29,563	2131	7909	6266	1.26	.27	3.71	2.94	13.87
	Sep	30,294	2278	8497	7025	1.21	.28	3.73	3.08	13.30
	Oct	33,221	2374	9279	7939	1.17	.28	3.91	3.34	13.99
	Nov	34,220	2398	9741	8364	1.16	.28	4.06	3.49	14.27
	Dec	35,898	2471	10,848	9315	1.16	.30	4.39	3.77	14.53
78	Jan	36,726	2612	11,319	9740	1.16	.31	4.33	3.73	14.06
	Feb	33,380	2415	10,399	8896	1.17	.31	4.31	3.68	13.82
	Mar	39,484	2782	12,438	10,639	1.17	.32	4.47	3.82	14.19
1st yr. Avg.		31,273	2300	8910	7465	1.20	.27	3.62	3.02	13.12
	Apr	37,562	2564	11,923	10,088	1.18	.32	4.65	3.97	14.05
	May	41,465	2798	13,334	11,259	1.18	.32	4.77	4.02	14.82
	Jun	43,406	2870	14,020	11,848	1.18	.32	4.89	4.13	15.12
	Jul	42,473	2729	13,906	11,251	1.24	.33	5.10	4.12	15.56
	Aug	44,666	2954	14,919	12,312	1.21	.33	5.05	4.16	15.12
	Sep	41,571	2821	13,883	11,631	1.19	.33	4.92	4.12	14.74
	Oct	44,002	2952	14,388	12,427	1.16	.33	4.87	4.21	14.91
	Nov	43,191	2893	14,118	12,044	1.17	.33	4.88	4.16	14.94
	Dec	41,330	2816	13,857	11,979	1.16	.34	4.92	4.25	14.68
79	Jan	42,611	2922	14,576	12,645	1.15	.34	4.99	4.32	14.58
	Feb	36,970	2606	13.001	11,739	1.11	.35	4.99	4.50	14.19
	Mar	42,239	2900	13,740	11,933	1.15	.33	4.74	4.11	14.56
2nd yr. Avg.		41,791	2819	13,805	11,763	1.17	.33	4.90	4.17	14.77

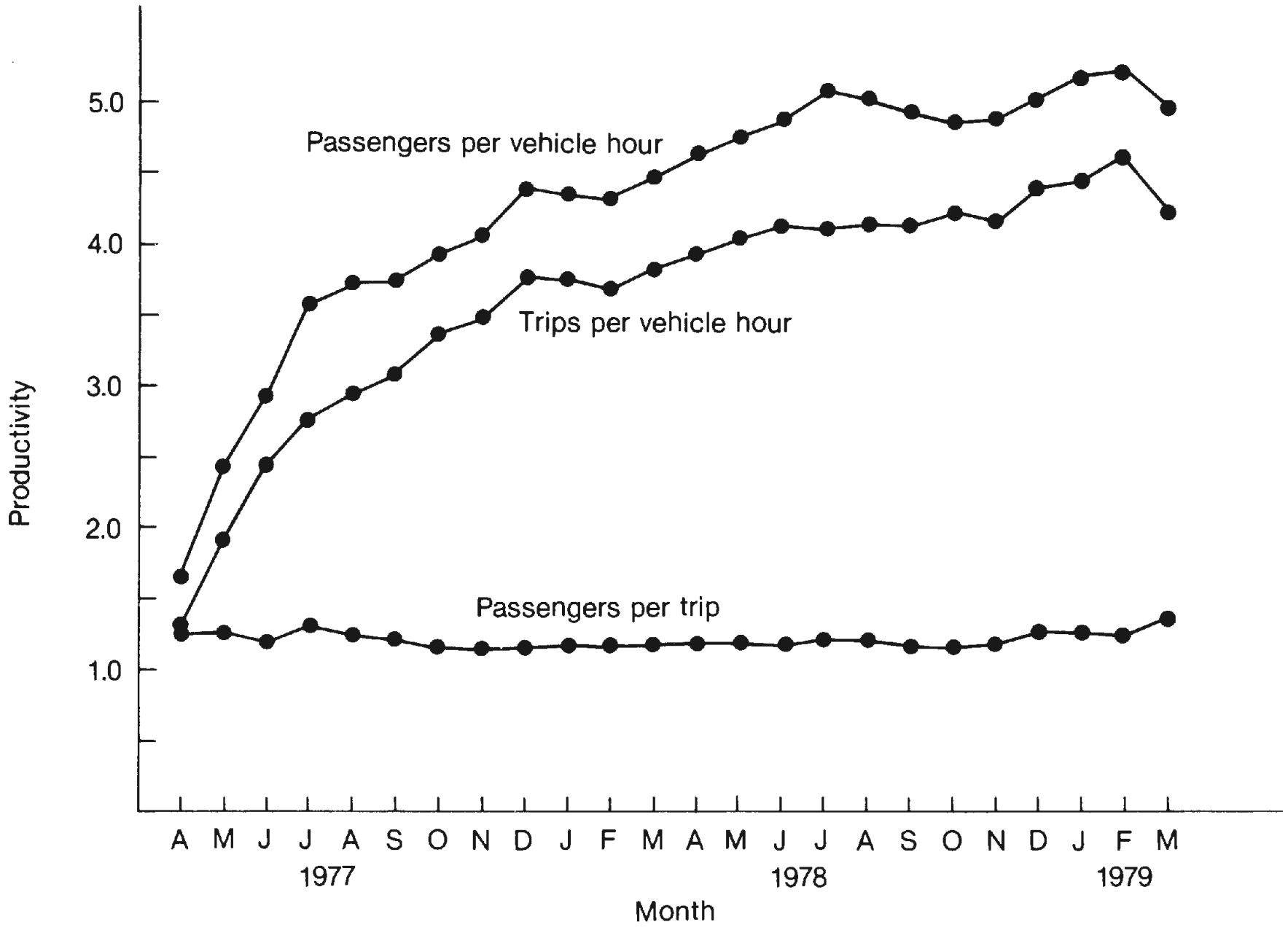

Figure 22. Productivity of Maxy Taxy

7.3 System Economic Performance

7.3.1 Cost and Revenue Guidelines

Actual demonstration operating costs included the following personnel and operational cost elements:

Personnel

- Management fee ($24,000 first year, $22,000 second year)
- Management incentive (system productivity)
- Drivers
- Drivers incentive ($ .05 per passenger)
- Dispatchers
- Benefits
- Health insurance
- Compensation insurance
- FICA

Operations

- maintenance contract ($1000 per month)
- fuel
- oil
- parts
- tires
- cleaning
- liability insurance
- telephone
- supplies

Contractual and incentive provisions were the most innovative of the line items. The balance of the cost breakdowns were designed to closely reflect those associated with private taxi operations. Consequently, the operating cost figures did not include a portion of system marketing costs[1] nor any personnel costs associated with WTD administrative input.

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[1] 32,000 contract for system marketing expended over the first 18 months of the demonstration.

Demonstration revenues included:

- Maxytaxy fares (receipts and Maxymony books sold)
- Supplemental fixed route revenue
- Pass sales surcharge (credited in month of pass sale)[1]
  ($5 from each regular Minny pass sold)
  ($25 from each commuter pass sold)[2]

The costs and revenues of the shared-ride taxi service were also isolated from the full demonstration context to permit separate economic analysis of taxi performance apart from fixed route supplemental and special shuttle services. The shared-ride taxi share of the demonstration operating cost and the pass sales surcharge were assumed to be proportional to the percentage of total van vehicle hours represented by taxi service operations.

An analysis of integrated system economic performance was also performed by combining all demonstration costs and revenues with those of the regular fixed route system.

7.3.2 Cost-Revenue Productivities

The hourly operating cost for the Maxytaxy vehicle was $10.16 for the first year of demonstration services and $12.34 for the second year (see Table 34).

The operating cost for the demonstration vans was approximately 55 to 60 percent of that associated with the regular Minnybuses. The van vehicle was thus comparatively more efficient in serving ridership using the supplemental fixed route (FRS) service. Per passenger costs on FRS, however,

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[1] The revenue from regular pass sales was credited in equal amounts over the subsequent 12 months of fixed route operations.

[2] There were no sales of either the Super-Pass or the Maxytaxy Pass; all demonstration pass revenue was derived from the pass sales surcharges on the regular passes.

TABLE 34 Cost and Revenue Productivities of WTD Services

	Shared Ride Taxi (van)		Supplemental Fixed Route (van)		Regular Fixed Route (Minny)	
	1977-78	1978-79	1977-78	1978-79	1977-78	1978-79
	$					
Cost per veh. hr.	10.16	12.34	10.16	12.34	18.91	18.00
Cost per veh. mi.	.74	.83	.74	.83	1.16	1.11
Cost per passenger	2.58	2.52	1.83	2.07	.97	1.05
Cost per trip	3.10	2.96	--	--	--	--
Rev. per veh. hour	5.43	6.81	1.89	1.98	4.25	4.24
Rev. per veh. mile	.40	.46	.15	.16	.26	.26
Rev. per passenger	1.37	1.39	.32	.34	.22	.25
Rev. per trip	1.63	1.66	--	--	--	--
Rev. miles/total miles (%)	65	70				

The pass sales surcharge revenue credited to the demonstration was allocated between the shared ride taxi service and fixed route supplements service in proportion with each service's percentage of total van operating hours.

were closer to shared ride taxi levels than regular fixed route due to productivity which hovered around the 6 passengers per vehicle hour level.

The operating cost of a shared ride trip was $3.10 in the first demonstration year; this figure decreased to $2.96 in the second year of operations owing to increased taxi ridership and the more cost productive deployment of vans in shared ride service during peak periods.

Revenue generation on the shared ride service was supported by a high percentage of paid miles over total vehicle miles travelled; this figure was estimated at 70 percent by the service dispatcher.[1] The average revenue per trip averaged approximately $1.65 which was considerably lower than the $2.00 average trip fare specified in the system design. A high frequency of taxi trips to adjacent or nearby zones made the average trip fare gravitate more towards $1.50 than $2.00.

Increased Maxytaxy revenue productivity in the second year of operations was partially supported by the average 28% fare increase of December, 1978. Preliminary figures indicate that the fare increase has not adversely affected the level of Maxytaxy ridership.

7.3.3 Operating Ratios (Revenue/Cost)

Demonstration services recovered 45 percent of operating costs during the first year and 52 percent the second year of operations (see Table 35). Operating ratios for the shared ride service, .53 and .55 respectively, were somewhat higher since they excluded fixed route supplemental and some special services.

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[1] Private taxi operations have a median percent paid miles figure of 49.45; see Webster et al., "The Role of Taxicabs in Urban Transportation", U.S. Dept. of Transportation, December 1974.

Table 35 Operating Ratios of WTD Services

Year	Average Monthly $	SHARED RIDE TAXI	rev/cost	DEMO.[1]	rev/cost	FIXED ROUTE REG.	rev/cost	WTD SYSTEM[3]	rev/cost
76-77	Revenue		N/A		N/A	10,598	.28		.28
	Expenses					38,147			
77-78	Revenue	12,825	.53	13,277	.45	10,537	.23	23,814	.31
	Expenses	24,073	(.48)[4]	29,353	(.41)	46,336	(.27)	75,689	
78-79[2]	Revenue	19,213	.55	19,363	.52	11,245	.24	30,608	.36
	Expenses	34,796	(.53)	37,566	(.48)	46,606	(.27)	84,172	

[1]Includes supplemental fixed route and special services

[2]Through March 1979

[3]Demonstration plus regular fixed route system

4( ) denotes operating ratios if all pass sales revenue remains with fixed route revenue and regular Maxy Taxy fares replace pass-discount fares on Maxy Taxy.

TABLE 36 Subsidy Requirements of Westport Integrated Transit System

Year	Average Monthly Ridership	Average Monthly Subsidy($)	Average Subsidy per Passenger($)	Annual Subsidy per Capita($)[2]
1976-1977	53,445	27,549	.52	11.81
1977-1978 (Demonstration Year 1)	60,756	51,875	.85	22.23
1978-1979[1] (Demonstration Year 2)	60,377	53,564	.89	22.96

[1]Through March 1979

[2]Population estimated at 28,000.

Despite high vehicle productivity the shared ride service did not achieve the objective of operating a non-subsidized paratransit taxi service (to be discussed in Section 7.4).

Preliminary 1979 data on operating costs and fare revenue indicates that the shared ride service operating ratio will increase to approximately 60% to 65% as a result of the December 1978 fare increase.

The demonstration service did have a favorable impact on the system operating ratio which increased from .28 to .36 over a two year period; however, the overall system subsidy requirements per passenger and per capita increased significantly over the demonstration period (see Table 36).

7.4 Assessment of Performance Measures

7.4.1 Productivity Measures

The high vehicle productivity of Maxytaxy was made possible through a strategy of anticipating community taxi demand and deploying vehicles consistent with the temporal and spatial aspects of this demand. This strategy was expressed in meeting each commuter train (often with several vehicles), providing good coverage to the downtown area, and being responsive to community activities and events. This anticipation strategy was reinforced by the private contractor's intimate knowledge of the town geography and street system, and the increasing percentage of advanced reservations (greater than one hour) entering the system.

The profit incentive program was not an important factor in increasing service productivity. Desired productivity levels were reached relatively early in the demonstration and were primarily the result of system demand rather than the initiative of the management contractor. The management company received

the benefit of all system productivity increases regardless of the inspiring force behind them. WTD efforts at marketing, fare integration, and tapping new markets (e.g. package delivery) resulted in increased Maxytaxy ridership thereby increasing the management incentive payment without any action on the contractor's part.

A survey of Maxytaxy drivers also indicated that the $.05 per passenger incentive payment was not a major motivating force; an 8 to 9 hour shift at average productivity levels would only result in approximately $2.50 in incentive compensation. Seven of 11 drivers surveyed expressed a desire for an increased incentive payment or tip system.

The declining productivity of the fixed route system was highly correlated[1] with demographic changes in the community involving fewer young people and declining school enrollments. This relationship is clearly evident in comparing the number of school enrollments with daytime ridership levels. (See Table 37).

TABLE 37 School Enrollment vs. Daytime Services Ridership

Year	School Enrollments	% Change Enrollments	Average Monthly Daytime Ridership	% Change in Ridership
1974-75	6846		42,287	
1975-76	6739	-1.6%	43,794	+3.6%
1976-77	6620	-1.8	42,026	-4.0%
1977-78	6291	-5.0%	38,018	-9.5%
1978-79	5941	-5.6%	33,501	-11.9%

[1] Using school enrollments as the independent variable (x) and average monthly daytime ridership as the dependent variable (y), the coefficient of correlation (r) equals .97.

The level of daytime service ridership decreased with the declining number of young transit dependents in the community. These data support the view that the Maxytaxy and the Minnybus were not offering competing services.

7.4.2 Economic Measures

Demonstration operating costs benefitted from the consolidated operations-support base which provided economies of scale and minimized vehicle deadheading due to its central location. Labor (drivers and dispatchers) represented well over 60 percent of demonstration operating costs. Contractual arrangements for management (6 to 8%) and maintenance (3 to 4%) remained fairly constant as cost line items. Liability insurance was a major factor in operating cost amounting to approximately $33,000 over the two year demonstration period; a major reduction in the second year insurance premium was achieved by the WTD seeking competitive bids. The profit incentive program also became a significant cost factor as the demonstration progressed; incentive payments to management and drivers as a percentage of operating costs increased from 3% early in the demonstration to over 6% (over $2000 per month) as productivity stabilized.

In retrospect, the cost of labor, benefits, insurance, contractual support, incentive payments and vehicle operations were clearly underestimated in the demonstration design.

Demonstration revenue generation was fueled by the high vehicle productivity of Maxytaxy and partially subsidized by the integrated fare and pass program. The pass sales surcharge credit to the demonstration increased the demonstration operating ratio by approximately .05 over what it would have been had Maxytaxy operated separately with full regular fares paid by pass discount riders. This internal reallocation of pass revenue helped achieve fare integration at the marginal expense of the fixed route system.

In a larger sense two of the major revenue objectives of the demonstration were not achieved.

First, the fare per trip averaged approximately 20% lower than the desired $2.00 level (see section 7.3.2). Second, the revenue generated from the pass sales surcharge was considerable less than forecasted in the demonstration design. The plan assumed that the annual sale of 5000 regular passes and 450 commuter passes would result in pass sales surcharge revenue of $45,000 the first year of operations, and $55,000 the second year. Actual pass sales surcharge revenue totalled approximately $20,000 the first year and $18,000 the second year. This delining surcharge revenue was indicative of a larger WTD problem involving declining pass sales (see Table 38).

TABLE 38 Annual Pass Sales 1976-1977, 1977-1978

	1976-77	1977-78	% Change
Number	3832	2040	-26
Revenue	$94,591	$82,468	-31
Pass Revenue / Total Revenue	.73	.64	

Available data on 1979 pass sales indicates a continuation of this trend. This decline resulted from the demographic changes in the community involving fewer young people and declining school enrollments (see Section 7.4.1).

These cost and revenue factors made it impossible for the service to operate on a self sustaining basis. In summary, the objective of a non-subsidized paratransit operation was not achieved for the following reasons:

(1) Operating costs were underestimated

(2) Demographic changes in the community resulted in declining pass sales which produced only 38% of the expected pass sales surcharge revenue.

(3) The average $2.00 per trip figure calibrated in the fare structure was not realized due to a high frequency of comparatively short trips to adjacent or nearby zones.

7.4.3 Comparison of Maxytaxy Performance with Private Taxi Operations*

An attempt is made in Table 39 to compare the performance measures of Maxytaxy with those of private taxi operations. The data utilized for private taxi operations are those reported for pre-demonstration operations (see Chapter 2). The data used for Maxytaxy are those from steady state conditions in the second year of the demonstration. The comparison is difficult due to time differences, and operational differences such as private taxi operations servicing some out of town trips; however, it does provide some insight into comparative efficiency and performance.

The results indicate that the Maxytaxy operation can service approximately twice as many trips at roughly 1.5 times the service cost of private operations.

If the private taxi operations must service the same number of hourly trips (16 to 20) as the Maxytaxy it would require approximately twice the number of vehicles (9 to 11) at a slightly higher cost (assuming the 1976 hourly cost of $6.00 per hour).

If the current cost of private taxi operations is estimated at $8.00 per hour the cost of the private taxi operation providing the same service (16 to 20 hourly trips) would be 1.5 times that of the Maxytaxy operation.

*This analysis assumes the relationship between private taxi supply and demand is constant, for varying demands.

TABLE 39 Comparison of Maxytaxy and Private Taxi Operations

	Pre-Demonstration Private Taxi Service	Maxytaxy
Vehicle Productivity (Trips per vehicle hour)	1.6 to 1.8	4.0
Vehicles Deployed	5 to 6	4 to 5
Fleet Trips per Hour	8 to 10.8	16 to 20
Operating Cost per Vehicle Hour	$6.00 (1976)	$12.00 (1978)
Cost of Service	$30 to $36	$48 to $60
Vehicles Required to Service 16 to 20 trips per Hour	9 to 11	
Cost of Service at $6.00 per Hour (1976)	$54 to $66	
Cost of Service at $8.00 per Hour (current estimate)	$72 to $88	

8. NON-TRAVEL IMPACTS

Although Maxytaxy Service was significant as a paratransit innovation in complementing the fixed route system, its impact on the community was equally as significant. The service added a new dimension to individual life styles and provided a new color in the town's social fabric. The Maxytaxy became a part of Westport's image as vehicles were frequently visible near the town's activity centers. Local residents appeared to react favorably to the Maxytaxy in much the same manner as they had with the Minnybus. The demonstration was more than a service for the community, it became part of the community. This process of assimilation was perhaps the best evidence of a good transit fit. The impact of Maxytaxy was considerably widespread affecting people, property, business, and other providers in the town. In order to receive continual feedback on the impact of system services, the WTD maintained an open communications process with the major groups, agencies, and actors in the community; these included town officials, human service providers, the Council on Aging, youth services, downtown merchants and businessmen, and realtors. The WTD also organized a Citzens Advisory Group in 1978 to provide formal input on community concerns.

8.1 Individuals

Transit dependents in the community experienced increased mobility as a result of the Maxytaxy. Handicapped individuals who could not be served by the Minnybus were easily accommodated by the shared ride service; door to door service, special lift equipment and courteous drivers enabled these individuals to get closer to the mainstream of community living. The personalized nature of the service also decreased the need for traveling companions, thus contributing to a greater sense of identity and independence on the part of handicapped travelers. Also noteworthy was the fact that approximately 20% of all the Maxytaxy package deliveries were for transit dependent elderly and handicapped individuals.

Social service agency clients benefitted from the WTD's role in increasing the transportation coordination among local social service agencies. The Maxytaxy provided retarded individuals with

a daily round trip shuttle to a human services center in the neighboring community of Norwalk. This center offered a full daily schedule of special activities to advance the retarded. This shuttle was perhaps the most important example of destination enrichment in the demonstration. The Maxytaxy also provided a service whereby a group of elderly citizens were transported to the local YMCA for a hot lunch program.

The Maxytaxy also played an important role in increasing the independence of the youth in Westport and expanding the range of opportunities available to them. Youngsters were able to participate in self-improvement activities such as music lessons or athletics without adult chauffering or supervision. Social trips became more convenient and frequent whether for a house to house visit, a trip downtown for a movie, or an ice cream on a Friday or Saturday evening (Minny pass discount). Use of the Maxytaxy also expanded employment opportunities for teenagers at local stores and restaurants. The WTD also received some negative feedback from local residents on the Maxytaxy's role in increasing the independence of local youth; many complained that this increased freedom promoted juvenile delinquency through allowing more unsupervised entertainment. Clearly however, the Maxytaxy was a maturing influence on the majority of the youth in the community.

Adults in Westport also benefited from the shared ride service. Mothers were further relieved of chauffering duties as children used the Maxytaxy for school, shopping, and social trips. The WTD also provided a service whereby children were picked up at school in the afternoon and transported to the Saugatuck Day Care Center near the CBD; this service enabled several women to work either full or part time. For commuters the Maxytaxy removed the fear of missing the last commuter Minnybus departing the railroad station; individuals who worked late could do so without the necessity of having another family member pick them up. The Maxytaxy thus contributed to more flexible daily routines and domestic tranquility. Parents were also more independent on weekend evenings if their children were returning home from social events or parties via Maxytaxy. An advanced reservation helped insure that youth would be home safely at the specified time.

8.2 Real Estate and Business

Interviews with realtors revealed that local real estate agents had an edge over those in surrounding communities as the result of WTD services. The Minnybus and Maxytaxy definitely increased the desirability of living in Westport. This was evident in many real estate listings which advertised "close to Minnybus route". On the average a Westport home was selling for $10,000 to $25,000 more than a comparable home in neighboring Weston or Fairfield. The precise contribution of WTD service to this differential is uncertain; however, it is clear that the availability of good transit services had a very positive impact on real estate marketability. Local realtors were keenly aware of the range of WTD services.

Local businesses also felt the impact of Maxytaxy. Several businesses were able to eliminate their own package delivery service in favor of the WTD dedicated package delivery vehicle. Many local residents also called on the Maxytaxy for delivery of fast food, prescriptions, and miscellaneous items.

Individuals of all ages used the Maxytaxy for downtown shopping; this practice eliminated the driving and parking hassle and left parking spaces for other shoppers. The group of downtown merchants expressed their faith in WTD services by paying for a Christmas employee shuttle in the holiday season of 1978. The WTD operated a peak period shuttle between a fringe parking area and the CBD in order to free up more central parking for shoppers. The local retail merchants estimated that this service made 20 additional parking spaces available for shoppers, and resulted in approximately $64,000 in additional retail sales over a 27 day period.

Discussions were also initiated with town officals and downtown businesses on the feasibility and desirability of implementing an auto restricted zone (ARZ) in the downtown area.

The WTD has also approached old and new employment centers in the community to arrange for ride sharing programs which would reduce

traffic and congestion. All of these efforts are indications of the WTD's involvement in the community's economic and business activities.

8.3 Local Taxi Service

The impact of the Maxytaxy on local private taxi service is difficult if not impossible to determine. The issue is clouded in an array of circumstances which included federal litigation by one operator, an antiquated state private taxi fare structure, the closing of the Westport Taxi Co. operations in May 1978, and the sale of Teddy's Taxi in September 1978.

The differences between the WTD and the Westport Taxi Co. over project implementation made it difficult from the beginning to ascertain the impact of the demonstration on local taxi service.

Data was and continued to be unavailable from Westport Taxi due to the ensuing federal litigation. The owners terminated service in early May 1978 citing 4 years of competition with the Minnybus and Maxytaxy.

The WTD reported, however, that the Westport Taxi Co. continued to suffer operating losses as a result of increased insurance costs in combination with the continued low fare structure.

Data from the second local taxi operator, Teddy's Taxi Inc. (the management contractor), was inconclusive. In the first few months of the demonstration, Teddy's experienced declining ridership, but increased revenue as a result of using taxis for trips to New York airports. As the demonstration progressed, Teddy's reduced the vehicle fleet and operating hours, and continued to focus on out of town trips. The owners sold the taxi business and limousine service in September 1978.

The WTD cooperated with the new owner of Teddy's Taxi in an attempt to strengthen the premium ride taxi service portion of his business.

The new owner utilizes Cadillac vehicles and depends more on the limousine service for revenue. Preliminary reports indicate that this operator is losing money in the taxi operations area.

Despite the turn of events, survey results in both 1977 and 1978 indicated there was a definite market for premium ride taxi service in Westport. A full assessment of Maxytaxy's impact in this area must await a more stable period of institutional and operational continuity.

9. SUMMARY OF FINDINGS AND IMPLICATIONS

This section summarizes the findings associated with the Westport demonstration in the areas of project implementation, operations, and impacts. Implications for other locales considering the implementation of integrated services are also discussed.

9.1 Findings

Implementation of Integrated Transit Services

Despite significant obstacles the WTD achieved the key objective of implementing integrated transit services through a contract with a local private taxi operator. This achievement had a dual significance in terms of expanding the WTD's brokerage role and also in harnessing the paratransit capability of private taxi operators. The successful negotiation of a management contract set the stage for meeting public sector transportation needs with private sector capabilities. The substantive integrity of this institutional arrangement remained intact despite a major legal challenge by the second local taxi operator in federal court.

The WTD also enlisted the support of several local professional firms and indiviudals who provided service in the areas of legal representation, accounting, public opinion research, and marketing. This interface returned benefits to the WTD in terms of financial savings on the cost of outside services, and local advocacy of Transit District goals.

Service and Operations Integration

The demonstration achieved the objectives of demonstrating service integration and operations integration. The WTD successfully operated integrated transit services using a mixed fleet of buses and vans. In so doing the WTD utilized innovative vehicle deployment and service strategies in an attempt to address community travel demand in the most cost effective manner.

The vehicle employed, the type of service, and the level of service were carefully designed responses to the WTD's assessment of passenger demand. This service approach was manifested in the use of larger buses on high ridership routes, special shuttles, the use of vans in supplemental fixed route service, and additional taxi deployments during peak periods.

The key elements in projecting the integrated system to the public were the integrated pass program and fare structure, extensive marketing, and public information services. The use of these progressive marketing tools was instrumental in creating public awareness and assuring a favorable public response to the Maxytaxy.

System Coverage

The demonstration achieved the objective of increased transit coverage through using the Maxytaxy vehicles in both shared ride service and supplemental fixed route service. The shared ride service provided 100% geographic coverage 7 days a week from 6 a.m. to 1 a.m. or 2 p.m.. The temporal coverage of the fixed route system was also increased in the morning (commuter service) and evening (daytime service) peak periods through the use of the vans. Geographic coverage on the fixed route commuter service was also improved with the addition of one route to Greens Farms Station, and the marginal extension of several Saugatuck routes.

System Support and Operational Center

The integrated services operations plan was based on the physical concentration of activities at the maintenance garage which housed the control center, administrative offices, and all support activities. This arrangement enabled the WTD to practice an integrated vehicle fleet management scheme in order to provide fixed route, shared-ride taxi and special services. Vehicle availability was effectively supported by a preventive maintenance program housed in the support center. The complete range of services provided revolved around this operational nucleus.

The overall provision, coordination, efficiency, reliability, and responsiveness of system services was enhanced as a result of the operations - support base.

Maxytaxy Service

The demand responsive nature of the Maxytaxy service complemented the fixed route system in terms of service area and service operations. More importantly, the Maxytaxy added a new dimension to community travel with convenient door to door service at a reasonable fare.

Despite the occurrence of ıy minor maintenance problems, the reliability of the Maxytaxy vehicle was satisfactory in terms of availability for service and operations performance. Service responsiveness for immediate requests (averaging about 17 minutes over the demonstration) appeared to generally meet community expectations. Travel times were low due to high vehicle speeds and good tour make-ups. During those periods when system demand increased wait times well beyond the norm, people adjusted to the service by calling further in advance to reserve their ride. This allegiance to the shared-ride service appeared to be enhanced by the courtesy of the dispatchers and drivers. The friendly drivers exerted a strong influence on the public attitude toward the service.

Ridership Achievements

The demonstration succeeded in establishing shared-taxi service as a popular form of public transportation in the community. By late 1978, Maxytaxy demand averaged 2700 trips and 3100 riders per week excluding package deliveries; this ridership level was an important accomplishment given the community size and the level of pre-demonstration taxi ridership (approximately 1400 trips per week). The uniform age distribution of the ridership was significant in demonstrating community-wide appeal of the service. Increased market penetration of taxi service was accomplished for the general public, as well as special groups as the elderly and passholders.

The ridership data strongly suggests that WTD services were complementatry rather than competitive. The gains in Maxytaxy ridership did not appear to be at the expense of the fixed route system despite a significant ridership decrease in daytime service. This decrease was highly correlated with local demographic changes involving a declining young people population and declining school enrollments. The majority of those riders who indicated the Minnybus as their back up mode appeared to be commuters picked up at the railroad station after regular fixed route service had terminated in the evening. In this manner the Maxytaxy strongly complemented the fixed route commuter service.

Special Markets Service (see Sections 6.3.2 and 8.1)
The demonstration achieved the objective of improving transit service for special markets including the elderly, the handicapped and the young.

In contrast to most transit service operations the demands of the elderly and handicapped were integrated with regular shared ride service. The special provisions manifested in discount fares and lift equipped vehicle deployments were intermeshed with regular service operations. The effectiveness of this integrated special markets service was enhanced by prudent dispatching and courteous drivers.

Elderly and handicapped demand responsive service was thus provided on a marginal basis as opposed to a separate service operation. This arrangement provided comparative financial benefits to the operator, and mobility and social benefits to the users. Transportation coordination among local social service agencies was also improved.

Service Productivity and Economics
The Maxytaxy service achieved the objective of improved transit vehicle productivity by averaging over 4 trips per vehicle hour under steady state conditions. This productivity level was supported by a strategy of anticipating taxi demand and deploying vehicles accordingly, capitalizing on the private operator's know-

ledge of the community, programming advance requests into the system, and the effective use of the support base as an operational nucleus. The productivity incentive was not a factor in the success of operations, because productivity stayed well above the incentive scale instituted for the demonstration.

Despite the high vehicle productivity the shared ride taxi service did not achieve the goal of operating on a non-subsidized basis as a result of underestimating service operating costs. The operating ratio (revenue/cost) for the shared ride service averaged slightly over 50% prior to the average 28% fare increase of December 1978. Preliminary 1979 data indicates that the fare increase has not adversely affected ridership levels. Revenue and cost data for the first quarter of 1979 indicate that the operating ratio has increased to approximately 60%.

The passenger productivity of the fixed route system decreased by approximately 13% over the demonstration period. This ridership decrease was contained within the daytime service and was related to a demographic trend involving fewer young people in the community. The average monthly operating subsidy for the WTD system approximately doubled during the demonstration despite an increase in the system operating ratio from .28 to .36 over the two year period.

Community Benefits

The demonstration had a pronounced impact on the Westport community. Maxytaxy became an integral part of the local scene both in terms of image and dynamics. The people expressed an affection for the service and many made it part of their daily life style. Mothers,

children, and commuters enjoyed greater independence in their daily routines. Household auto ownership was further decreased and several plans to construct additional parking areas in the town have, for the time being, been deferred, minimized or eliminated. WTD services also increased the desirability of living in the community and contributed to increased real estate values.

Most importantly the range of WTD services became an integral part of the planning process in the town. An interface was achieved with the Planning and Zoning Commission, downtown merchants, businesses, and social service groups. There were few major community plans or projects which did not consider the Minnybus or the Maxytaxy in some way. The increasingly sophisticated transit fit was also instrumental in leading to local discussion of an auto restricted zone (ARZ) for the downtown area.

9.2 Implications

Several characteristics of the Westport environment undoubtedly contributed to the achievement of certain demonstration project objectives. Westport represents a low density, suburban bedroom community with a population that is relatively affluent, homogeneous, and sophisticated. Two distinct travel markets are dominant comprising New York City rail commuters and school age transit dependents. Community travel revolved around the rail stations, the downtown shopping area, the schools, commercial establishments off the central spine, and seasonal attractors.

Fixed route bus transit originated from a grass roots effort and developed into a major success in the mid 1970's. A young transit property had a firm foundation in the town and operated using an innovative fare structure and marketing scheme as well as a non-union labor force. Operations were based very close to the CBD on the central spine.

The setting was fairly attractive for paratransit innovation save for the difficulties in negotiating with one local taxi operator.

Notwithstanding the importance of these factors the Westport demonstration experience has important implications for other transit properties considering the implementation of integrated services:

Implementation I: The Community Base

Implementation of integrated services is best supported by a strong transit foundation in the community. A strong community interface and a good reputation for service are invaluable assets when attempting to develop innovative paratransit operations. Being part of the community results in increased advocacy of the Transit District's goals and a higher degree of consensus among community factions and residents. A community interface is also a critical factor in the effort to secure transit financing and the local share of the estimated operating subsidy.

Each solid transit accomplishment can lead to a more sophisticated attempt to provide better services. Westport experienced 6 years of community debate before operating fixed route service; almost three years of fixed route service occurred before shared ride taxi service was initiated; two years of innovative paratransit service have now led to discussion of an ARZ in the downtown area. Increasingly responsive transit services for the community has helped to develop the community's confidence in more sophisticated plans involving transit.

Transit properties contemplating the introduction of integrated services should be aware of the evolutionary nature of this process in terms of both the time element and the necessary interaction between the Transit District and the town; furthermore, they should assess the strength of their own foundation and move forward based on actual accomplishments.

Implementation II: The Institutional Base

A public transit entity contemplating the introduction of integrated services should investigate the full legal and regulatory context in which it operates relative to enabling legislation, regulatory

agencies, and local ordinances. This will provide a full understanding of the institutional context and will delineate what options are available for implementing integrated services. A thorough analysis would clarify the appropriate channels or reveal the need to create the appropriate channels through legal and regulatory change.

A similar investigative effort should be applied by the public transit entity to potential private operators who may serve as management contractors. This would establish the options available to a private operator wishing to participate in a project of this nature.

A review of the private operator public records would reveal the financial condition of the businesses and serve as useful information in early negotiations.

The transit entity should initially attempt to provide for the maximum participation of all interested parties through holding public hearings in which the integrated services plan is presented in general terms; the comments of the general public and private operators should be recorded and documented.

Any formal negotiations perhaps should be preceded by informal meetings (open to any interested operator) stressing each entity's role in providing transportation services and the potential for increased efficiency, productivity, and profit if the public and private sectors could collaborate in the provision of services. This effort might lead to a more congenial negotiating environment and a better mutual understanding of paratransit potential in the community.

Formal negotiations with responsive bidders may be facilitated by the use of a cost plus fixed fee contract to eliminate the private operator's financial risk, and the inclusion of a profit incentive program based on vehicle productivity or other system parameter more applicable to the specific locale or project.

To prevent litigation during or as a result of the implementation process, the public transit entity should be fully versed in the legal issues concerning unfair competition, what constitutes a mass transportation company, compensatory damages, and the legal opinions on shared-ride services and paratransit in terms of state definitions and UMTA policy. Each step in the implementation process could be subject to judicial review and should be fully documented and recorded.

Despite the potential for legal and other institutional difficulties, the Westport experience has shown that adequate preparation and careful implementation can result in the operation of integrated services by public and private providers.

Implementation III: The Operations Support Base

Integrated service operations appear to be greatly facilitated by a consolidated operations-support center. Such a center can achieve significant economies relative to vehicle maintenance and deployment, control room activities, driver force availability, and administrative contact with the integrated services operation. All system vehicles, operational personnel, and support personnel are either directly or indirectly in contact with this center. More opportunities are available for using system resources more effectively, and a more responsive capability for dealing with system breakdowns can be developed.

The integrated services plan should include provision for such a center to serve as the operational nucleus. Smaller transit properties can avoid or defer extensive capital costs through following Westport's example of contracting with a private party, preferably located in a centrally accessible area.

The economies of scale in larger systems of this type may justify capital investment for certain automatic vehicle monitoring (AVM) or navigational systems (e.g., Loran-C) which might otherwise be cost prohibitive to smaller transit properties or private providers (as it was in Westport). Such systems could significantly improve command, control, and communications capabilities, particularly in larger service areas.

Vehicle Purchase Strategy and Preventive Maintenance Program

The vehicle purchase strategy for integrated services must balance the concerns of service compatibility and preventive maintenance. A homogeneous vehicle fleet offers maintenance advantages but prevents the Transit District from tailoring vehicle supply to the nature and level of demand; multiple vehicle types increase service potential at the risk of burdening the maintenance function with varying requirements.

After assessing local travel markets it may be desirable for the transit property to think in terms of vehicle sets with each set characterized by uniform capacity, maneuverability, and maintenance requirements. Each set of vehicles (e.g. transit coaches, minibuses, vans) can be responsive to a different service requirement and level of ridership. The van vehicle offers special flexibility in being eligible for fixed route, shared ride, and special market services; a raised roof design is particularly important for deploying the van in fixed route service.

Each proposed vehicle type should also be evaluated with respect to the recommended maintenance schedule and requirements, the availability of spare parts for the vehicle engine and subsystems, warranty items, and the number of trained mechanics available to support a preventive maintenance program. Such a program is essential for insuring adequate vehicle availability and performance. It is important to have the preventive maintenance program organized prior to vehicle delivery since many "break-in" problems occur during the first few months of vehicle operation. The public's perception of system reliability can be strongly influenced during the early months of service operations.

Projecting the Integrated System

Implementation efforts must be closely coordinated with an effort to create an image of the integrated system and induce demand for new services. The key elements in this effort appear to be comprehensive marketing, an integrated fare structure and pass program,

and public information services. Marketing should permeate the system but begins with vehicle and driver selections. Fixed route and demand responsive vehicles should feature color schemes and identifying logos (e.g., Minnybus, Maxytaxy) which are variations of a common theme. Input from community residents and marketing professionals should be considered to coin appropriate system terminology. In this manner the transit services are endowed with the same marketability attributes as successful consumer products.

Drivers provide the human interface in the system, playing the key role in selling the services to the public. Special attention given to the selection of personable, courteous drivers will help produce a warm reception for system services. Special driver training for handling special market segments (elderly, handicapped, children, packages) will broaden the base of support in the community. In performing daily services, shared-ride taxi drivers should recall the public's higher expectations (compared to private premium ride taxi) of Maxytaxy drivers in Westport.

The marketing program should also include contractual professional support from an advertising firm which can graphically capture the spirit of the integrated services approach. This may include promotional and explanatory material designed to prime the ridership market. Properly executed, this professional support can exert a favorable influence on public attitudes.

An integrated fare structure and pass program should be developed and designed to promote system integration, service complementarity, and high operating cost recovery. The fare spectrum should extend from individual regular fares for fixed route and demand responsive services to complete system passes. Within these bounds, there should be individual service passes as well as a series of fare-pass discount combinations designed to tie system services together. These discount combinations can be responsive to fixed route service gaps, special market segments, or the uneven temporal distribution of demand in the service area. As a further convenience, the transit property should consider the sale of discount coupons, gift

certificates and season passes; monitoring the community pulse will provide insight into the most appropriate fare options. Special payment plans (charge, installment, subscription) could also be considered for patrons of large organizations such as employers, social service agencies or businesses. The financial benefits of various fare and pass plans should also be quantified and disseminated in marketing material.

The transit entity should also be aware of the need to sensitize the public to system changes. The introduction and marketing of service innovations and fare options should be staggered so as not to confuse the public.

A public information function is essential for successful integrated services. This element should include a telephone service as well as a walk-in office center for pass sales and other discount fare packages. Mailing programs and periodic newsletters could also be considered as part of the information center's responsibilities. Finally, the center should develop a comprehensive information base on all transportation services available in the area.

System Operations

System coverage, reliability, and operator efficiency can be enhanced through responsive strategies of vehicle deployment and service assignment which attempt to match system resources against the dynamics of community demand. Demand patterns can provide a blueprint for constructing system level of service and dividing it between fixed route, demand responsive, and special service operations. Transit management should attempt to provide the best service fit for the type of demand, and the best vehicle fit for the level of demand. The integrated system approach also provides management with increased opportunities for service transitions (e.g, changing a van from shared-ride service to supplemental fixed route) and vehicle substitutions in the event of breakdowns.

The effectiveness of daily shared-ride operations can benefit from a taxi service strategy based on anticipation. This strategy may

entail continual coverage of peak travel generators (e.g., railroad stations), grouping large numbers of riders into individual cabs based on destination areas, overlapping taxi shifts during peak periods, and planning advance requests (subscription, handicapped) into the ongoing vehicle deployment strategy. System dispatchers should be suitably trained and other local service strategies should be designed to minimize the circuity of travel. The selection and training of competent, courteous dispatchers is essential to the success of shared-ride operations; their performance should be rewarded with some form of incentive payment. Peak demand periods may require additional control center staff to assist the dispatcher in handling service requests.

Community Brokerage Potential

Integrated transit services offer considerable potential for expanded brokerage efforts with the major public and private interests in the community. They include:

- Employers, merchants and businesses
- Social service agencies
- Realtors
- Local planning and zoning board
- Public service departments (public works, police, fire, parking, medical, library)
- Education centers
- Private providers

Establishing a rapport with these organizations and groups could identify some regular or contingency service which could be provided with some component of the integrated service system.

Institutional and operational issues should be discussed to identify possible areas of cooperation. This brokerage process should always be based on the realization that integrated services are a means to an end and not an end unto themselves.

Finally, integrated services are best sustained if the operational benefits are carefully detailed, quantified, and injected into the local decision making and funding process. The appeal of integrated services is strengthened by hard figures on the financial impact on the town budget and on the budgets of other affected organizations. An effective lobby of community interests should be formed to influence the budgetary process; potential subsidy requirements might then be viewed in a different light.

Integrated services which are properly planned, implemented, and managed can be a major force in improving the quality of life in a community.

APPENDIX A.

FEDERAL COURT DECISIONS IN THE WESTPORT LITIGATION

UNITED STATES COURT OF APPEALS

FOR THE SECOND CIRCUIT

No. 116 September Term, 1977

(Argued October 5, 1977 Decided January 24, 1978)

Docket No. 77-6074

WESTPORT TAXI SERVICE, INC., MICHAEL and ANTHONY GILBERTIE,

<u>Plaintiffs-Appellants</u>,

v.

BROCK ADAMS, SECRETARY OF TRANSPORTATION, WESTPORT TRANSIT DISTRICT, PAUL R. GREEN, JOHN E. MEYERS, and RICHARD BRADLEY,

<u>Defendants-Appellees</u>.

UNITED STATES COURT OF APPEALS
FILED
JAN 24 1978
SECOND CIRCUIT

Before: FRIENDLY, GURFEIN and MESKILL, <u>Circuit Judges</u>.

Appeal from a judgment of the United States District Court for the District of Connecticut, Jon O. Newman, <u>Judge</u>, in favor of the defendants in an action to enjoin implementation of a "demonstration project" financed under the Urban Mass Transportation Act of 1964. The Court of Appeals enjoined further federal funding of the project pending compliance with certain procedural requirements of the Act.

Affirmed in part, reversed in part and remanded with instructions.

RICHARD A. SILVER, Stamford, Connecticut (David S. Golub, Stamford, Connecticut, of counsel), <u>for Plaintiffs-Appellants</u>.

J. DANIEL SAGARIN, Bridgeport, Connecticut (Michael Shapiro, Schless, Sagarin, Neigher & Simon, Bridgeport, Connecticut, Richard Berkowitz, Berkowitz & Balbirer, Westport, Connecticut, of counsel), <u>for Defendants-Appellees Green, Meyers, Bradley and Westport Transit District</u>.

GLENN F. WASSERMAN, Attorney Advisor, Urban Mass Transportation Administration, Washington, D. C. (Robert W. Batchelder, Assistant Chief Counsel, Urban Mass Transportation Administration, Washington, D. C., Richard Blumenthal, United States Attorney, District of Connecticut, Diana Garfield, Assistant United States Attorney, District of Connecticut, of counsel), for Defendant-Appellee Secretary of Transportation.

MESKILL, Circuit Judge:

The purpose of the Urban Mass Transportation Act of 1964, as amended, 49 U.S.C. § 1601 et seq. ("the Act"), is to improve urban mass transportation systems. 49 U.S.C. § 1601(b).[1/] It seeks to advance this purpose by providing, among other things, financial assistance to mass transportation projects of various kinds, including so-called "demonstration projects." 49 U.S.C. § 1605(a).[2/] The instant case is one in which a federally funded demonstration project to be conducted by a public mass transportation company has encountered the opposition of an existing private transportation company which, for competitive reasons, has sought to enjoin the implementation of the project.

Defendant-appellee Westport Transit District ("Transit District") is a government entity formed by Westport, Connecticut in 1969 to organize, coordinate and provide mass transportation services in Westport. Conn. Gen. Stat. § 7-273b. Its appointed directors are defendants-appellees Paul R. Green, John E. Meyers and Richard Bradley. In April, 1975, the Transit District applied to the federal Urban Mass Transportation Administration ("UMTA") for a $25,000 grant to study the possibility of developing an integrated and coordinated transportation system for the community. The study had two immediate goals: first, to

develop a plan for a complete transportation system that would utilize and coordinate existing and potential transportation services; second, to design a demonstration project to implement and experiment with various aspects of the plan. Such studies are eligible for funding under 49 U.S.C. § 1605(c). On June 26, 1975, the Administrator of the UMTA, to whom the powers of the Secretary of Transportation under the Act have been delegated, 49 C.F.R. § 1.51, approved the study grant. The study was conducted, and a demonstration project was proposed. Early in 1976, the Transit District applied for a grant of roughly $610,000 to implement the project. In July of 1976, the Administrator approved a grant for a two-year project. The basic question on this appeal is whether certain of the Act's procedural requirements had to be complied with prior to the Administrator's approval of the two-year implementation grant.

Plaintiff-appellant Westport Taxi Service, Inc. ("Westport Taxi") is a small taxi company owned by two brothers, plaintiffs-appellants Michael and Anthony Gilbertie. It operates under a certificate of public convenience and necessity from the Connecticut Public Utilities Control Authority ("PUCA"). Conn. Gen. Stat. § 16-320. The type of service offered by Westport Taxi is known as "exclusive-ride" taxi service and is governed by PUCA regulation § 16-319-15, which requires that the consent of the first person to hire a taxicab be obtained before the taxi may take on additional riders. Westport Taxi's "fleet" consists of five aging taxicabs; its financial condition in precarious.

The Transit District's demonstration project will provide several new types of services. Principal among them will be a "shared-ride" taxi service provided with eleven new

twelve-passenger vans that will compete directly with Westport Taxi. Plaintiffs fear that their taxi company will be destroyed if the project goes forward. Given their present financial condition, these fears appear to be well-founded.

Plaintiffs brought this action to enjoin the Secretary of Transportation from funding the project and the Transit District from implementing it. They argue that the Transit District failed to comply with two subsections of the Act. The first is 49 U.S.C. § 1602(d), which provides:

> Any application for a grant or loan under this chapter to finance the acquisition, construction, reconstruction, or improvement of facilities or equipment which will substantially affect a community or its mass transportation service shall include a certification that the applicant --
>
> (1) has afforded an adequate opportunity for public hearings pursuant to adequate prior notice, and has held such hearings unless no one with a significant economic, social, or environmental interest in the matter requests a hearing;
>
> (2) has considered the economic and social effects of the project and its impact on the environment; and
>
> (3) has found that the project is consistent with official plans for the comprehensive development of the urban area.
>
> Notice of any hearings under this subsection shall include a concise statement of the proposed project, and shall be published in a newspaper of general circulation in the geographic area to be served. If hearings have been held, a copy of the transcript of the hearings shall be submitted with the application.

The Transit District concedes that the certification required by this subsection was not included in its application. The second is 49 U.S.C. § 1602(e), which provides:

> No financial assistance shall be provided under this chapter to any State or local public body or agency thereof for the purpose, directly or indirectly, of acquiring any interest in, or purchasing any facilities or other property of, a private mass transportation company, or for the purpose of constructing, improving, or reconstructing any facilities or other property acquired (after July 9, 1964) from any such company, or for the purpose of providing by contract or otherwise for

> the operation of mass transportation facilities or equipment in competition with, or supplementary to, the service provided by an existing mass transportation company, unless (1) the Secretary finds that such assistance is essential to a program, proposed or under active preparation, for a unified or officially coordinated urban transportation system as part of the comprehensively planned development of the urban area, (2) the Secretary finds that such program, to the maximum extent feasible, provides for the participation of private mass transportation companies, (3) just and adequate compensation will be paid to such companies for acquisition of their franchises or property to the extent required by applicable State or local laws, and (4) the Secretary of Labor certifies that such assistance complies with the requirements of section 1609(c) of this title.

All of plaintiffs' claims were rejected by the district court.[3/]

STANDING.

The district court held that the plaintiffs have standing to maintain this suit. We agree. Plaintiffs are "likely to be financially injured," F.C.C. v. Sanders Brothers Radio Station, 309 U.S. 470, 477 (1940), quoted in Association of Data Processing Service Organizations, Inc. v. Camp, 397 U.S. 150, 154 (1970), by the approval of the grants and thus satisfy the case or controversy requirement of Article III of the Constitution. Plaintiffs also satisfy the non-constitutional "zone of interests" test for standing. See Association of Data Processing Service Organizations, Inc. v. Camp, supra, 397 U.S. at 153. They fall within the "zone of interests" protected by § 1602(d) because they are members of the Westport "community"; they are "arguably within the zone of interests" protected by § 1602(e) because they are, at least arguably, a "mass transportation company."

SUBSECTION (d).

The certification requirement of § 1602(d) applies

to "[a]ny application for a grant . . . under this Act to finance the acquisition, construction, reconstruction, or improvement of facilities or equipment which will substantially affect a community or its mass transportation service . . . . ." Urban Mass Transportation Assistance Act of 1970, Pub. L. No. 91-453, § 2(d), 84 Stat. 962, 964 (1970). The defendants contend and the district court held that § 1602(d) need not be complied with here because the Transit District's project is a demonstration project under § 1605, a type of project to which § 1602 assertedly does not apply. According to their analysis, the Act establishes discrete, mutually exclusive categories of projects, each of which is governed by a different section of the Act. Under this view, a demonstration project under § 1605 need not comply with any other section of the Act.

We read the Act differently. By its own terms, § 1602(d) applies to "[a]ny application . . . under this Act" for a grant which, if implemented, meets certain objective criteria. This language suggests that the categories overlap -- a demonstration project is exempt from sections other than § 1605 only if its nature is such that it does not meet the criteria those sections establish. Thus, a demonstration project may or may not involve "the acquisition . . . of facilities . . . which will substantially affect a community or its mass transportation service." If it does not, then § 1602(d) need not be complied with; if it does, however, the requirements of that subsection cannot be avoided merely because the project is a demonstration. We are confident that Congress meant what it said when it wrote "[a]ny application . . . under this Act" and set forth objective criteria. It intended each project to be treated

according to its impact, not just its type.

Under our reading of the statute, therefore, the impact of each proposed mass transportation project upon its community must be evaluated. The trial judge found that the Transit District's project "is a demonstration project only and does not involve the more significant commitment of resources and more substantial effect on the community necessary to bring the hearing and certification requirements of § 1602(d) into play"(footnote omitted). Because this finding is based on the erroneous view that § 1602 and § 1605 are mutually exclusive, it cannot stand. It is clear that this demonstration project involves "the acquisition, construction, reconstruction, or improvement of facilities or equipment" and "will substantially affect" Westport and its mass transportation service. Indeed, it is difficult to imagine how the implementation of a $600,000 project involving the purchase of eleven twelve-passenger vans, at a cost of over $150,000, in a town of less than 30,000 inhabitants could fail to have a substantial effect on the community and its mass transportation service. In fact, that appears to have been the very intent of those who designed the project. Appellees try to minimize the impact of the project by pointing out that it is merely a two-year demonstration. We find this approach unpersuasive. The demonstration may well be the start of a long-term program. The Transit District's new vans are not going to evaporate after two years; after they are demonstrated, they will likely become a permanent part of Westport's mass transportation service. Furthermore, two years can be a very long time for some citizens of Westport. Given the present state of plaintiffs' financial condition, it appears unlikely that it could survive this

two-year program. It cannot be denied that the elimination of one of the two independent, traditional, exclusive-ride taxi services in Westport, together with the substitution of a new $600,000 project, would constitute a "substantial" effect on the community or mass transportation of Westport. Accordingly, § 1602(d) must be complied with. We note, however, that on the facts of this case compliance should be a relatively simple matter. The hearings required by § 1602(d)(1) have already been held, and the economic, social and environmental[4/] impact of the project has been studied, as required by § 1602(d)(2), in great depth; the project is clearly "consistent with official plans for the comprehensive development of the urban area," § 1602(d)(3), for it is an integral part of Westport's own comprehensive mass transportation plan. Thus, § 1602(d) can be satisfied merely by amending the grant application so as to include the requisite certification under § 1602(d).

SUBSECTION (e).

The analysis applicable to § 1602(d) is also applicable to § 1602(e). Like subsection (d), subsection (e) applies to all "financial assistance . . . provided under this Act." Urban Mass Transportation Act of 1964, Pub. L. No. 88-365, § 3(c), 78 Stat. 302, 303 (1964). However, only a "mass transportation company" may claim the protection of subsection (e). We have already held that, for standing purposes, Westport Taxi is "arguably within the zone of interests" protected by this subsection because it arguably fits the definition of a "mass transportation company." We must now decide, on the merits, whether it is in fact a "mass transportation company."

As originally enacted, the definition of "mass

transportation" found in 49 U.S.C. § 1608(c)(5) covered "transportation by bus or rail or other conveyance, either publicly or privately owned, serving the general public (but not including school buses or charter or sightseeing service) and moving over prescribed routes." Pub. L. No. 88-365, § 9(d)(5), 78 Stat. 302, 307 (1964). This definition clearly excluded traditional private taxi service, for taxicabs do not "move over prescribed routes." This definition proved too limited, however, because it excluded innovative, new "paratransit" systems, such as "dial-a-ride" or "minibus" services, which have more flexible routes. In the Housing and Urban Development Act of 1968, Pub. L. No. 90-448, § 702, 82 Stat. 476, 535 (1968), the definition of "mass transportation" was changed. It now covers "transportation by bus, rail, or other conveyance, either publicly or privately owned, which provides to the public general or special service (but not including school buses or charter or sightseeing service) on a regular and continuing basis" (emphasis added). On its face, the definition is now broad enough to cover transportation service provided by means of a tandem bicycle, as long as it is provided "on a regular and continuing basis." In construing the definition, however, we must remember "that statutes always have some purpose or object to accomplish, whose sympathetic and imaginative discovery is the surest guide to their meaning." Cabell v. Markham, 148 F.2d 737, 739 (2d Cir.) (L. Hand, J.), aff'd, 326 U.S. 404 (1945). The purpose of the change in the definition of "mass transportation" was "to allow greater flexibility in developing and applying new concepts and systems in urban mass transportation programs." S. Rep. No. 90-1123, 90th Cong., 2d Sess. 76-77; see

H.R. Rep. No. 1585, 90th Cong., 2d Sess. 65-66, reprinted in [1968] U.S. Code Cong. & Ad. News 2873, 2940-41./ Congress does not appear to have intended to include conventional taxi service within the changed definition, for such service cannot by any stretch of the imagination be considered a "new" concept or system.

In construing the definition of "mass transportation" we also look to the interpretation given it by the UMTA. Skidmore v. Swift & Co., 323 U.S. 134, 140 (1944). Charles F. Bingman, Acting Urban Mass Transportation Administrator, submitted to the district court an affidavit and supporting documentation in which the UMTA's interpretation of the Act is described as follows:

> UMTA has consistently included within [the] definition [of "mass transportation"] any form of collective transportation service which is regularly available to the public; i.e., any service which cannot be reserved for the private and exclusive use of particular individuals or private groups . . . . Hence, fixed-route bus or rail services and paratransit services such as dial-a-ride, jitney, shared-ride taxi, neighborhood transit, subscription bus service and other types of shared-ride transportation services which are available to the public or to special categories of users (such as elderly and handicapped persons) on a regular basis are considered by UMTA to be "mass transportation services." Services which can be reserved for the exclusive use of individuals or private groups, either by the operator or the first patron's refusal to permit others to be picked up, such as exclusive-ride taxi service, charter services, sightseeing services, employer vanpool programs, car rental services, for-hire limousines and private ambulance services are not deemed to be "mass transportation" services for purposes of the UMT Act.

(emphasis added). See also 41 Fed. Reg. 46412-13. In view of this administrative interpretation and practice[5/], and in view of the legislative history of the 1968 amendment, we hold that a company such as Westport Taxi, operating five taxicabs under a regulation which provides that the consent

of the first rider to hire a taxi must be obtained before others may be carried, is not a "mass transportation company" entitled to the protections afforded by § 1602(e).[4]

CONCLUSION.

In view of our decision that there has been a failure to comply with § 1602(d), the judgment of the district court is reversed in part and the case is remanded with instructions to enter an order enjoining any further expenditure of federal funds on the demonstration project and granting such other relief as may be necessary pending the amendment of the Transit District's application so as to contain the requisite certification and pending the approval of the amended application by the UMTA Administrator. The decision below is in all other respects affirmed. The mandate shall issue forthwith. No costs.

Affirmed in part, reversed in part and remanded with instructions.

FPI—Sandstone
3-8-78—175M—GCO

FOOTNOTES

1/ 49 U.S.C. § 1601 provides as follows:

Declaration of findings and purposes

(a) The Congress finds --

(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally cross the boundary lines of local jurisdictions and often extend into two or more States;

(2) that the welfare and vitality of urban areas, the satisfactory movement of people and goods within such areas, and the effectiveness of housing, urban renewal, highway, and other federally aided programs are being jeopardized by the deterioriation or inadequate provision of urban transportation facilities and services, the intensification of traffic congestion, and the lack of coordinated transportation and other development planning on a comprehensive and continuing basis; and

(3) that Federal financial assistance for the development of efficient and coordinated mass transportation systems is essential to the solution of these urban problems.

(b) The purposes of this chapter are --

(1) to assist in the development of improved mass transportation facilities, equipment, techniques, and methods, with the cooperation of mass transportation companies both public and private;

(2) to encourage the planning and establishment of areawide urban mass transportation systems needed for economical and desirable urban development, with the cooperation of mass transportation companies both public and private; and

(3) to provide assistance to State and local governments and their instrumentalities in financing such systems, to be operated by public or private mass transportation companies as determined by local needs.

FOOTNOTES

2/ 49 U.S.C. § 1605(a) provides as follows:

> The Secretary is authorized to undertake research, development, and demonstration projects in all phases of urban mass transportation (including the development, testing, and demonstration of new facilities, equipment, techniques, and methods) which he determines will assist in the reduction of urban transportation needs, the improvement of mass transportation service, or the contribution of such service toward meeting total urban transportation needs at minimum cost. He may undertake such projects independently or by grant or contract (including working agreements with other Federal departments and agencies). In carrying out the provisions of this section, the Secretary is authorized to request and receive such information or data as he deems appropriate from public or private sources.

3/ The plaintiffs argued in the district court, as they have in this Court, that the destruction of their business that will result if the project is implemented will amount to a "taking" without just compensation in violation of the Fifth and Fourteenth Amendments to the United States Constitution. It is well established that there is no right to be free from governmental competition. See Tennessee Elec. Power Co. v. T.V.A., 306 U.S. 118, 138-39 (1939). Plaintiffs' argument based on an alleged statutory right under 49 U.S.C. § 1602 to be free from competition in the absence of compliance with the requirements of that section is evaluated in our discussion of subsections (d) and (e) of that section.

4/ The necessity of compliance with § 1602(d) triggers the requirements of § 1610(c). That section was complied with at the time the Transit District's grant was approved when a finding was made that "the proposed grant will not have significant impact on the quality of the environment."

FOOTNOTES

5/ The record contains evidence of two examples of UMTA funding of private taxicab companies. Both, however, involve specialized service designed to assist the elderly and handicapped, on whose behalf Congress has directed "that special efforts shall be made." 49 U.S.C. § 1612. Thus, we do not view such funding as being a significant exception to the UMTA's policy or as detracting from the pursuasive force of the UMTA's interpretation. Compare Gilbert v. General Electric Co., 429 U.S 125 (1976); United Housing Foundation, Inc. v. Forman, 421 U.S. 837, 858 n.25 (1975).

UNITED STATES DISTRICT COURT

DISTRICT OF CONNECTICUT

WESTPORT TAXI SERVICE, INC., ET AL	:	
V.	:	CIVIL NO. B-76-369
BROCK ADAMS, SECRETARY OF TRANSPORTATION, ET AL	:	

RULING ON MOTIONS

Plaintiff Westport Taxi Service, Inc. ("Westport Taxi") is a private taxi company owned by plaintiffs Michael and Anthony Gilbertie and operated by the Gilberties in the Town of Westport under a Certificate of Public Convenience and Necessity from the Connecticut Public Utilities Control Authority ("PUCA"). Plaintiffs bring this action to challenge the implementation by the defendant Westport Transit District ("Transit District") of a municipal taxi service as part of an experimental suburban mass transportation plan to be supported in part by a grant of federal fund under the Urban Mass Transportation Act, 49 U.S.C. § 1601 et seq. ("UMTA"). The other defendants in addition to the Transit District are the Secretary of Transportation of the United States and the directors of the Westport Transit District. The complaint alleges various violations of the provisions of UMTA in the decision to award federal financial assistance to the Westport project and asserts that the failure to compensate Westport Taxi for the losses it will incur from competition

from the project constitutes a taking of property without just compensation in violation of UMTA and of the Fifth and Fourteenth Amendments to the United States Constitution.

The plaintiffs have moved for a temporary restraining order and for a preliminary injunction. Defendants have moved to dismiss and for summary judgment. An evidentiary hearing was held. After the close of the hearing the plaintiffs advised the Court that because they had no further evidence to submit on the merits, the hearing on the injunction could be deemed the hearing on the merits. Fed. R. Civ. P. 65(a). This memorandum will thus dispose of all the claims made by the parties.

I. Standing

All defendants argue that plaintiffs have no standing under UMTA to maintain this suit. They begin with the Supreme Court's interpretation in Association of Data Processing Service Organizations v. Camp, 397 U.S. 150 (1970), of the provision of the Administrative Procedure Act for judicial review of agency action, 5 U.S.C. § 702.[1/] In Data Processing the Court set forth a two-pronged test for standing to challenge agency action. The first prong is met if the complainant alleges injury in fact, economic or otherwise. The second is met if the interest sought to be protected by the complainant is "arguably within the zone of interests to be protected or regulated by the statute or constitutional guarantee in question." 397 U.S. at 153.

Both of these tests are satisfied in the present

case. The complaint adequately alleges concrete economic injury to the plaintiffs from the defendants' actions in the form of a decrease in operating revenues and profits so severe that the plaintiffs may be forced out of business. Whether this injury is real, as the plaintiffs claim or speculative, as the defendants claim, is a question relating to the merits and not to standing. 397 U.S. at 153, 156.

With respect to the second prong of the test, that the interest invoked be "arguably within the zone of interests" protected by the statute in question,[2/] Data Processing effectively puts to rest defendants' claim that plaintiffs have no standing to challenge agency action benefiting a competing provider of transportation services. Data Processing itself was a competition case, in which data processors were held to have standing to challenge a ruling of the Comptroller of the Currency allowing banks to provide data processing services in competition with the plaintiffs in alleged violation of a statute restricting bank activities to the performance of bank services. See also Arnold Tours, Inc. v. Camp, 400 U.S. 45 (1970); Investment Co. Institute v. Camp, 401 U.S. 617 (1971); Safir v. Gibson, 417 F.2d 972 (2d Cir. 1969). As the Supreme Court stated in Hardin v. Kentucky Utilities Co., 390 U.S. 1, 6 (1968), "when the particular statutory provision invoked does reflect a legislative purpose to protect a competitive interest, the injured competitor has standing to require compliance with that provision."[3/]

In enacting UMTA, Congress manifested a concern for private transit operators by requiring the Secretary of Transportation to make a finding for each program to receive assistance under the Act "that such program, to the maximum extent feasible, provides for the participation of private mass transportation companies." 49 U.S.C. § 1602. This provision brings "private mass transportation companies" within the zone of protected interests under the Data Processing test.[4/]

Plaintiffs argue that Westport Taxi is a "private mass transportation company" within the meaning of UMTA. The statutory definition of "mass transportation" is found in 49 U.S.C. § 1608(c)(5), which defines the term to mean

> transportation by bus, rail, or other conveyance, either publicly or privately owned, which provides to the public general or special services (but not including school buses or charter or sightseeing service) on a regular and continuing basis.

Defendants argue that the fact that Westport Taxi offers "premium ride" or "exclusive ride" service -- that is, service that can be limited to the exclusive use of a single passenger or group -- takes the plaintiffs out of the zone of interests Congress intended to protect when it made special provision for "private mass transportation companies." While it may be true that Congress did not intend to subsidize exclusive ride services,[5/] it is also true that this particular variety of transportation service is not the only service Westport Taxi provides. Rather, a substantial

portion of Westport Taxi's business comes from its shared-ride service, under which passengers traveling in the same direction use the same cab if the initial passenger agrees to the sharing. As a private provider of one type of shared-ride service, albeit with the consent of the first rider, Westport Taxi is at least "arguably" within the zone of interests Congress sought to protect by paying special attention to private mass transportation companies.[6/]

II. Demonstration Projects Under UMTA

The plaintiffs argue that the defendants failed to comply with UMTA in the following respects:

> a. in that the application fails to certify that the required hearings were held to determine the economic, social and environmental impact of the project (see 49 U.S.C. § 1602(d));
>
> b. in that the Secretary of Transportation did not, prior to approving the application, make a written finding that federal assistance under the Act is essential to the development of a coordinated and comprehensively planned transportation system (see 49 U.S.C. § 1602(e)(1));
>
> c. in that the Secretary did not make a written finding that the proposed program, to the maximum extent feasible, provides for the participation of private transportation companies (see 49 U.S.C. § 1602(e)(2));
>
> d. in that the Secretary did not make a written finding that just and adequate compensation will be paid to private transportation companies for the acquisition of their franchise interests, as required by applicable state law (see 49 U.S.C. § 1602(e)(3)); and
>
> e. in that the Secretary also failed to comply with 49 U.S.C. § 1610, which requires specific findings as to environmental impact.

Defendants respond that compliance with these statutory provisions is not required by UMTA, since the challenged project is a demonstration project under 49 U.S.C. § 1605(a), which provides:

> The Secretary is authorized to undertake research, development, and demonstration projects in all phases of urban mass transportation (including the development, testing, and demonstration of new facilities, equipment, techniques, and methods) which he determines will assist in the reduction of urban transportation needs, and improvement of mass transportation service, or the contribution of such service toward meeting total urban transportation needs at minimum cost. He may undertake such projects independently or by grant or contract (including working agreements with other Federal departments and agencies). In carrying out the provisions of this section, the Secretary is authorized to request and receive such information or data as he deems appropriate from public or private sources.

It is clear from the Act itself and from its legislative history that demonstration projects need not comply with the requirements of §§ 1602(d) or 1610. Section 1610 by its very terms applies only to assistance provided pursuant to § 1602 and not to a § 1605 demonstration project. Section 1602(d) applies only where the grant or loan is to finance "the acquisition, construction, reconstruction, or improvement of facilities or equipment which will substantially affect a community or its mass transportation service." Although the challenged project will to some extent involve acquisition of equipment, I find that it is a demonstration project only and does not involve the more

significant commitment of resources and more substantial effect on the community necessary to bring the hearing and certification requirements of § 1602(d) into play.[7/] The Transit District and the Urban Mass Transportation Administration have at all times treated the application as one for a § 1605 demonstration grant rather than for a grant under § 1602. The exhibits introduced at the hearing, especially the Application of the Westport Transit District for a Service and Methods Demonstration Grant (Exhibit 1) and the Urban Mass Transportation Administration's approval of the demonstration grant application (Exhibit 2) clearly indicate the demonstration nature of the project, which is to have a two-year duration. Exhibit 2 specifically refers to the project as one authorized under § 6 (§ 1605) of the Act. The intent of the project is to experiment with model methods of providing a broad range of paratransit services. The cost estimates indicate that the bulk of the expenditures for the project will be non-capital rather than capital in nature. All these factors are persuasive that the project is one that may be implemented as a demonstration project under the flexible authorization of § 1605 rather than the more strictly controlled requirements of § 1602(d).[8/]

The remaining section relied upon by the plaintiffs, § 1602(e), applies, inter alia, to assistance[9/] provided "for the purpose of providing by contract or otherwise for the operation of mass transportation facilities or equipment in competition with, or supplementary to, the service provided

by an existing mass transportation company." This provision again raises the issue of whether Westport Taxi is a "mass transportation company" within the meaning of the Act, for if it is not, § 1602(e) would have no application. As noted supra at n.3 and accompanying text, Westport Taxi's status under the Act is not entirely clear. It is unnecessary to resolve the issue (other than for standing purposes as discussed above), since the legislative history and administrative construction of the Act indicate that § 1602(e) is inapplicable to § 1605 demonstration projects.

It is clear from the legislative history of UMTA that Congress wanted to allow considerable flexibility in demonstration projects under the Act. See H.R. Rep. No. 204, 88th Cong., 2d Sess. (1964), 1964 U.S. Code Cong. & Admin. News 2569, 2579-80, 2583. Rather than mandating extensive hearings and findings as under other sections of the Act, Congress simply authorized the Secretary "to request and receive such information or data as he deems appropriate from public or private sources."

The Urban Mass Transportation Administration, charged with administering the Act, has consistently differentiated between § 1602 projects and § 1605 demonstration projects. Demonstration projects are exempted by UMTA regulation from review under Office of Management and Budget Revised Circular A-95 on Evaluation, Review and Coordination of Federal and Federally Assisted Programs and Projects. 41 Fed. Reg. 10,316 (1976) (to be codified in 49 C.F.R.

§ 613.300 et seq. Section 613-306(a)(2)(iii) provides:

> Experimental studies or operational tests of techniques or concepts that are as yet unproven and which require further study or demonstration to determine if they should be encouraged on a national scale, undertaken under a section 6 [§ 1605] Demonstration Grant, are exempt from the requirements of this section.

Similarly, UMTA regulations on comprehensive transportation planning in urban areas do not apply to § 1605 demonstration projects. See 23 C.F.R. § 450.302(a). In light of this administrative construction, it would be inappropriate to hold the requirements of § 1602(e) applicable to a § 1605 demonstration project, since the § 1602(e) requirements, like the OMB Circular A-95 requirements and comprehensive transportation planning requirements, are safeguards designed to provide more careful control over the more substantial projects under § 1602 rather than over the flexible and experimental projects funded under § 1605.

Plaintiffs' allegation that defendants hope to transform the project into a permanent one after the expiration of the two-year demonstration grant does not change the fact that these funds were allocated under § 1605 for demonstration purposes only. Every demonstration project is undertaken with the hope that its design will be replicated on a continuing basis in various locations. The fact that the locale of the demonstration may become one of the sites for a continuing project does not change the statutory requirements for demonstration grants.

III. Taking of Property

The plaintiffs argue that the implementation of the proposed municipal taxi service constitutes a taking of their property without just compensation in violation of the Fifth and Fourteenth Amendments to the United States Constitution and §§ 1602(e) and 1603 of UMTA. Their argument is that since they hold a certificate of public convenience and necessity from the Connecticut Public Utilities Control Authority ("PUCA") and are regulated by the PUCA, the Westport Transit District, which is authorized by Conn. Gen. Stat. § 7-273d to assume the regulatory powers of the PUCA in the Westport area, cannot set up a municipal taxi service in competition with the plaintiffs in the absence of either a finding that competition is necessary or an award of just and adequate compensation. They allege that the Westport Transit District has advised them of its intent to assume the powers of the PUCA and to eliminate the plaintiffs' present franchise right to operate a shared-ride service by issuing a limited operating certificate. The Transit District denies any such intention. Even if the Transit District actually intends at some point to deprive the plaintiffs of their franchise or certificate, there is no showing that the threat is in any way imminent. The pressing issue, given the announced date of April 16, 1977, for commencement of the Transit District's taxi operation, is only whether the defendants violate any constitutional or statutory right of the plaintiffs by setting up a competing taxi service with federal financial assistance.

The Transit District's intention to enter into competition with the plaintiffs does not per se constitute a Fifth Amendment taking. The Supreme Court has repeatedly held that when a governmental entity enters into otherwise lawful competition with a private utility, the resulting economic injury to the utility is damnum absque injuria. See, e.g., Tennessee Power Co. v. Tennessee Valley Authority, 306 U.S. 118 (1939); Alabama Power Co. v. Ickes, 302 U.S. 464 (1937). In the latter case the Court stated:

> What petitioner anticipates, we emphasize, is damage to something it does not possess -- namely, a right to be immune from lawful municipal competition. No other claim of right is involved. It is, in principle, as though an unauthorized loan were about to be made to enable the borrower to purchase a piece of property in respect of which he had a right, equally with a prospective complainant, to become the buyer. While the loan might frustrate complainant's hopes of a profitable investment, it would not violate any legal right; and he would have no standing to ask the aid of a court to stop the loan. What difference, in real substance, is there between the case supposed and the one in hand?

302 U.S. at 480. In such a case there is no compensable taking. See United Railroads of San Francisco v. City and County of San Francisco, 249 U.S. 517 (1919). The plaintiffs' freedom to exercise their own franchise has been in no way impaired, even though the profitability of their operation may decline. They have no constitutional right to compensation unless they have a legally protected, compensable interest in operating their franchise free of new competition.

If there is a federal statutory right to protection from government competition, cf. Hardin v. Kentucky Utilities Co., supra, it derives from the Congressional intent expressed in 49 U.S.C. §§ 1602(e) and 1603 to provide for and encourage "to the maximum extent feasible" the participation of private enterprise and to compensate private mass transportation companies "for acquisition of their franchises or property to the extent required by applicable State or local laws." The evidence presented by the parties shows that the statutory policy of providing for private participation has been fully recognized and taken into account.[10/] The Transit District not only held public hearings on the project, of which the plaintiffs were aware, but also made every effort to invite and encourage the plaintiffs to bid on participation in the project and negotiated with them at length on possible roles for them to play under the demonstration grant. Ultimately the plaintiffs declined to bid on the project. The fact that the negotiations were unsuccessful does not mean that there has been a statutory violation. All the statute requires is encouragement of private participation "to the maximum extent feasible." It does not allow private transit operators to write their own ticket. Further, since no franchise or property interest has been acquired to trigger a duty to compensate, § 1602(e)(3) has not been violated.

It may be, however, that plaintiffs have a claim to compensation for a taking grounded in state law. They contend that their franchise from the PUCA assures them

immunity from further competition unless there has been a determination by the PUCA that additional service is required by public convenience and necessity. See Conn. Gen. Stat. § 16-320. Thus, they contend, the Transit District's proposed competitive service is not "lawful" competition within the meaning of Alabama Power.

Whatever merit there may be to this claim, it is not a basis for any injunctive relief against the defendants in this suit. If any compensable taking will occur, the remedy is compensation, not an injunction to bar the competitive service. See Joslin Mfg. Co. v. City of Providence, 262 U.S. 668 (1923). There is no indication that reverse condemnation remedies are unavailable to the plaintiffs. Moreover, determination of whether plaintiffs' have a right to be free of competition of the sort the Transit District proposes, in the absence of a PUCA finding of need, raises a question of state law inappropriate for decision by this Court. Cf. Alabama Public Service Comm'n v. Southern Ry., 341 U.S. 341 (1951). It is for the PUCA and the state courts to determine whether as a matter of state law plaintiffs' present franchise accords them the degree of immunity they assert and whether, even if it does, that immunity protects against a competitive service operated pursuant to a federally funded demonstration grant.

It is true that the taking of a public franchise is a taking of property, for which compensation must be made. United States v. Brooklyn Union Gas Co., 168 F.2d 391 (2d

Cir. 1948). Here the franchise has not been acquired by the Transit District under the procedure established by Conn. Gen. Stat. § 7-273e. The plaintiffs are free to continue their operations exactly as before. At most the value of the franchise will be impaired. Under the circumstances, the Connecticut courts should have the opportunity to adjudicate this claim in a state court action seeking just compensation for the diminution in value of the franchise. In any event, there is no basis for a federal court to enjoin the commencement of the competing service, since compensation rather than an injunction is the only remedy for a taking by eminent domain.

IV. Conclusion

For the foregoing reasons the plaintiffs' motions for injunctive relief are denied. The other relief prayed for in the complaint, including a declaratory judgment of the invalidity of the approval of the grant application as well as costs and attorneys' fees, is likewise denied. Judgment may enter in favor of all defendants.

Dated at New Haven, Connecticut, this 13 day of April, 1977.

Jon O. Newman

Jon O. Newman
United States District Judge

FOOTNOTES

1/ Section 702 provides:

> A person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof.

The agency in this case is the Department of Transportation, and the challenged action is its decision to provide financial assistance to the Transit District for its demonstration project.

2/ For criticism of the "zone of interest" test as enunciated by the Supreme Court in Data Processing and as subsequently applied by the courts, see K. Davis, Administrative Law of the Seventies 509-516 (1976).

3/ The statute in Hardin put certain limitations on the expansion of the Tennessee Valley Authority to protect private utilities from TVA competition.

4/ South Suburban Safeway Lines, Inc. v. City of Chicago, 416 F.2d 535 (7th Cir. 1969), which suggested that § 1602 might not imply judicial review for a private transit operator, was decided prior to Data Processing and applied a more restrictive test for determining whether a competitor has standing.

5/ Defendants have submitted evidence to support their contention that traditional taxi companies, and particularly companies offering an exclusive ride service,

have not been the beneficiaries of UMTA funds. Plaintiffs have made an offer of proof that at least some private taxi companies have been awarded UMTA funding for the provision of special services.

6/ The Transit District specifically invited and encouraged the plaintiffs to participate in bidding on the federally funded project to provide services including a shared-ride service.

7/ The legislative history indicates that Congress intended § 1602(d) to apply only to § 1602 projects. P.L. 91-453, § 11, 84 Stat. 962, 91st Cong. 2d Sess.; H.R. Rep. No. 91-1264, 91st Cong. 2d Sess (1970), 1970 U.S. Code Cong. & Admin. News 4092, 4101. See also Township of Ridley v. Blanchette, Civil Action No. 74-2113 (E.D. Pa. Oct. 12, 1976), distinguishing between § 1602 projects and § 1605 demonstration projects for purposes of § 1602(d).

8/ Similarly, 49 U.S.C. § 1604(i), invoked by the plaintiffs in their complaint but not briefed in their papers in support of this motion, applies by its terms only to projects funded "under this section" (§ 1604(i)). A § 1605 project is not covered by § 1604(i).

9/ Unlike § 1610, which applies only to assistance "provided pursuant to section 1602," § 1602(e) applies to financial assistance "provided under this chapter." (emphasis added). For the reasons stated below, however, the legislative intent and administrative construction afford far more

flexibility to § 1605 demonstration projects than to the more substantial projects financed under other sections of the Act. For example, the requirement of § 1602(e)(1) that the Secretary find that assistance "under this chapter" be "essential to a program, proposed or under active preparation, for a unified or officially coordinated urban transportation system as part of the comprehensively planned development of the urban area" (emphasis added) could not be applied to a demonstration project consistently with the language of § 1605 itself, which authorizes the Secretary to make demonstration grants for the "development, testing, and demonstration of new facilities, equipment, techniques, and methods" in order to "assist in the reduction of urban transportation needs." It would be inconsistent with the goals of the Act to tie the Secretary's hands by restricting his authority to make demonstration grants only to projects found "essential" to a unified or comprehensive transportation, for such a narrow limitation would thwart innovation and experimentation under the demonstration grant provision.

10/ In light of the holding, supra, that the § 1602(e) findings are not required for § 1605 demonstration projects, a showing of substantial compliance with the statutory policy is sufficient. In any event, defendants claim that the requisite findings on private participation were made by UMTA in its memorandum recommending approval of the grant, introduced as Exhibit 2.

APPENDIX B.

SELECTED WTD MARKETING MATERIAL

Minny saves you money

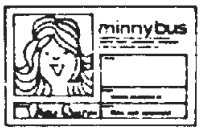
The benefit of an annual pass is easy to see when compared to the cost of driving around town. For example, if you lived near Coley'own School, owned a station wagon and decided to drop off and later pick up a child at the beach, you would have traveled a total of twenty-four miles, burned two and a half gallons of gasoline, spent $1.50 or more and consumed an hour of your life! This mileage grid helps you see our point.

	Station	Downtown	Beach	Staples	Barker's	Coleytown
Saugatuck Station	X	2	2	5	5	5
Downtown	2	X	2½	3	3	3
Compo Beach	2	2½	X	4	4	6
Staples	5	3	4	X	2	1½
Barker's	5	3	4	2	X	3½
Coleytown School	5	3	6	1½	3½	X

Minny Prices!

50¢ for a single ride—including a transfer from one Minny route to any other. And your 50¢ must be in exact change, please. Even more economical, however, is an Annual Minny Pass which gives you unlimited rides for an entire year at truly Minny prices:

Husband and wife	$45
(or) Single parent (widowed or divorced)	30
and each additional child grades 1-12	15
Single adults	30
Single child grades 1-12 without parents	25
Senior citizens 62 and over	15
Senior citizen couple	25
College student with i.d. (under 25, not attending local college)	20



Here's how to get your Minny Pass.

Stop in at the Minny Office, 311 East State Street, Monday—Friday 9 to 5, Saturdays 10 - 2. It takes only two minutes to snap your picture and produce your personal i.d. Minny Pass.

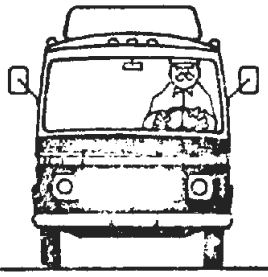
minnybus

WESTPORT TRANSIT DISTRICT

311 Post Rd., East
Westport, Conn. 06880
Phone 226-7171 for information
Open Mon.-Fri. 9 to 5, Saturdays 10 to 2.

1157

Here comes the commuter Minny.

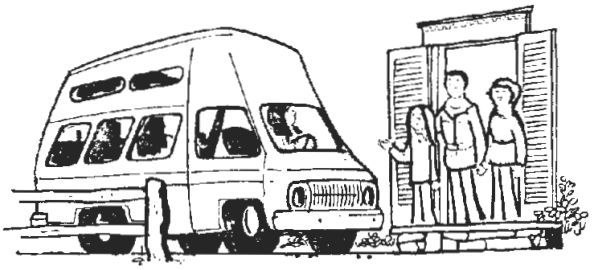


effective August 1, 1976

CALL 226-9525

and maxytaxy picks you up... seven days a week!

Remove this label, peel off backing and stick on your phone.



Q. What is maxytaxy?
A. It s a big, red, comfortable taxy.

Q. Who can ride it?
A. Everyone in Westport.

Q. Where does it go?
A. It goes door to door, anywhere in the town of Westport.

Q. How do you get it?
A. Call 226-9525 and it picks you up and takes you where you say.

Q. When is the maxytaxy in service?
A. Seven days a week, holidays too, from 6 A.M. to 1 A.M., Fridays and Saturdays 6 A.M. to 2 A.M.

Q. How much does it cost?
A. Much less than you'd expect to pay — AND THERE'S NO TIPPING! The town is divided into 15 zones and the costs are figured on a zone to zone basis. Typical trips: If you live near Exit 42 of the Merritt Parkway and you want to go to the train station, you pay about $2.50. If you live in Saugatuck Shores and want to go to Main Street, it costs $1.25. If you live near the Nature Museum and want to go to Compo Beach, the cost is $2.25. If you live in the Greens Farms area and want to go to the Westport Library, your fare is $1.50. If you go from the train station to Zone 8 — that's downtown — you pay only $1.00. (If you're in doubt about where things are on our zone map, ask any driver or call us.)

Q. Why is service so low in cost?
A. Because maxytaxy can pick up several passengers from one neighborhood who are taking the same trip and this shared ride means a real economy for you.

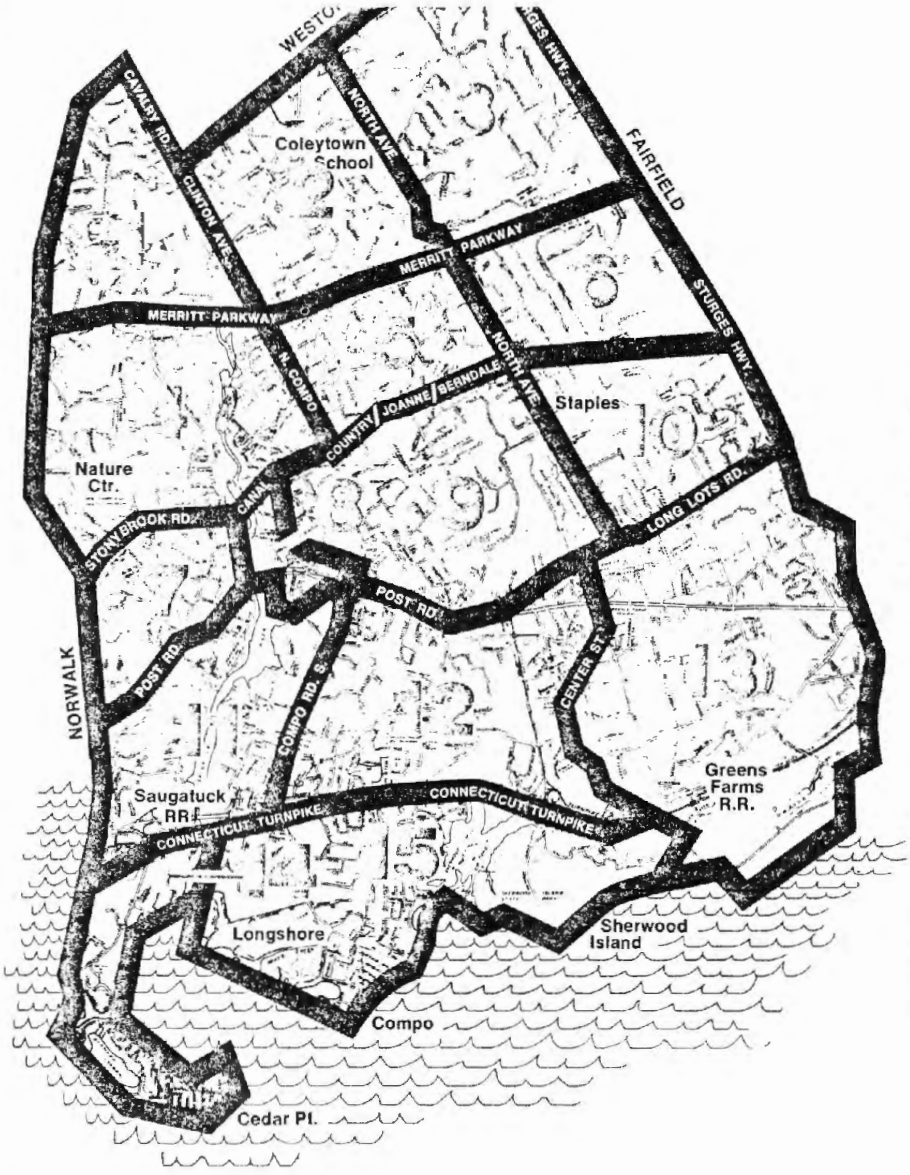
Q. Will there be a lot of people sharing the ride?
A. No — usually only one or two other people will be going in your direction.

Q. How long do you have to wait to be picked up?
A. Even during rush hours, 30 minutes is the most you'd have to wait — but it's usually less.

Q. What should you use it for?
A. Take it to the station, to work, to the beach, to shopping, tennis or golf, to medical appointments, to lessons, to parties, to the movies — you name it!

Q. Why try it?
A. Because, like the minnybus, it saves gas, saves parking, saves chauffering, makes it easy and convenient to get around town — but unlike the minny, it takes you door to door. Between the minny and maxytaxy, you can get rid of a gas guzzler that costs you $1600 a year to maintain and ride with us for much less!

Q. If you have other questions, how do you get the answers?
A. Call our Information Center: 226-7171. We want to help you all we can.



Here's how to figure your fare on the maxytaxy

Find out which zone number you're in and which one you want to go to.

On this price chart, find the zone you're in across the bottom. Then locate the zone you want to reach shown top to bottom on the left. Find the square where both numbers meet and that's the price of your maxytaxy ride. Pay 50¢ for any extra person with you. Elderly fare: 25% off at all times. For example: if you take the maxytaxy from downtown (zone 8) to the railroad station (zone 11) your fare would be $1.00. Call us at 226-7171 if you have any questions about the zone map or fare chart.

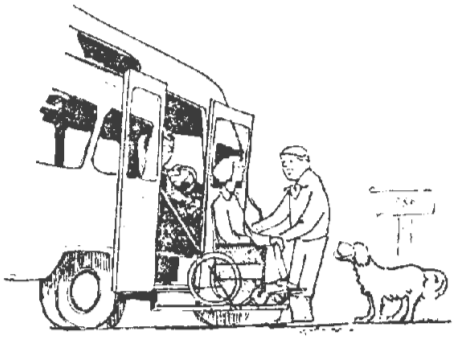
Zone

1	$1.00													
2	1.25	$1.00												
3	1.50	1.25	$1.00											
4	1.25	1.50	1.75	$1.00										
5	1.50	1.25	1.50	1.50	$1.00									
6	1.75	1.50	1.25	1.50	1.25	$1.00								
7	1.50	1.75	2.00	1.25	1.75	2.00	$1.00							
8	1.50	1.50	1.75	1.00	1.25	1.50	1.00	$1.00						
9	1.75	1.50	1.75	1.50	1.25	1.50	1.50	1.00	$1.00					
10	2.00	1.75	1.50	1.75	1.50	1.25	1.50	1.25	1.25	$1.00				
11	2.00	2.25	2.50	1.50	1.75	2.50	1.25	1.00	1.50	2.25	$1.00			
12	2.50	2.00	2.00	1.75	1.50	1.75	1.50	1.25	1.25	1.50	1.50	$1.00		
13	3.00	2.75	2.25	2.75	1.75	1.75	2.50	1.50	1.50	1.50	2.00	1.50	$1.00	
14	2.75	2.75	3.25	2.00	2.50	2.75	1.50	1.25	2.25	2.50	1.25	1.50	2.25	$1.00
15	3.00	2.75	3.00	2.25	2.00	2.50	2.00	1.50	1.75	2.50	1.50	1.50	2.00	1.50	$1.00
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Zone

20% off maxytaxy with maxymony! Buy $25 worth of maxymony for $20 — at our office or ask any driver.

elderly and handicapped cars, comfortable ride!



Until now, the minny has been tootling around town on its regular route carrying many of our senior citizens at half fare. And they love it! But there are many more elderly and handicapped neighbors of ours who need more specialized types of transportation . . . and here they come.

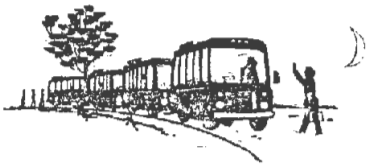
Three new ways to ride when you dial 226-9525.

1. If you're over 62 you can still ride the minny for half fare. Or, call 226-9525 for the shared-ride, dial-a-ride maxytaxy that takes you door to door for at least 25% off the regular zoned fare.

2. If you have some mobility limitations — for example, you use a brace or walker or are only partially sighted, and you need someone with you when you travel, you can call the maxytaxy, pay half minnyfare (25¢ a ride) or use your minnypass — and your companion can come with you for the same price.

3. If you have a major disability and are wheelchair-bound or have serious neuro-muscular or cardiac difficulties, for example, you can call one of our two maxytaxys which are equipped with wheelchair lift and tie-down mechanisms and a driver who's specially trained. There are six spare seats to accommodate companions. Please phone a day ahead for this service. The cost: 25¢ per trip or use your annual pass. Please get a statement from your doctor or public service agency certifying that your medical problem conforms to one of the categories we serve.

Evening maxytaxy picks up late commuters for half fare with minnypass!



If you arrive on any train after the 6:07 out of New York, up to and including the night owl 11:05, you can use the maxytaxy and save up to 55% with your new commuter minnypass ($65 a year).

Friday and Saturday night maxytaxy saves you up to 55% with a minnypass!

Dial 226-9525 for door-to-door service Fridays from 7 pm to 2 am, Saturdays from 6 pm to 2 am.

Take the maxytaxy weekend evening special to the movies, to dinner and dances, to plays and parties, take it home from the station — take it all over town. Good way to send the baby-sitter home, too!

Call maxytaxy to deliver your packages!

We deliver anything that can be carried comfortably by one person — documents, small items left for repair, prescriptions, x-rays, reports — even if you're pining for a pizza or craving a quiche, give us a call. We charge the same for packages as for people — regular maxytaxy fare based on our zone fare structure. But there's an extra 50¢ charge if the maxytaxy driver has to leave the vehicle to make the pick-up and/or drop-off.

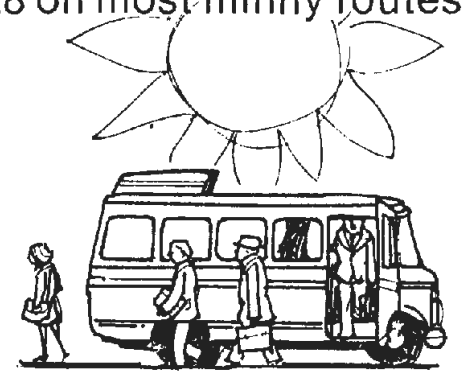
This means you can have a package delivered from downtown to almost anywhere in Westport for less than $1.75.

Exactly how does it work? Phone the Westport merchant or office from which you want the pick-up made to arrange for payment of the items you're ordering. Then call us at 226-9525, tell us what to pick up from where, and we'll make the delivery to you . . . as long as you're in Westport.

For door-to-door service,

more minny services too!

We now meet more morning trains at Saugatuck Station: the 7:51 and 8:28 on most minny routes.

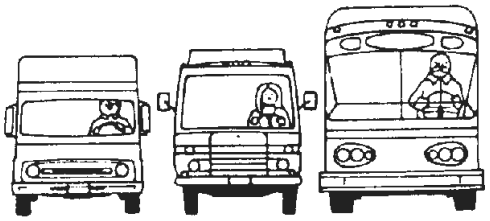


We now make three late afternoon runs departing Jesup Green 5:15, 5:50 and 6:25, Monday through Saturday.

New annual pass prices effective April 1, 1977

Non-Commuter Adult	$40
Commuter	$65
Single Child	$35
Elderly	$15
Handicapped	$15
College student away	$20
Additional family members	$25

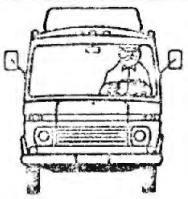
Daytime and commuter timetables available at our office or ask any driver.



Here comes the minny

Westport Transit District
311 Post Road East, Westport, Ct.
For information call 226-7171

Here comes the Minny.



and here's how to ride it safely!

1. Wait on the same side you want to catch the Minny—but watch both ways before you cross to wait.

2. Wave at the Minny to make it stop for you.

3. When you get off the Minny, let it pull away. Watch traffic both ways. Then cross.

4. Talk quietly so the Minny driver can think.

5. Please keep food off bus. Minny eats only diesel fuel.

6. Keep hands and head inside the Minny.

7. Keep the Minny shiny and clean.

Dear Parents -
Everyone is enjoying the fun & freedom of using the Minny. Let's be sure everyone obeys the Minny safety rules too!
The Westport Transit District

minnybus
111 East State Street
Westport, Conn. 06880
For Route information: 226-7171

Take a minute to jot down the costs you now incur to maintain your own vehicle:

Tangible costs per year

Gas and oil	$_____
Tires	$_____
Repairs, parts	$_____
Insurance: casualty and liability	$_____
Garage	$_____
Depreciation	$_____
Taxes	$_____
Driver's pay	$_____

Intangibles — but costly too!

- Time you spend training a driver.
- Time you spend overseeing care of vehicle.
- Time you lose when vehicle breaks down.
- Quality of service you provide to your customers — what would it cost to improve it?

Now call the maxytaxy office: 226-7171 — and compare!

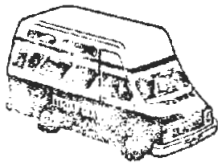
Here comes the

minny

Westport Transit District
304 Post Road East, Westport, Ct.
For information call 226-7171

Here comes the

maxytaxy package delivery



to increase your business and save money.

Put maxytaxy to work for your business.
The maxytaxy can be a boon to your business, moving small goods, business reports, legal documents, information and packages door to door . . . dependably and economically.

- Use maxytaxy to make deliveries more efficiently and at lower cost than with your own vehicle.
- Use maxytaxy to supplement your own delivery system so that when you're over capacity you can still give your customers prompt service.
- Use maxytaxy to create new customers for your goods and services. For example, if you run a deli or restaurant, deliver lunch or dinner to people who want to "eat in".
- Use maxytaxy to meet the specialized needs of your business or profession. For example . . . mail pick-ups . . . delivery of documents . . . to take groups of people to any Westport facility for lectures, meetings, dinner, theater.

We're the "transportation doctors". We'll diagnose your transportation requirements and prescribe a convenient money-saving, energy-saving solution!

The cost is reasonable — let us do a free "transportation audit".

- If you want to use maxytaxy for steady delivery, we'll arrange a special price based on the volume and frequency you require. We'll even help analyze the costs of your present vehicle — for fuel, maintenance, insurance and driver's salary — so that you can compare it to the individually tailored price we offer for maxytaxy delivery that could provide a dependable, more efficient and economical alternative.
- If you want to use maxytaxy for supplementary, occasional pick-ups and deliveries, you pay the regular zone-to-zone fare plus 50¢ if our driver makes the pick-up or drop-off.

20% OFF!
Buy $25 worth of maxymony for $20 and use it to further reduce your costs if you're not on a regular plan. (Or win more customers by giving them maxymony for their trips home if they arrive by maxytaxy . . . a nifty promotional idea!)

Why maxytaxy is "catching on" with so many Westport business people.
It makes good business sense . . . and at the same time contributes to the energy conservation drive. The maxytaxy for package delivery circulates throughout town five or six times a day with a vehicle and driver specifically dedicated to delivery service. We also have a fleet of back-up vehicles well-maintained . . . radio equipped . . . all operated by professional drivers. Our dispatcher is on call 20 hours a day. We're well-insured. And our record of reliability is outstanding. Right now, we're carrying 300 passengers a day as well as pharmacy orders, mail, art supplies, even pizzas . . . and every day we're adding new customers with unique applications we've helped them implement.

Three years ago we successfully launched the minnybus. Now, with the introduction of maxytaxy we're fast becoming Westport's total transit system — one that cares about the community, cares about you and cares about the future of Westport. To reduce fuel consumption . . . cut down traffic congestion . . . avoid the construction of more parking areas . . . and possibly eliminate the cost of maintaining expensive, individually owned and operated cars and vans . . . consider the maxytaxy for **your** business. It can **save** money and **make** money if you use it with imagination!

Bring us your transportation problem: packages or people!
Call us at 226-7171 for more information. We'd like to help you all we can.

maxytaxy package delivery

dial 226-9525 **we pick up and deliver**

helps you see our point.

Mileage Grid

	Station	Downtown	Beach	Staples	Barker's	Coleytown
Saugatuck Station	X	2	2	5	5	5
Downtown	2	X	2½	3	3	3
Compo Beach	2	2½	X	4	4	6
Staples	5	3	4	X	2	1½
Barker's	5	3	4	2	X	3½
Coleytown School	5	3	6	1½	3½	X

Enclosed is my check for $. Please charge my bank card at yo
Acct. #

I want annual passes for:

NAME _____ AGE _____

NAME _____ AGE _____

NAMES OF CHILDREN _____ AGE _____

_____ AGE _____

_____ AGE _____

_____ AGE _____

STREET ADDRESS _____ TOWN _____

NO. OF CARS IN HOUSEHOLD _____ NO. OF YRS A WESTPORT RESIDENT _____ TOTAL NO. OF PEOPLE IN HOUSEHOLD _____

Just in time to beat the high cost of driving, the agony of parking and the headaches of traffic!

Meet the Minny.

A bright red, 16-passenger mini-bus with deluxe interiors and picture windows — you'll find it quite different from the ordinary car or bus. To be precise, there will be eight bright red 16-passenger mini-buses serving seven regular routes to and from town every half hour daily from 8:30 to 5. Later on this year, the Minny also will have a big brother, Maxy, scheduled to ride the school and beach routes, depending on the season . . . regular early morning and evening commuter runs as well as future extended service for the elderly and handicapped. This complete service is operated and directed by The Westport Transit District.

The Minny saves your temper.

You won't have to drive around the block several times to find parking space . . . or chauffeur the family all around town . . . or wait until someone brings home the car. A short walk to your neighborhood Minny route and we'll be along to pick you up in style — comfortable coach seats have vista views.

The Minny saves your budget.

The astronomic cost of gas and car maintenance makes it a timely, money-saving idea to leave your car at home and catch The Minny — to town, to the beach, to meetings, to classes, to medical appointments, to recreation activities, to the train — almost everywhere! Look at these low rates and remember that an annual pass gives you *unlimited rides for an entire year!*

***Annual Minny Pass fares**

Husband and wife	$25
and each additional child grades 1-12	7
Single adults	20
Single child grades 1-12 (without parents)	15
Senior citizens 62 and over	15

*Annual pass will make possible discounts for special services like dial-a-ride or subscription service to be initiated soon.

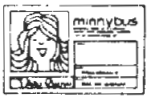
Single ride (incl. transfer) 50¢ exact change

The Minny saves your health.

Instead of steering your way through bumper-to-bumper traffic (and that's what it's become lately) you'll sit back and relax in The Minny.
Enjoy the view. Read. Meditate.

And help prevent pollution at the same time. Our Minny fleet is equipped with 95 h.p. diesel engines which get 15 miles per gallon — assuring far less pollution than the average car. What's more, the short walk you take to and from bus stops will be good exercise you and your family might not get otherwise.

Here's how to get The Minny Pass.

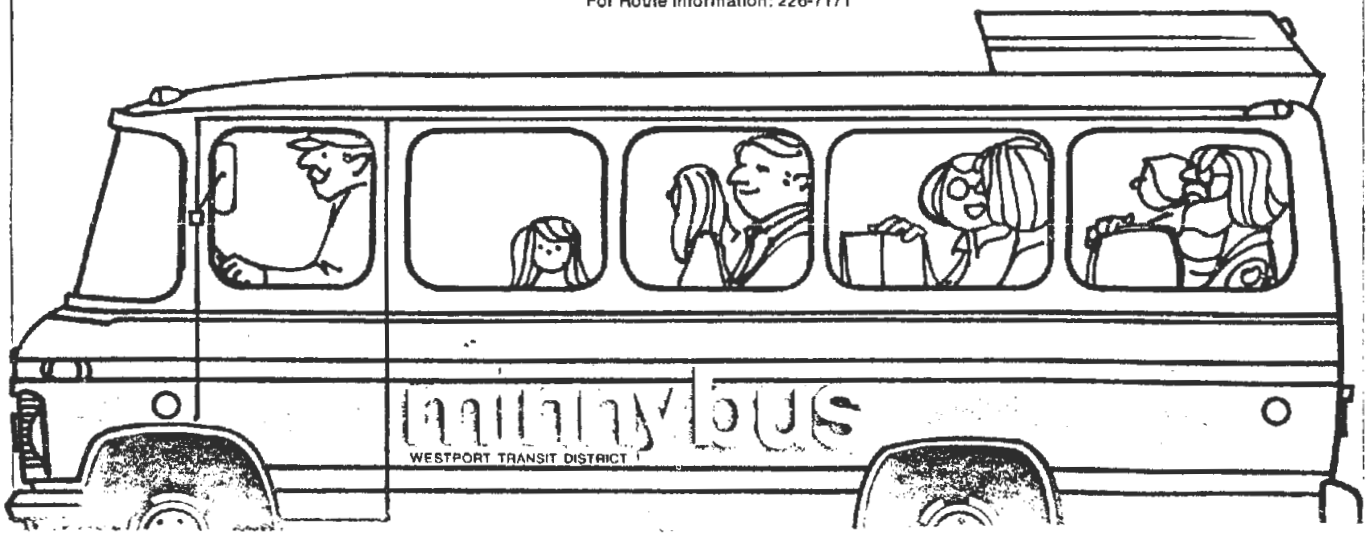


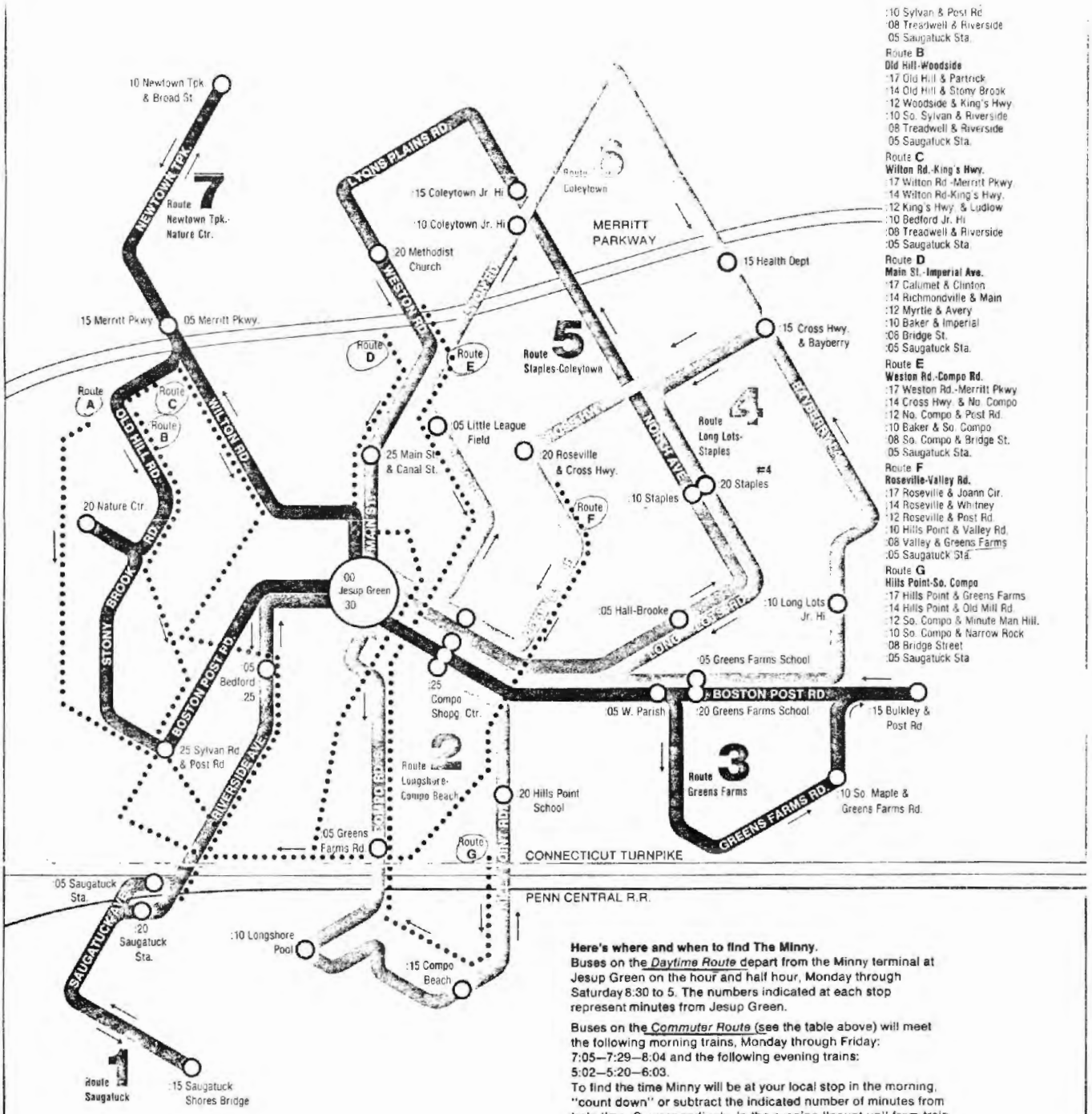
Stop in at the "Y" Monday thru Friday from 9 to 5 or Saturday 9-1. (At a future date we plan to sell passes at Westport Bank and Trust Company & The Minny office.) It takes only two minutes per person to snap your picture and produce your personal i.d. Minny Pass card — even less time if you mail us your check and the coupon below before you come in. Either way, be sure everyone in your family comes to the "Y" in person so each rider can get his or her own photo pass. The fee for annual passes may be paid for by check, Master Charge, or even cash!

Climb aboard!

Mail your coupon and check now . . . in a few days, come in and have your pass issued.

minnybus
WESTPORT TRANSIT DISTRICT
311 East State Street
Westport, Conn. 06880
For Route information: 226-7171





Sunny Sunday Beach Service between 10 & 5, thru Labor Day.
Rtes. 1–2–3–4 on the hour. Rtes. 2–5–6–7 on the half hour.

Here's where and when to find The Minny.
Buses on the *Daytime Route* depart from the Minny terminal at Jesup Green on the hour and half hour, Monday through Saturday 8:30 to 5. The numbers indicated at each stop represent minutes from Jesup Green.

Buses on the *Commuter Route* (see the table above) will meet the following morning trains, Monday through Friday:
7:05—7:29—8:04 and the following evening trains:
5:02—5:20—6:03.
To find the time Minny will be at your local stop in the morning, "count down" or subtract the indicated number of minutes from train time. Correspondingly, in the evening "count up" from train time for arrival time at your home sto,..
Please note: The buses will stop anywhere along your local route. Wave us down!

Here comes the Minny

WESTPORT TRANSIT DISTRICT
Westport, Ct. 06880

APPENDIX C.

REPORT OF INVENTIONS

The work performed under this contract, while not leading to any new inventions, has employed state-of-the-art methodologies in the analysis and evaluation of demonstration implementation, operations, and impacts. The results of this work will be useful to other communities throughout the United States in the planning, implementation and operation of integrated transit services.

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