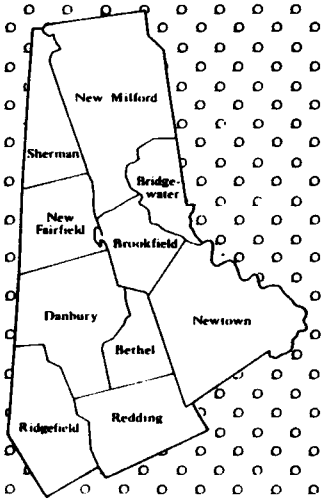
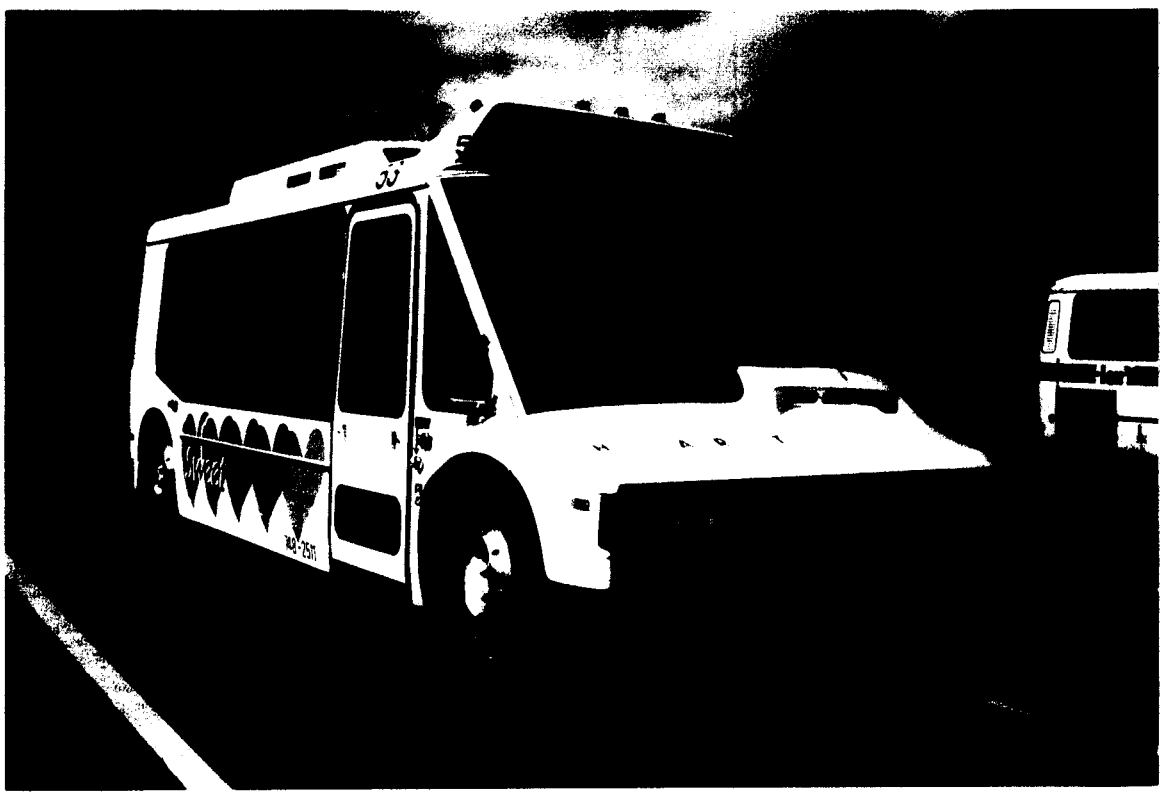


REGIONAL PLANNING BULLETIN

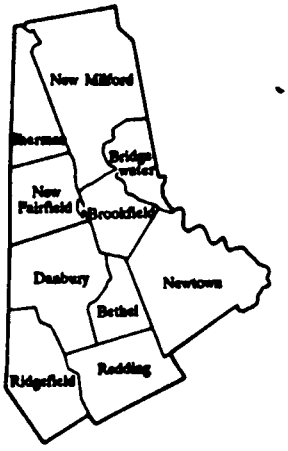
Bulletin No.79 HOUSATONIC VALLEY COUNCIL OF ELECTED OFFICIALS 10/1994

SWEETHART OPERATIONAL ANALYSIS

Final Report



Prepared for HVCEO by: HarT



HOUSATONIC VALLEY
COUNCIL OF ELECTED OFFICIALS

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SWEETHART OPERATIONAL ANALYSIS

October, 1994

Prepared for the HVCEO by the staff of the
Housatonic Area Regional Transit District,
Thomas Williams, Executive Director and
Lewis May, Director of Service Development
Richard Schreiner, ECO Manager

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1.0 INTRODUCTION

1.1 Study Purpose

Paratransit service, known as SweetHART, has grown steadily in the Housatonic Valley Region since it was regionalized and expanded under public auspices in 1978. Eight municipalities receive SweetHART service as provided by the Housatonic Area Regional Transit District (HART).

The user base for paratransit service continues to grow within the Region. Persons with disabilities are becoming increasingly more self sufficient and participating more fully in society. Mobility through accessible transportation such as SweetHART is vitally important for this group to maintain a reasonable standard of living. Many municipalities in the Region have experienced steadily increasing numbers of persons age 60 or older who are eligible to use SweetHART. As they grow older, many senior citizens depend on SweetHART service for mobility.

The advent of the Americans with Disabilities Act of 1990 (ADA) has brought new challenges in the delivery of complementary paratransit service. The ADA mandates many paratransit service criteria aimed at ending discrimination against persons with disabilities. Paratransit systems such as SweetHART must make significant strides toward full compliance with the ADA in coming years.

Usage of paratransit service in this Region has more than doubled in the seventeen (17) years of SweetHART existence. The efficient provision of SweetHART service is complex given the large numbers of vastly different origins and destinations which vary from day to day and hour to hour. To ensure service efficiency, this study examines the intricacies and complexities of the present SweetHART operation.

A wide range of issues are examined within this study including a general overview of SweetHART service, service and usage history, policies and procedures, service performance indicators, and problem identification. As a result of the study findings, recommended actions are suggested in a number of areas toward improved SweetHART performance and efficiency.

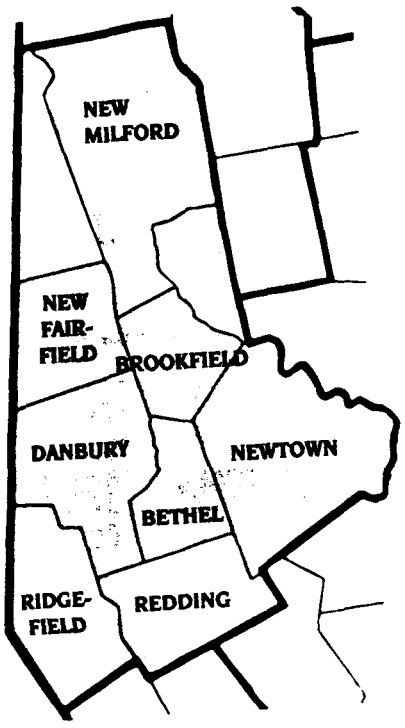
2.0 EXISTING CONDITIONS

2.1 Service Area

SweetHART provides door-to-door paratransit service on a reservation basis to two groups of persons including senior citizens age 60 and older and persons with physical or mental disabilities regardless of age.

Eight municipalities in the Housatonic Valley Region receive SweetHART service (as shown on the map below) including Danbury, Bethel, Brookfield, Newtown, New Fairfield, New Milford, Redding and Ridgefield.

In the Town of Redding, because of the rural nature of the Town and the lack of fixed route transit service, SweetHART service is available to the general public with no distinction made according to age or disability.



2.2 Span of Service

Days and hours that SweetHART service is available vary significantly by municipality as shown below in Table 2.1.

Table 2.1 SweetHART Span of Service

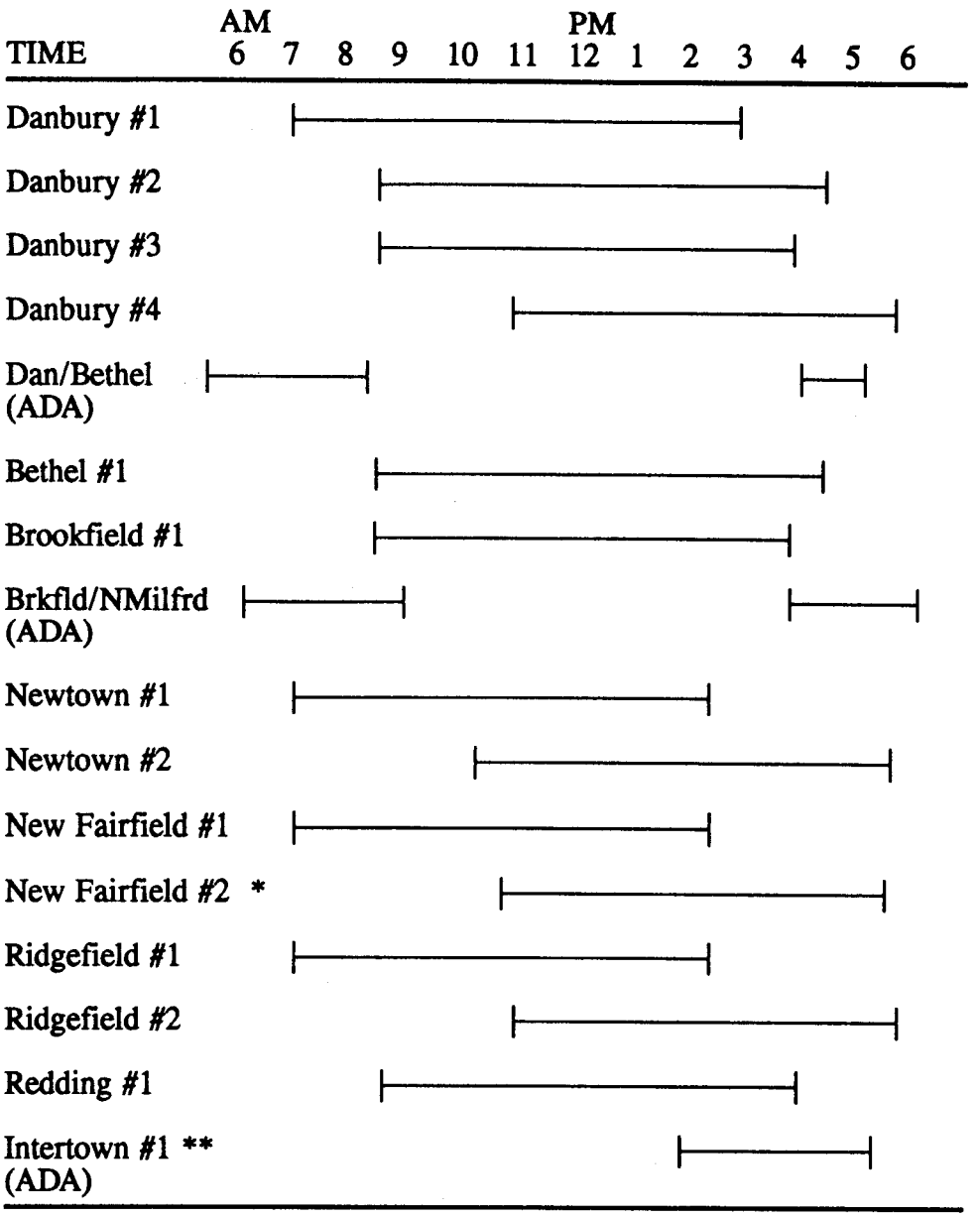
Municipality	Hours of Operation Monday - Friday	Saturday
Danbury	6:00 a.m. - 6:00 p.m.	8:00 a.m. - 5:00 p.m.
Bethel	6:00 a.m. - 6:00 p.m.	8:00 a.m. - 5:00 p.m.
Brookfield	6:00 a.m. - 6:00 p.m.	8:00 a.m. - 5:00 p.m.
Newtown	7:00 a.m. - 6:00 p.m.	Not Available
New Fairfield	7:00 a.m. - 6:00 p.m.	Not Available
New Milford	6:00 a.m. - 6:00 p.m.	8:00 a.m. - 5:00 p.m.
Redding	8:30 a.m. - 4:30 p.m.*	Not Available
Ridgefield	7:00 a.m. - 6:00 p.m.	Not Available

* Service until 6:00 p.m. is available upon request on Friday in Redding
No Monday service in Redding.

No Sunday or late evening service after 6:00 p.m. is provided in any of the municipalities. In previous years, the Town of Redding was provided five days of service per week including Mondays. Due to the Connecticut Department of Transportation's decision to eliminate rural funding, the service is now funded using Federal urban funds and local funds. Service is available only four days per week, Tuesday through Friday.

A function related to span of service is the number of vehicles available in any one municipality during a given part of each day. Because demand is higher in some municipalities, the respective local governments have decided to fund more than one vehicle in that town or city. In the cases of municipalities that have more than one vehicle, the starting times of each vehicle are staggered to extend the span of service throughout the day. Vehicle starting and ending times are shown for each municipality in Figure 2.1.

Figure 2.1 Vehicle Allocation By Municipality



* New Fairfield #2 operates 10:45 a.m. to 6:00 p.m. Tuesday & Friday
** Intertown #1 is used in Danbury, Bethel, Brookfield and New Milford for intertown trips.

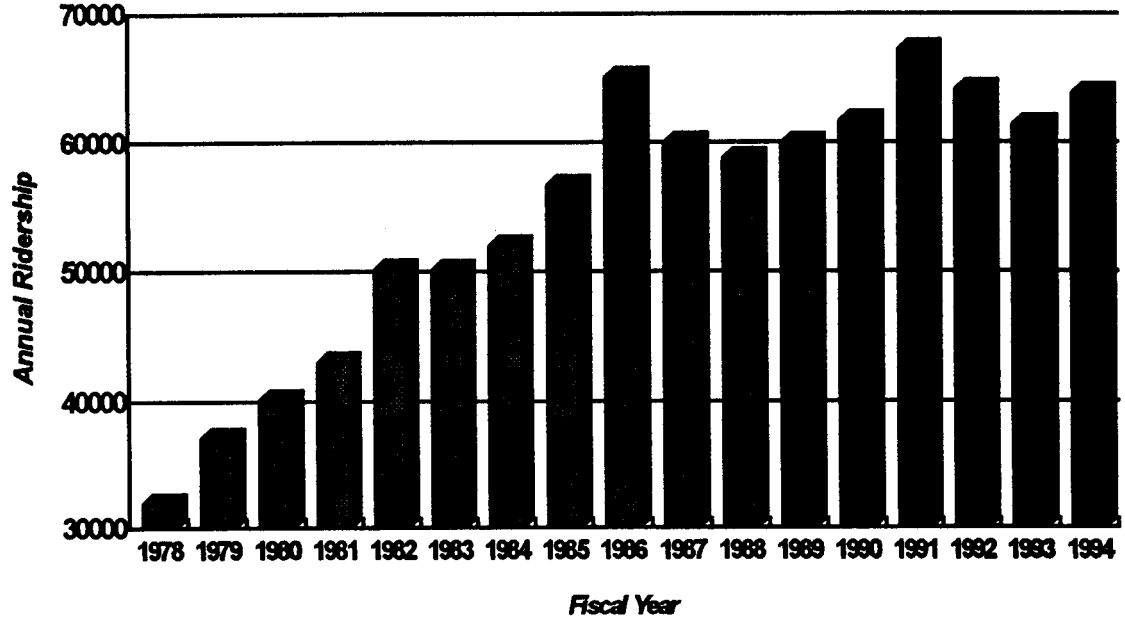
2.3 Ridership History

Ridership on the SweetHART system has grown steadily with ridership almost doubling during the seventeen (17) year period from FY 1978 to FY 1994. Ridership increased from approximately 31,900 in FY 1978 to a projected 63,700 in FY 1994. Table 2.2 and Figure 2.2 illustrate the increasing SweetHART ridership trend.

Table 2.2 Annual SweetHART Ridership

FY 1978	31,893	FY 1984	51,904	FY 1990	61,601
FY 1979	37,105	FY 1985	56,577	FY 1991	67,130
FY 1980	40,065	FY 1986	64,975	FY 1992	64,010
FY 1981	42,975	FY 1987	59,936	FY 1993	61,321
FY 1982	50,056	FY 1988	58,724	FY 1994	63,700
FY 1983	50,018	FY 1989	59,866		

Figure 2.2 SweetHART Ridership History



Ridership increased for most individual municipalities in FY 1994. The exceptions to this are New Fairfield, Ridgefield and Redding which experienced decreases.

As shown in Table 2.3, Danbury ridership has declined about 20 percent from its peak of 33,611 riders in FY 1985 to FY 1994. A primary reason for this decline was the shift of some service hours from more productive times of day (8:30 a.m. to 11:00 a.m. and 3:00 p.m. to 4:30 p.m.) to provide early morning (7:00 a.m. to 8:30 a.m.) and late afternoon (4:30 p.m. to 6:00 p.m.) service for persons with disabilities who rely on SweetHART to get to and from work. This change helps meet requirements of the Americans with Disabilities Act. Ridership in Danbury was on the rise in FY 1994 reaching 26,809 trips for an increase of almost 9 percent over FY 1993.

Ridership changes have varied widely in other municipalities. Bethel, Brookfield, Newtown and New Milford have experienced gains in recent years while New Fairfield, Redding and Ridgefield has experienced declines. New Fairfield declined about 6 percent in FY 1994 from its all time peak in FY 1993. Ridgefield declined about 3 percent in FY 1994. Redding declined about 17 percent in FY 1994 primarily due to a service reduction from five days per week to four days per week as a result of the loss of Section 18 rural transit operating assistance.

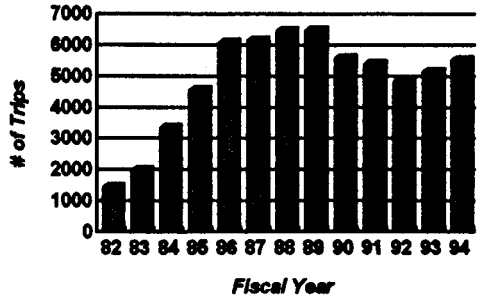
Table 2.3 numerically illustrates SweetHART ridership by municipality for the period FY 1982 through FY 1994. Figure 2.3 graphically illustrates ridership for each municipality.

Table 2.3 Ridership By Municipality, FY 1982-94

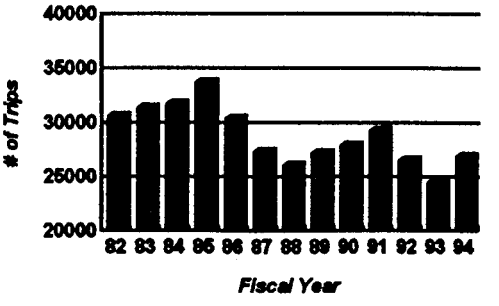
Year	Danbury	Bethel	Brookfield	New Fairfield	New Milford	Newtown	Redding	Ridgefield	Inter-town	Bridge-water	Total
1982	30,502	1,418	--	2,878	--	7,841	2,777	4,640	--	--	50,056
1983	31,268	1,953	--	3,276	--	5,555	3,385	4,581	--	--	50,018
1984	31,621	3,325	--	3,114	--	5,736	3,163	4,945	--	--	51,904
1985	33,611	4,525	--	3,617	--	6,066	3,608	5,150	--	--	56,577
1986	30,275	6,052	8,957	3,815	--	6,601	4,035	5,240	--	--	64,975
1987	27,243	6,131	7,107	3,782	--	6,892	3,631	5,150	--	--	59,936
1988	25,958	6,446	6,995	3,841	--	6,972	3,050	5,462	--	--	58,724
1989	27,105	6,453	6,507	4,204	--	7,452	2,968	5,177	--	--	59,866
1990	27,827	5,559	5,860	7,126	124	6,565	2,788	5,752	--	--	61,601
1991	29,189	5,366	5,711	7,422	272	7,336	2,610	8,563	661	--	67,130
1992	26,461	4,809	5,885	7,054	457	7,173	2,690	8,738	743	--	63,994
1993	24,437	5,127	6,204	7,546	689	5,740	3,015	8,563	--	--	61,321
1994	26,809	5,502	6,503	7,088	838	6,091	2,508	8,289	--	72	63,700

Figure 2.3 SweetHART Ridership History By Municipality

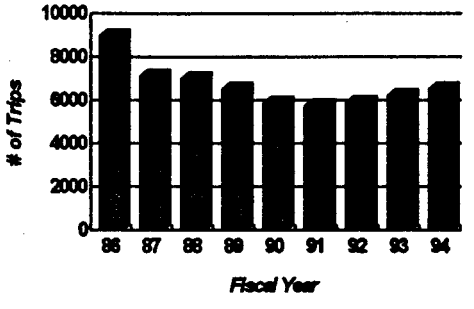
Bethel



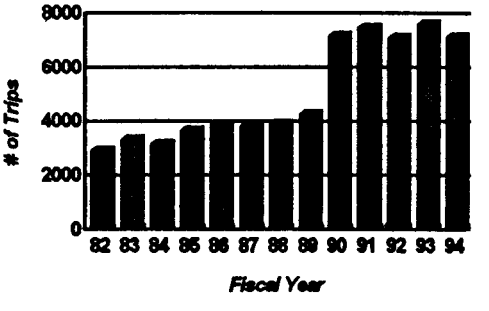
Danbury



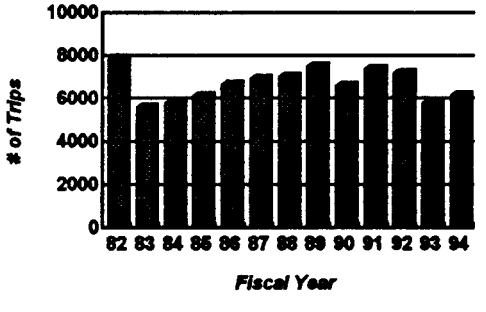
Brookfield



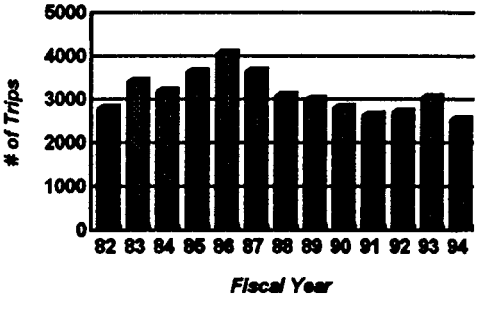
New Fairfield



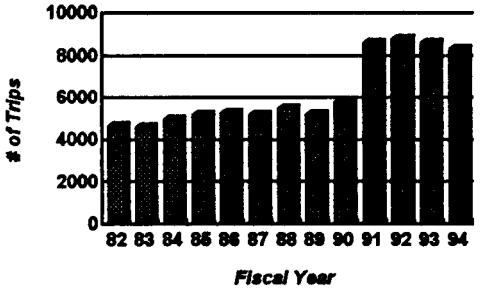
Newtown



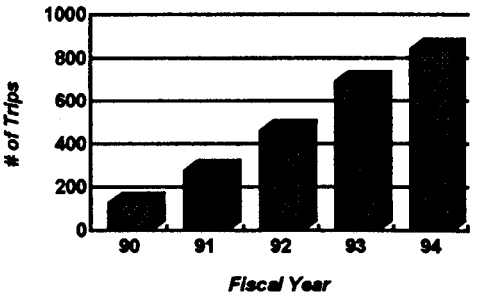
Redding



Ridgefield



New Milford



2.4 SweetHART Vehicle Roster

HART operates a fleet of 31 SweetHART vans and minibuses of various makes and models. Average age of the SweetHART fleet is 4.4 years. A total of 21 of vehicles are equipped with wheelchair lifts or ramps and securement devices. Seating capacities vary between 8 passengers for the smaller vans up to 26 passengers for the largest minibus depending on model and wheelchair capability. Twenty-four (24) of the vehicles are used for regular SweetHART service, one (1) vehicle is leased to the Town of New Milford for use in SweetHART service as operated by the New Milford Senior Center, and six (6) vehicles are used in contracted paratransit service provided to the DATAHR Rehabilitation Institute. Table 2.4 provides additional information concerning the SweetHART vehicle roster.

Three (3) new SweetHART vehicles were recently received in July, 1994. The new vehicles feature a low floor design which uses a low angle ramp instead of a wheelchair lift. The vehicles can be used both in SweetHART and fixed route service.

Table 2.4 SweetHART Vehicle Roster

Total	Year	Make	Model	Capacity	Features
2	1986	Wayne	Busette	10/1 WC	A/C, Radio, WC Lift
1	1986	Wayne	Busette	16	A/C, Radio
5	1988	Thomas	Mightymite	16/2 WC	A/C, Radio, WC Lift
4	1988	Thomas	Mightymite	26	A/C, Radio
7	1991	Collins	Diplomat	14/2 WC	A/C, Radio, WC Lift
1	1992	Collins	Diplomat	14/2 WC	A/C, Radio, WC Lift
3	1994	BIA	Orion II	16/2 WC	A/C, Radio, Low Floor, WC Ramp
1	1987	Ford	Clubvan-XL	15	A/C, Radio
1	1988	Ford	Clubvan-XL	15	A/C, Radio
1	1988	Ford	Clubvan-XL	8/1 WC	A/C, Radio, WC Lift
2	1990	Ford	E-350 Van	8/2 WC	A/C, Radio, WC Lift
1	1991	Ford	E-350 Van	8/2 WC	A/C, Radio, WC Lift
2	1991	Ford	E-350 Van	15	A/C, Radio
31	Total				

2.5 Fare Structure

Presently, SweetHART fares are 60 cents for local trips within a single municipality and 75 cents for trips that cross a municipal boundary. Effective September 6, 1994, ADA eligible trips on SweetHART are charged a fare of $1.00. In the Town of Redding, SweetHART service is available to the general public. Non-disabled and non-elderly persons pay higher fares for SweetHART in Redding as shown in Table 2.5.

Discounted ten ride passes can be purchased by SweetHART users. The ten ride pass offers a convenience factor while at the same time offering a small discount. Pass prices are shown in Table 2.6.

Table 2.5 SweetHART Fare Structure

	Local Fare	Intertown Fare
Senior Citizen	.60	.75
Disabled	.60	.75
Student (Redding Only)	.75	.90
General Public Adult (Redding Only)	$1.00	$1.15
ADA Eligible Trips	$1.00	$1.00

Table 2.6 SweetHART Pass Prices

	Local Pass	Intertown Pass
Senior Citizen	$5.50	$7.00
Disabled	$5.50	$7.00
Student (Redding Only)	$7.00	$7.75
General Public Adult (Redding Only)	$9.50	$10.00
ADA Eligible Trips	$9.50	$9.50

3.0 SWEETHART POLICIES

3.1 Eligibility Criteria

Two distinct classes of persons are eligible to use SweetHART service. Senior citizens age 60 or older and any person with a disability regardless of age. In the Town of Redding only, the service is open to the general public due to the rural nature of the Town and the lack of fixed route service transit service.

Many persons who use SweetHART cannot use regular fixed route bus service due to the nature of their disability or because fixed route service does not serve their trip origin and/or their destination.

The Americans with Disabilities Act of 1990 (ADA) recognizes a new class of paratransit eligibility known as "ADA eligibility." Such eligibility is attained due to any one of the following factors:

- Any person with a disability who is unable, as a result of physical or mental impairment to ride or disembark from an accessible public bus without the assistance of another person (except the operator of wheelchair lift).

- Any individual with a disability who uses a wheelchair and wishes to travel on an accessible fixed route bus on which the wheelchair lift cannot be used safely at the desired bus stop; or if temporary conditions at the bus stop beyond HART's control prevent the safe use of the bus stop by all passengers.

- Any person with a disability using a common wheelchair and whose wheelchair cannot be accommodated on a regular fixed route bus because the vehicle's wheelchair lift does not meet ADA standards.

- Any person with a disability who has specific impairment related condition which prevents him or her from traveling to or from a bus stop. Architectural and environmental barriers such as distance, terrain, or weather alone do not form a basis for

eligibility. However, a person may be eligible if the interaction of the disability and barriers prevent him or her from traveling to or from a bus stop.

ADA eligibility is determined on a trip by trip basis. Some trips may be eligible while others are not. In addition to the person's eligibility, their trip origin and destination must be within .75 mile of an existing fixed route bus route for the trip to be considered ADA eligible. The requirement that trip origin and destination be within .75 mile of an existing fixed route bus route is a minimum requirement under ADA.

Persons whose trips are considered ADA eligible have a civil right to paratransit service. Because SweetHART is a service available to persons with disabilities and non-disabled senior citizens, priority must be given to those whose trips are ADA eligible.

Individual paratransit eligibility is determined using a certification application completed by each potential rider. From this application, HART determines whether or not an individual is ADA eligible. Once an individual is certified as eligible to use SweetHART, they must make reservations to use the service. It is during the reservation call intake process that final ADA trip eligibility is determined.

Persons who are denied ADA eligibility can obtain a review of the denial. HART has established an appeals policy to allow the affected individual to be heard and present arguments in their own defense. Such individuals may further appeal to the Connecticut Department of Transportation (CT DOT). CT DOT's decision is considered as final.

3.2 Trip Reservation Process

SweetHART is a demand response service or a "dial-a-ride" type service. Eligible passengers must call ahead of their planned travel to make a trip reservation. Passengers can call ahead as early as 2 weeks and as late as 24 hours in advance of their trip(s). Booking a trip as early as possible is strongly recommended to have the best chance of securing a trip.

Trip reservations are accepted Monday through Friday, from 7:00 a.m. to 1:00 p.m. for non-ADA eligible trips and 7:00 a.m. to 5:00 p.m. for ADA eligible trips.

SweetHART does not accommodate new standing orders for reoccurring same day, same time trips beyond two weeks. Persons can schedule trips for an entire week with one phone call.

Trips are reserved on a first come, first serve basis with the exception of ADA eligible trips which receive top priority. On rare occasions, an ADA eligible trip may bump a non-ADA eligible trip as required by the ADA. Schedules fill up fast in many municipalities given the large demand for service and the limited amount of service available. No priority is given based on trip purpose.

Often, many SweetHART passengers may not know the time of their return trip if, for example, they are using SweetHART for a medical appointment. Such persons may call when ready to be picked up. SweetHART will then pick up the person with the next available bus.

3.3 Trip Cancellations and Missed Trips

Passengers are required to call in any trip cancellations at least 12 hours in advance. Cancellations are accepted around the clock using voice mail during evening hours and on weekends. Passengers who establish a pattern of excessive trip cancellations can have their riding privileges suspended. Cancellations called in with less than 12 hours notice are considered missed trips.

Passengers who miss five or more scheduled trips within a 60 day period are subject to having their riding privileges suspended. The sanction for missing the first series of five or more scheduled trips in a 60 day period is a 30 day riding privilege suspension. Longer suspensions of riding privileges can result from missing an additional series of five or more trips in another 60 day period. Passengers have the right to appeal missed trip sanctions to HART and CT DOT if necessary.

3.4 Companions, Attendants and Mobility Devices

SweetHART does accommodate personal care attendants traveling with an eligible passenger. No fare is charged for personal care attendants. Companions such as friends or family members may accompany SweetHART passengers on a space available basis assuming they have the same origin and destination as the passenger they are accompanying.

Friends and family members are required to pay the regular SweetHART fare.

SweetHART vehicles can accommodate common wheelchairs not more than 30 inches wide and 48 inches deep, and not weighing more than 600 pounds when occupied. Other mobility devices such as crutches, canes, walkers, and three-wheeled chairs can usually be accommodated. Guide dogs and service animals are welcome to travel with eligible passengers. Persons can travel with respirators, portable oxygen, and other life support equipment.

Persons who cannot enter a vehicle using the stairs but who do not use a wheelchair are allowed to enter the vehicle using the wheelchair lift assuming their trip is ADA eligible.

3.5 ADA Policy Compliance

The Americans with Disabilities Act of 1990 (the ADA) established a comprehensive framework and approach for ending discrimination against persons with disabilities. This includes discrimination in employment, services and programs provided by public entities such as transportation, accommodations and services provided by private entities and telecommunications services.

HART has made excellent progress since 1992 toward full compliance with all aspects of the Americans With Disabilities Act (ADA). The ADA regulations mandate that all public transportation providers make their fixed route services accessible to persons with disabilities. In addition, they must provide complementary paratransit service that is comparable to that provided on the fixed route system to persons who cannot use fixed route because of the nature of their disability.

Comparable paratransit service must meet the following service criteria:

- Operate in the same ***service area*** as the fixed route system.
- Have a ***response time*** that is comparable.
- Have comparable ***fares***.
- Have comparable ***days and hours of service***.

- Meet requests for any ***trip purpose***.
- Not limit service availability due to ***capacity constraints***.

HART has developed annual plans and plan updates for providing complementary paratransit service in cooperation with its ADA Advisory Committee. As of June, 1994, only a few milestones remain to be achieved toward full ADA compliance which must be achieved no later than January 26, 1997.

Milestones which remain to be accomplished include the implementation of Sunday and holiday reservation hours and the implementation of fixed route and paratransit driver sensitivity training. Both milestones are scheduled for compliance in calendar year 1994.

The most costly and difficult aspect of the ADA requirements is the provision of comparable days and hours of service. HART has struggled to provide such comparable service given its high costs.

Compliance with the capacity constraints and response time requirement is presently accomplished through the "bumping" of non-ADA eligible trips on relatively short notice. "Bumping" means canceling the trip of a previously scheduled non-ADA eligible trip. Presently, "bumping" occurs only an occasional basis.

4.0 OPERATING PROCEDURES

4.1 Eligibility Review

Eligibility review is completed by HART upon receipt of applications. Persons with a disability regardless of age and senior citizens age 60 or older are granted SweetHART eligibility status. HART further reviews the application to determine if the person is able to use fixed route service based on the responses to application questions. If the responses demonstrate that the person's disability fits the ADA prescribed eligibility categories and prevents them from using fixed route service, ADA eligibility status is granted. ADA eligibility status gives a person first priority in the use of SweetHART.

In cases where additional information may be needed to make an eligibility determination, HART requests the applicant have a physician or health care professional complete a verification form which provides more in-depth information regarding the person's disability.

A letter notifying the applicant of the eligibility determination and the reasons for denial (if necessary) is sent upon completion of review. The letter indicates eligibility status granted (either ADA eligible or non-ADA eligible). An eligibility card is included that indicates eligibility status granted (see Figure 4.1). Persons denied ADA eligibility can appeal the denial to HART within 60 days of the date of the denial. The appeals process includes an opportunity for the person to present information and arguments. Final appeals can be made to CT DOT.

Figure 4.1 ADA Eligibility Card

Certificate of Eligibility

ADA sweetHart Service

ID # _____

Name _____

Signature _____

Date Issued _____ Expires _____

Eligibility Conditions: _____

_____

Travel with personal care attendant? Yes No

4.2 Trip Reservation Process

Eligible persons call their trip reservation into the HART dispatchers who develop the daily vehicle schedules. Reservations are booked on a space available basis with the exception of ADA eligible trips which are given priority over all other trips.

Reservations are manually logged and assigned to vehicles and later input into a computer system which prints daily passenger manifests for each vehicle. Danbury passenger manifests are handwritten given the higher number of vehicles in Danbury and the limitations of the computer system. Usually there are two dispatchers on duty to receive reservation calls. A single in-town and out-of-town log book are used to record all reservations. The reservation call intake process is laborious given the fact that only one dispatcher at a time can use each log book and that each entry is handwritten.

Monday mornings beginning at 7:00 a.m. are a popular time for Danbury riders to call and make reservations two weeks ahead of time for an entire week. Because demand is so high in Danbury, riders must call two weeks in advance to have the best chance of getting their reservations for the days and times desired. Trips in other towns outside of Danbury are less difficult to obtain.

Because of the volume of calls received on Monday mornings, callers requesting trips in Danbury generally have to hold an average of 3-4 minutes on the phone to reach a dispatcher during the peak calling period of 7:00 to 9:00 a.m.

Reservation log books contain handwritten trip entry sheets with a predetermined number of trip slots for each half hour period. The number of trip slots available is determined by the number of vehicles available for a given town during that specific time period. Generally, a maximum of three trip slots are available on the Danbury schedule. Usually no more than three trips are scheduled for a half hour time slot unless the pickup points are in very close geographic proximity.

Dispatchers will check the schedule log books to determine if the requested trip time is available. In some cases, it may be necessary to "negotiate" pickup times with the passenger if their exact request cannot be honored. ADA allows pickups to be negotiated up to an hour before or after a specific trip request. If trip requests are available, the trip is confirmed by the dispatcher. Passengers outside of Danbury are given a one hour time window in which to be prepared for their pickup. These

windows are given because final schedules are not produced until the day before each trip. A passenger can call the day of the trip to get a more precise pickup time. Any trip request which cannot be honored within an hour before or after is logged as a trip denial on a separate entry form.

Some persons will schedule return trip pickups when they know their return time. Many persons do not know what time they will be ready for return trip pickups. Therefore, they call for a pickup when ready. These "real time" return trip pickups generally occur in the afternoon. As requests are called in, the dispatcher will announce the person's name and location over the radio seeking a driver to volunteer to make the pickup. Because of the high volume of return trip requests during certain periods, the pickups are logged on a list in the order received. The pickup list can get as long as 8-10 riders on a busy day. The average waiting time for a "real time" pickup is about 20-30 minutes. Occassionally, such passengers can wait as long as 2 hours for a pickup if volume is particularly heavy at that time. Waiting time is a direct function of call volume and the number of vehicles available.

Danbury schedules are developed and passenger manifests are printed 2 days in advance while other towns are printed 1 day in advance. Manifests show the date, vehicle number, a listing of scheduled passenger pickups in time order, passenger name and addresses, and return trip pickup point and time. Drivers record actual pickup and dropoff times and any no show appointments.

Manifests are returned at the end of each day to the dispatchers who use them to input ridership data into the computer system for reporting purposes. Data inputs include passenger name, number of trips, no shows and cancellations. Reports are generated by the computer system at the end of each month showing data totals for each town.

As mentioned previously, assignment of passengers to vehicles is manually determined by the dispatcher. The primary function of the computer system is to maintain the SweetHART client data base, print vehicle manifests, tabulate ridership total by town, tabulate no shows and cancellations by town, and to report monthly totals for each data item by town and by client.

Current paratransit software in use by HART is PtMS developed by Automated Business Solutions of Media, PA.

4.3 Intertown Trips

The predominant trip type on SweetHART is the local in-town trip. About 74 percent of all trips made on SweetHART are within a single town. A three day sample of all trips in May, 1994, showed that 188 out of 725 trips were intertown trips.

Intertown trips are the most difficult type of trip to provide given the longer distances and the impact they have on service efficiency. In some municipalities, only one vehicle is available for trips both within the town and outside the town. Because of the need to manage demand and service efficiency, certain boundaries and limitations have to be set regarding the availability of intertown service in each municipality.

In Danbury, service from Danbury to other towns is limited to ADA eligible trips only. As the largest municipality in terms of population, the four SweetHART vehicles exclusively assigned to Danbury spend most of their time providing local trips.

In Bethel, intertown service is available to ADA eligible trips and for non-ADA medical trips going to Danbury or Newtown only, Monday through Friday. Even with such limitations, intertown trips in Bethel comprise more than half (54.7 percent) of all trips taken. The large majority of intertown trips go from Bethel to Danbury.

Intertown service in Brookfield is difficult given there is only one vehicle available during the midday. Intertown service is available to ADA eligible trips and for non-ADA medical trips going to Danbury or Newtown only, Monday through Friday. Only 14 percent of all trips made by the Brookfield vehicle are intertown trips.

In Newtown, intertown service is available to any eligible rider desiring to go to Brookfield, Bethel or Danbury regardless of trip purpose. This is possible given the lower demand and the availability of two vehicles. Almost all of Newtown lies outside of the .75 mile ADA corridor that parallels fixed route locations, thus very few ADA trips if any are provided to Newtown residents.

In New Fairfield, no ADA service is provided given that all of the town lies outside the .75 mile ADA corridor. With two vehicles available in New Fairfield, intertown service is more readily available. New Fairfield riders can travel to Danbury Monday through Friday for medical trips only. Service to Danbury Fair Mall is available on Monday and Tuesday. Service to Brookfield is available on Wednesday.

Service to Berkshire Shopping Center is available on Friday morning.

In Redding, intertown trips to Danbury, Bethel or Ridgefield are available to all persons regardless of trip purpose or day of the week given that demand for the service is low.

In Ridgefield, intertown service is available for ADA eligible trips during between the hours of 7:00 to 8:00 a.m. and 4:00 to 5:00 p.m. Non-ADA medical trips to Danbury are available on Monday and Friday. Service to Brookfield is available on Monday. Service to the Danbury Fair Mall is available on Wednesday. Service to Berkshire Shopping Center is available on Friday morning.

The municipality with the highest ratio of intertown trips is Bethel at 54.7 percent. Ridgefield was lowest at 13.1 percent while Danbury also ranked low at 16.1 percent.

In Bethel, New Fairfield and Redding, there is a greater need for intertown service to get riders into Danbury for medical and shopping trips. Consequently, these towns experience a greater percentage of intertown trips. Table 4.1 illustrates the percent of intertown trips made by each vehicle during the three day sample. Combined totals for all municipalities are shown below in Table 4.2

Table 4.1 Intertown Trips By Vehicle/Municipality

Municipality/Vehicle	Percent Intertown Trips
New Fairfield #1	93.8
Danbury/Bethel ADA	58.8
Bethel	54.7
Redding	45.7
Newtown #1	31.1
Ridgefield #1	23.1
New Fairfield #2	22.4
Intertown #1 *	20.0
N.Milford/Brkfld ADA	18.8
Danbury #3	18.8
Danbury #2	18.5
Brookfield	14.0
Danbury #4	13.5
Danbury #1	12.7
Newtown #2	10.5
Ridgefield #2	1.8

* Intertown #1 serves Danbury, Bethel, Brookfield and New Milford.

Table 4.2 Combined Intertown Trips By Town

Municipality	Total Trips	Intertown Trips	Percent
Bethel	64	35	54.7
New Fairfield	81	41	50.6
Redding	35	16	45.7
Newtown	83	18	21.7
Danbury	230	37	16.1
Brookfield	57	8	14.0
Ridgefield	122	16	13.1

4.4 Vehicle Assignment

The SweetHART fleet consists of 28 vehicles of varying makes and models. Vehicles are assigned to each municipality based on previous experience with load factors and wheelchair demand. Occassionally it may be necessary to adjust the vehicle assignment to meet changing needs. Presently, at least one lift equipped vehicle is assigned to each municipality. Table 4.3 shows vehicle assignment by municipality.

Table 4.3 SweetHART Vehicle Assignment

Municipality	Hours	Make/Model	Capacity	WC Lift
Danbury	7:00 am-3:00 pm	1994 Orion II	16/2 WC	Ramp
Danbury	8:30 am-4:30 pm	1991 Collins	14/2 WC	Yes
Danbury	8:30 am-3:45 pm	1991 Collins	14/2 WC	Yes
Danbury	10:45 am-6:00 pm	1991 Collins	14/2 WC	Yes
Dnbry/Bthl	6-9am/4:30-6:25pm	1990 Ford Van	8/2 WC	Yes
Bethel	8:30 am-4:30 pm	1994 Orion II	16/2 WC	Ramp
Brookfield	8:30 am-4:30 pm	1991 Collins	14/2 WC	Yes
Newtown	7:00 am-2:15 pm	1988 Thomas	26	No
Newtown	10:00 am-6:00 pm	1991 Collins	14/2 WC	Yes
New Fairfield	7:00 am-2:15 pm	1986 Wayne	10/1 WC	Yes
New Fairfield	10:15 am-6:00 pm	1991 Ford Van	8/2 WC	Yes
Ridgefield	7:00 am-2:15 pm	1988 Thomas	26	No
Ridgefield	10:45 am-6:00 pm	1988 Thomas	16/2 WC	Yes
Redding	8:30 am-4:30 pm	1992 Collins	16/2 WC	Yes
Brkfd/NMlfrd	6-9am/3:45-6:30pm	1988 Thomas	16/2 WC	Yes
ADA Intertwn	1:30 pm-5:30 pm	1990 Ford Van	8/2 WC	Yes

4.5 Driver Assignment

SweetHART drivers select their work assignments by seniority as established by the current labor agreement. SweetHART work assignments, known as runs, are selected at least once annually and sometimes more frequently if runs change significantly.

Most SweetHART runs work five days per week with a few runs that work four days per week with fewer hours. Hours vary per run depending on the number of days worked and the length of work shifts. Most runs work 35-40 hours per week with no scheduled overtime. A few runs work 30-32 hours per week. Spare drivers fill in during vacation, sick days, and unplanned absences.

In most cases, the same driver will drive in the same municipality the same days and the same hours each week. This promotes familiarity with the road and highway network in a particular municipality as well as familiarity with the needs of special passengers. Passengers generally like having a regular driver on a consistent basis. Some drivers have operated SweetHART in the same municipality for many years thus both passenger and driver are very familiar. Table 4.4 illustrates driver runs.

Table 4.4 Summary of Driver Runs

Run/Municipality	Days	Start	End	Daily Hours	Weekly Hours
Bethel	M-Tu-W-F	8:00 am	4:45 pm	8:45	35:00
Brookfield	M-Tu-W-Th-F	8:00 am	4:00 pm	8:00	40:00
Danbury #1	Tu-W-Th-F	6:30 am	3:15 pm	8:45	39:45
Intertown ADA	M	1:00 pm	5:45 pm	4:45	
Danbury #2	M-Tu-W-Th	8:00 am	4:45 pm	8:45	35:00
Danbury #3	M-Tu-W-Th-F	8:00 am	4:00 pm	8:00	40:00
Danbury #4	M-Tu-W-Th-F	10:15 am	6:15 pm	8:00	40:00
New Fairfield #1	M-Tu-W-Th-F	6:30 am	2:30 pm	8:00	40:00

Table 4.4 Summary of Driver Runs (Continued)

Run/Municipality	Days	Start	End	Daily Hours	Weekly Hours
New Fairfield #2	M-W-Th	9:45 am	6:15 pm	8:15	38:15
New Fairfield #2	Tu	10:15 am	6:15 pm	8:00	
Intertown ADA	F	1:00 pm	5:45 pm	4:45	
Newtown #1	M-Tu-W-Th-F	6:30 am	2:30 pm	8:00	40:00
Newtown #2	M-Tu-W-Th-F	9:30 am	5:30 pm	8:00	40:00
(if necessary)	M-Tu-W-Th-F	5:30 pm	6:15 pm	0:45	
Redding	Tu-W-Th-F	8:00 am	4:00 pm	8:00	32:00
(if necessary)	Tu-W-Th	4:00 pm	4:45 pm	0:45	
(if necessary)	F	4:00 pm	6:15 pm	2:15	
Ridgefield #1	M-Tu-W-Th-F	6:30 am	2:30 pm	8:00	40:00
Ridgefield #2	M-Tu-W-Th-F	10:15 am	6:15 pm	8:00	40:00
Danbury #1	M	6:30 am	3:15 pm	8:45	35:30
Bethel	Th	8:00 am	4:45 pm	8:45	
Danbury #2	F	8:00 am	4:45 pm	8:45	
Danbury/Bethel	Sa	7:45 am	5:00 pm	9:15	
Intertown ADA	Tu-W-Th	1:00 pm	5:45 pm	4:45	31:30
New Fairfield #2	F	10:15 am	6:15 pm	8:00	
Brookfield/N.Milford	Sa	7:45 am	5:00 pm	9:15	
Danbury/Bethel ADA	M-Tu-W-Th-F	5:40 am	9:10 am	3:30	30:00
Danbury/Bethel ADA	M-Tu-W-Th-F	4:05 pm	6:35 pm	2:30	
Brkfld/NMilford ADA	M-Tu-W-Th-F	5:35 am	9:20 am	3:45	38:45
Brkfld/NMilford ADA	M-Tu-W-Th-f	3:00 pm	7:00 pm	4:00	

5.0 PERFORMANCE INDICATORS

5.1 Introduction

This chapter examines historical performance by the SweetHART system including a brief examination of service levels, trip length, travel time, growth in volume of wheelchair trips, service efficiency, service costs, passenger revenue, and passenger boardings by time of day in each municipality.

When comparing recent data with past data it is important to understand that the operating environment may have changed substantially from one year to another. Factors such as trip length, trip time, volume of wheelchair riders, service levels, etc. can influence system performance in extraordinary ways in a short period of time. All of these factors have affected SweetHART's performance over the years.

As a result of these factors, some caution must be used in making direct comparisons. For purposes of this study, historical SweetHART performance indicators are shown for the period FY 1989 to FY 1994 and in some instances earlier years. Some effort is made to explain changes in the operating environment which likely have affected performance.

5.2 Service Levels

Although not a direct performance indicator, the trend in service levels and ridership over the past six years provides a context in which the performance indicators can be considered. Service hours have increased 44.0 percent from FY 1989 to FY 1994. Some of the recent increase in service hours can be attributed to the Americans with Disabilities Act which requires that complementary paratransit service be provided during the same days and hours of fixed route service. Given that fixed route service operates from 6:00 a.m. to 6:00 p.m., SweetHART hours have recently been expanded to match fixed route hours. Most of the service expansion has come in the early morning (6:00-8:30 a.m.) and late afternoon (4:30-6:00 p.m.) periods, typically the least productive time of day for paratransit service.

Service hours peaked in FY 1992 due to funding that was available through several State programs including the Elderly and Disabled Transportation Coordination program, the State Section 504 program, and the State Area Agency on Aging Title III program. The Elderly and Disabled Coordination funding program and Section 504 program were eliminated by FY 1993. Scheduled overtime on many SweetHART runs was eliminated thus decreasing service levels on SweetHART beginning in FY 1993.

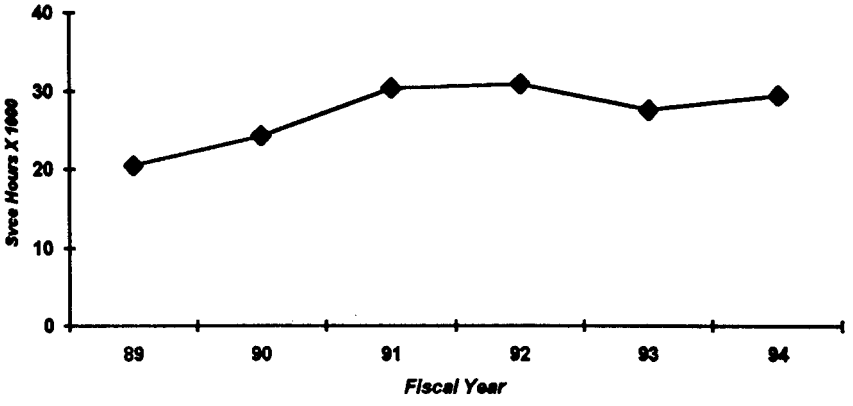
SweetHART system mileage is a variable function dependent upon the distances between trip origins and destinations which can vary widely on a daily basis. Later sections discuss the impact that increasing trip lengths have had on system mileage.

Figure 5.1 illustrates service levels and ridership over the past six years.

Figure 5.1 Service Levels and Ridership, FY 89-94

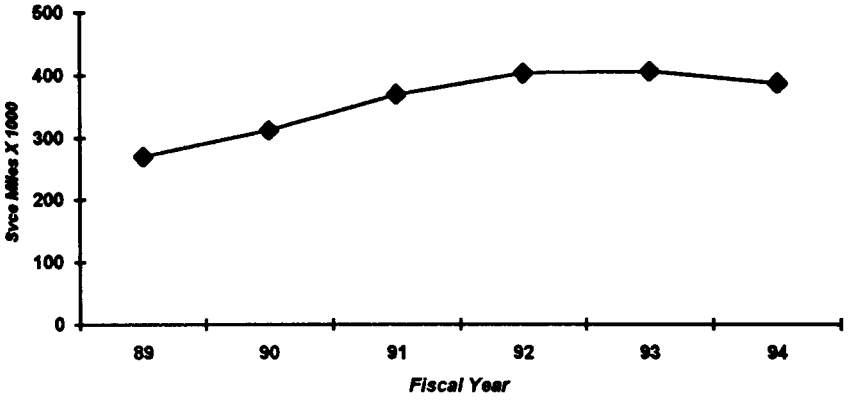
Service Hours

Fiscal Year	Service Hours
1989	20,503
1990	24,283
1991	30,433
1992	30,923
1993	27,648
1994	29,522



Service Miles

Fiscal Year	Service Miles
1989	270,017
1990	312,253
1991	370,038
1992	404,083
1993	407,697
1994	388,907



Ridership

Fiscal Year	Ridership
1989	59,866
1990	61,601
1991	67,130
1992	64,010
1993	61,321
1994	63,700

5.3 Trip Length

Trip length is an indicator of the average distance of each passenger trip and has a direct influence on system performance. As trip lengths grow shorter, the potential for improving service efficiency grows. As trip lengths grow longer, service efficiency is likely to decline.

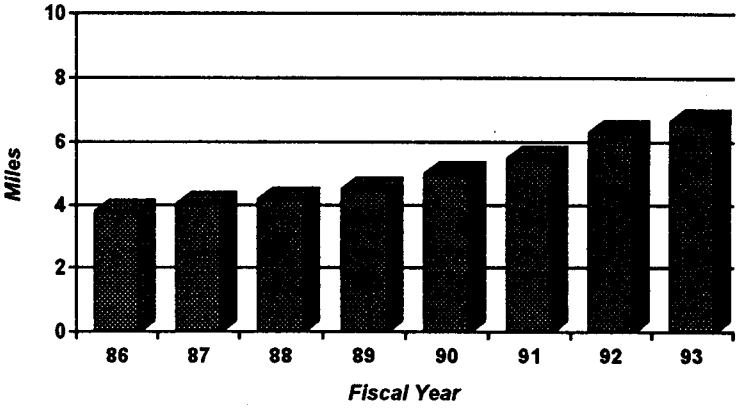
Trip length on the SweetHART system has grown about 75 percent since FY 1986 going from an average distance of 3.79 miles in FY 1986 to 6.65 miles in FY 1993. With each passenger trip consuming a greater number of miles, each vehicle will on the average carry fewer passenger trips. One possible exception to this would be to carry more passengers if trip origins and destinations happen to be similar.

The growth in average trip length has negatively affected average travel time as well as the number of passenger trips carried per service hour and service mile as discussed in later sections.

Figure 5.2 illustrates the growth in average trip length from FY 1986 to FY 1993.

Figure 5.2 Average Trip Length, FY 1986 - 1993

Fiscal Year	Trip Length (Miles)
1986	3.79
1987	4.03
1988	4.18
1989	4.51
1990	5.00
1991	5.49
1992	6.31
1993	6.65

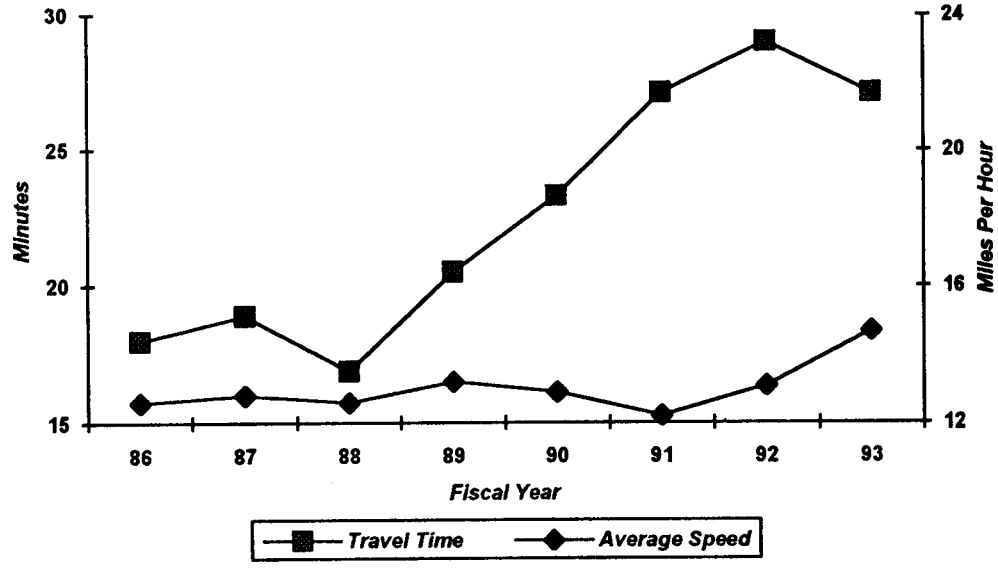


5.4 Travel Time

Travel time is a function of trip length divided by average speed. As trip length increases, travel time will increase unless speed increases proportionately. As mentioned previously, trip length increased 75 percent from FY 1986 to 1993. During the same period, average speed increased at a disproportionate rate of 16.7 percent going from 12.6 miles per hour in 1986 to 14.7 miles per hour in 1993. As a result, travel time increased from an average of 18.0 minutes per trip in FY 1986 to 27.1 minutes in FY 1993, an increase of 51 percent.

The net effect is that passengers ride longer distances thus requiring greater travel time. Figure 5.3 illustrates average travel time on the SweetHART system from FY 1986 to 1993 and average speed for the same period.

Figure 5.3 Travel Time/Average Speed



5.5 Travel Time By Municipality

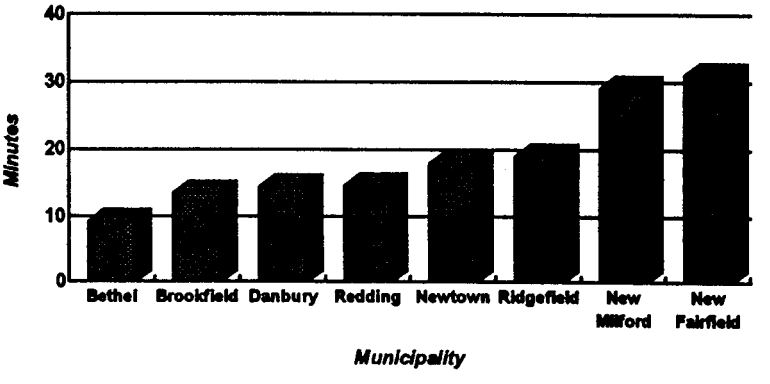
Travel time varies significantly according to municipality. Factors affecting travel time by municipality are geographic size of the municipality, a street and road network that provides direct routing between trip origins and destinations and the average distance between trip origins and destinations.

The number of intertown trips produced by a municipality can have a substantial impact on average travel time. For the purpose of this analysis, intertown and local trips have been factored separately to show travel time characteristics for each municipality. A three day sample during the month of May, 1994 was completed in each municipality to provide the data base for this analysis.

The analysis shows that local trip travel time ranged from a low of 9.2 minutes in Bethel to a high of 31.0 minutes in New Fairfield. Interestingly, Bethel and Brookfield are the smallest towns in terms of total square miles and also have the lowest average local travel time. New Fairfield, the third smallest town in the service area, experiences the highest local travel time. New Milford, the largest in terms of size, has the next highest local travel time at 29.0 minutes. Figure 5.4 illustrates average local trip travel time by municipality.

Figure 5.4 1994 Average Local Trip Travel Time By Municipality

Municipality	Trip Time (Minutes)
Bethel	9.2
Brookfield	13.4
Danbury	14.3
Redding	14.5
Newtown	17.8
Ridgefield	18.9
New Milford	29.0
New Fairfield	31.0

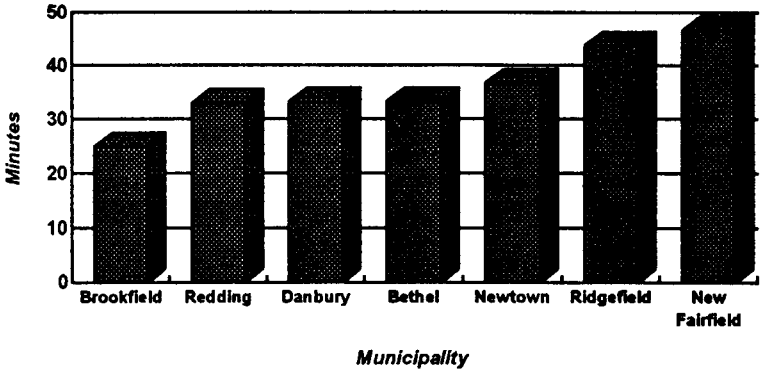


Intertown travel time by municipality generally requires 50 to 250 percent more time per trip. Most intertown travel is directed toward shopping, employment opportunities and medical appointments in Danbury from persons in outlying towns. Trips originating in Brookfield have the smallest average travel time of 24.9 minutes per trip while trip originating in New Fairfield have the longest average travel of 46.6 minutes per trip.

Figure 5.5 illustrates average travel time for intertown trips by municipality.

Figure 5.5 1994 Average Intertown Trip Travel Time By Municipality

Municipality	Trip Time (Minutes)
Brookfield	24.9
Redding	33.0
Danbury	33.2
Bethel	33.3
Newtown	36.8
Ridgefield	43.8
New Fairfield	46.6
New Milford	No Data



5.6 Growth in Wheelchair Trips

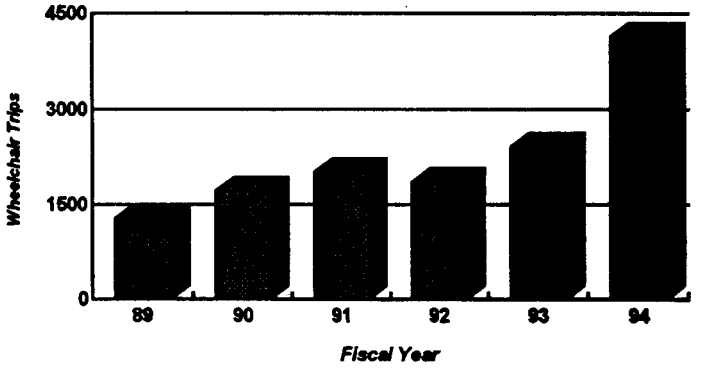
Another influencing factor on both travel time and service efficiency is the number of wheelchair bound passenger trips carried. From FY 1989 to FY 1994, substantial increases in wheelchair trip volume have occurred. In FY 1989, SweetHART carried 1,278 wheelchair passenger trips. By FY 1994, this figure had grown to 4,131 trips annually, an increase of over two hundred percent.

Wheelchair trips require significant additional time in order to board and disembark the passenger using the wheelchair lift and to secure the wheelchair using a four point belt tie down system. A minimum of 5-10 minutes in additional time is required for each wheelchair trip.

Given the large increase in volumes of wheelchair trips carried, service efficiency is likely to be negatively affected with regard to travel time and passenger trips carried per hour and per mile. Primary reasons for the growth in wheelchair passenger trip volume on SweetHART are the increasing independence of wheelchair bound persons with disabilities, the passage of the Americans with Disabilities Act of 1990 which mandates the provision of complementary paratransit as a civil right, the success of travel training programs provided by the DATAHR Rehabilitation Institute for persons with disabilities, and the shifting of wheelchair bound passenger trips from DATAHR operated vehicles to SweetHART. Figure 5.6 illustrates the growth in wheelchair passenger trips carried by SweetHART from FY 1989 to FY 1994.

Figure 5.6 Growth in Wheelchair Passenger Trips

Fiscal Year	Wheelchair Trips
1989	1278
1990	1716
1991	2009
1992	1853
1993	2406
1994	4131



5.7 Service Efficiency Per Hour and Mile

Passenger trips carried per hour and per mile are good performance indicators for paratransit. SweetHART has experienced declines for both indicators during the period FY 1989 to FY 1994. Passenger trips per hour declined from 2.92 per hour in FY 1989 to 2.16 in FY 1994, a decrease of 26.0 percent or about 5 percent each year. Passenger trips per mile declined from .22 per mile in FY 1989 to .16 per mile in FY 1994, a decrease of 27.3 percent.

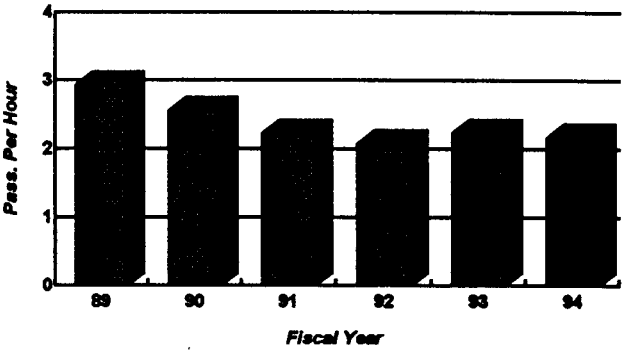
Possible reasons for the decline in service efficiency include the increases in trip length (75 percent from FY 86-94), increases in travel time (51 percent from FY 1986-94), increases in volume of wheelchair trips and the associated impact on travel time, and the fact that ridership growth has not kept pace with the growth in service levels (service levels increased 44.0 percent while ridership increased 6.4 percent).

Figure 5.7 illustrates the trend in service efficiency for SweetHART from FY 1989 to 1994.

Figure 5.7 Service Efficiency Indicators, FY 89-94

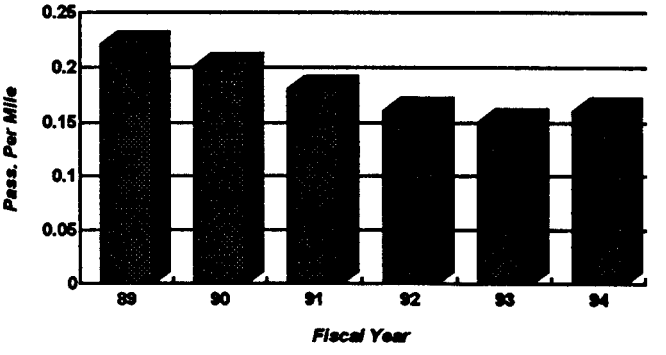
Passengers Per Hour

Fiscal Year	Passengers Per Hour
1989	2.92
1990	2.54
1991	2.21
1992	2.07
1993	2.22
1994	2.16



Passengers Per Mile

Fiscal Year	Passengers Per Mile
1989	0.22
1990	0.20
1991	0.18
1992	0.16
1993	0.15
1994	0.16



5.8 Service Costs

SweetHART costs have been up and down during the period FY 1989 to 1994. Cost per hour peaked at $35.55 in FY 1993 while cost per mile peaked at $2.75 in FY 1991. Both cost indicators declined in FY 1994 from their previous peaks. Cost per hour declined 1.1 percent from its peak of $35.55 in FY 1993 to $35.20 in FY 1994. Cost per mile declined a total of 2.9 percent from its peak of $2.75 per mile in FY 1991 to $2.67 in FY 1994.

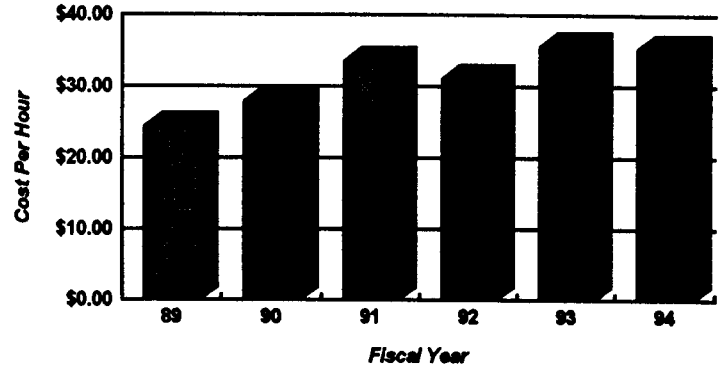
In FY 1994, cost per hour declined 1.1 percent from the previous year while cost per mile increased 10.8 percent from the previous year. Over the five year period cost per hour and mile has risen about 9 percent each year.

Figure 5.8 illustrates the trend in service costs from FY 1989 to FY 1994 (projected).

Figure 5.8 Service Costs, FY 1989-94

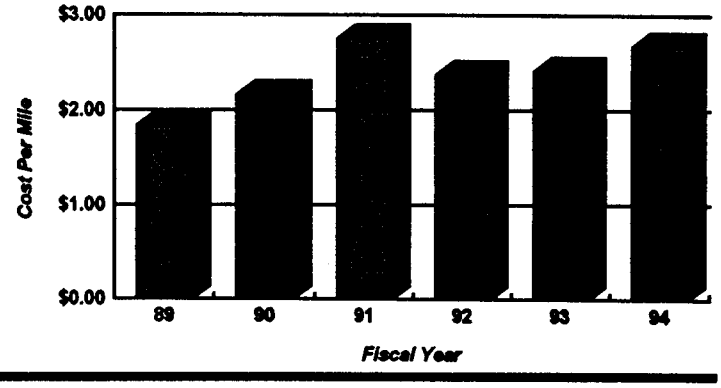
Cost Per Hour

Fiscal Year	Cost Per Hour
1989	$ 24.24
1990	$ 27.81
1991	$ 33.43
1992	$ 31.01
1993	$ 35.55
1994	$ 35.20



Cost Per Mile

Fiscal Year	Cost Per Mile
1989	$ 1.84
1990	$ 2.16
1991	$ 2.75
1992	$ 2.37
1993	$ 2.41
1994	$ 2.67



5.9 Passenger Revenue

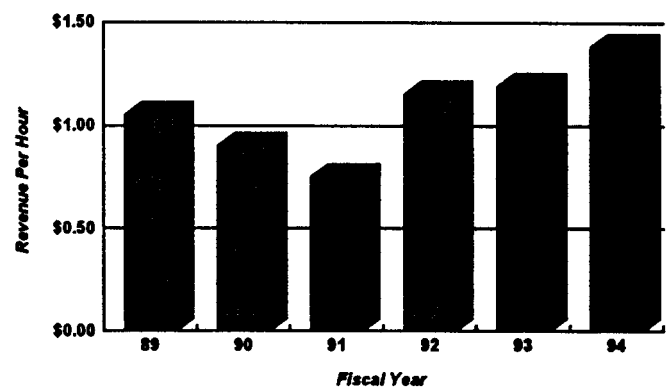
Passenger revenue has grown considerably since FY 1989 due to passenger fare increases implemented in FY 1992 and FY 1993. Prior to FY 1992, SweetHART fare had remained at 35 cents per trip for seven years without an increase. SweetHART fare was increased from 35 cents to 50 cents for local trips and 60 cents for intertown trips in FY 1992. An additional fare increase in FY 1993 raised the local fare to 60 cents and the intertown fare to 75 cents.

As a result of these fare increases, average revenue per service hour has increased from $1.05 per hour in FY 1989 to $1.38 per hour in FY 1994, an increase of 31.4 percent.

Figure 5.9 illustrates average revenue per service hour from FY 1989 to FY 1994 (projected).

Figure 5.9 Revenue Per Service Hour

Fiscal Year	Revenue Per Hour
1989	$ 1.05
1990	$ 0.90
1991	$ 0.75
1992	$ 1.15
1993	$ 1.19
1994	$ 1.38



5.10 Passenger Boardings By Time of Day

A six day sample of most SweetHART runs conducted in May, 1994 shows that passenger boardings peak between 8:00 a.m. to 10:00 a.m. (62.12 average boardings), 12 noon to 1:00 p.m. (30.86 average boardings), and 2:00 p.m. to 3:00 p.m. (35.93 average boardings). The period of 8:00 a.m. to 3:00 p.m. shows steady boardings dropping no lower than 26 boardings during any hour.

Boardings are very low during the 6:00 to 6:59 a.m. period and 6:00 to 6:59 p.m. period given the limited service available and low demand for such early and late service. Boardings decline quickly after 3:00 p.m. through 6:00 p.m.

Different runs peak at varying times throughout the day. In municipalities where there are more than one run (vehicle), the first run usually will peak during the morning while carrying senior citizens to their respective senior centers. The second run will generally peak during the afternoon when making return trips from the senior centers.

Figure 5.10 and Table 5.1 illustrate average passenger boardings graphically and numerically.

Figure 5.10 Passenger Boardings By Time of Day

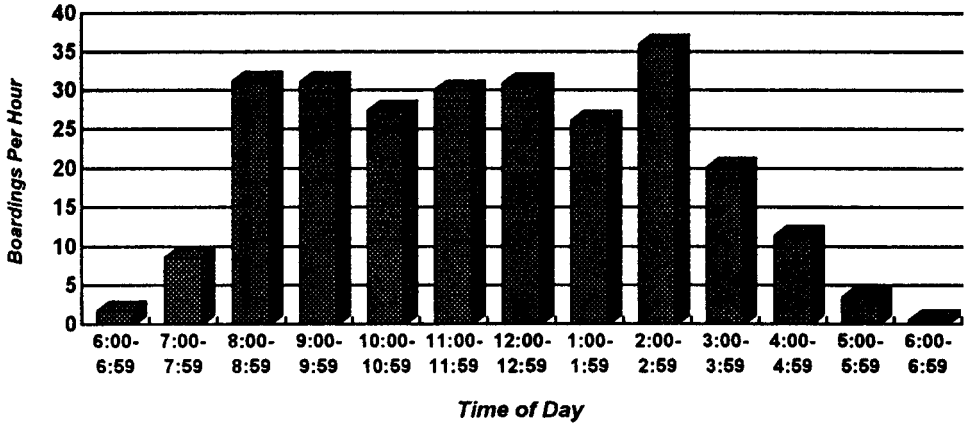


Table 5.1 Average Passenger Boardings By Time of Day

Run	6:00-6:59	7:00-7:59	8:00-8:59	9:00-9:59	10:00-10:59	11:00-11:59	12:00-12:59	1:00-1:59	2:00-2:59	3:00-3:59	4:00-4:59	5:00-5:59	6:00-6:59
Danbury #1	.17	1.67	2.67	3.17	4.33	3.17	1.67	3.33	2.67				
Danbury #2			2.67	3.00	2.83	5.17	5.33	2.50	3.50	2.50	1.67		
Danbury #3			2.67	4.50	3.17	3.50	3.50	3.17	5.00	1.00	.33		
Danbury #4					.83	1.50	2.83	3.00	3.83	3.50	1.83	.83	
Bethel			3.17	3.17	2.50	2.17	2.83	.33	4.33	1.83	.17		
Brookfield			1.83	3.50	3.17	2.83	1.67	2.00	4.00	1.17			
Newtown #1		.33	6.13	3.67	2.33	1.50	1.67	1.17	.00				
Newtown #2				.50	2.67	.67	1.50	2.17	5.67	.67	1.00	.00	
New Fairfield #1		2.00	3.13	1.67	.67	.50	4.00	.00	.00				
New Fairfield #2					1.83	3.83	1.83	.17	.83	4.33	2.00	.17	
Ridgefield #1		2.50	4.67	6.50	.50	1.17	.83	2.17	.00				
Ridgefield #2					.67	3.33	2.17	3.17	3.50	1.67	1.33	1.00	
Redding			.50	1.33	1.83	.67	.83	1.00	1.00	.33	.17		
ADA Intertown							.20	1.80	1.60	2.40	2.00	.40	
ADA Brkfd/NMlfd	.67	.83	.17							.67	.83	1.00	.50
ADA Dan/Bethel	.83	1.17	3.50								.00	.00	.00
Total	1.67	8.50	31.11	31.01	27.33	30.01	30.86	25.98	35.93	20.07	11.33	3.40	.50

Note: Blanks indicate no service available on run at that time.

Source: Six day sample of runs, May, 1994.

6.0 RECOMMENDED ACTIONS

6.1 Problem Identification

Several problem areas with SweetHART have been identified through observation in the course of this study, past experience, customer complaints, and declining trends in performance and efficiency as previously mentioned.

A number of areas have been identified for improvement over the next few years. HART can begin to address these areas through policy adjustment, operating procedural changes, and improved management. Many of the problem areas can be remedied quickly while others will take longer.

Problem areas identified for SweetHART include the following:

- **Capacity constraints and service utilization**
- **Availability of intertown service**
- **Excessive travel and return trip waiting time**
- **Employee sensitivity and training**
- **Increased volume of wheelchair trips**
- **Trip scheduling, automation and record keeping**
- **Improved driver supervision**
- **Operations work environment and separation of functions**
- **SweetHART eligibility review**
- **Management/labor relations**

The following section outlines recommended actions toward addressing each of these problem areas.

6.2 Capacity Constraints and Service Utilization

One of the most common problems experienced with SweetHART is that demand for the service outstrips capacity. Capacity constraints are not usually associated with the limited capacity of the vehicle, but instead are a function of not being able to serve multiple trip origins and destinations at the same time. The problem is more severe in some municipalities than others because only one vehicle serves that particular municipality.

As shown previously in Figure 5.10, there are times during some days in most municipalities where service is in less demand. These days and times differ on a daily basis. Sometimes demand is predictable, other times it is not. It may be possible to reroute vehicles that have significant blocks of time with low demand to areas where demand is greater and capacity is constrained. In the past, these vehicles have remained within the municipality they are funded by in order to provide service on short notice as needed.

Vehicles with blocks of time greater than or equal to one hour with no scheduled trips should be rerouted to serve areas where demand is present. Such a procedural change could help alleviate long waiting time in the afternoon for return trip pickups in Danbury. Likewise, any vehicles with no scheduled pickups in Danbury could be rerouted to outlying municipalities when available.

Such a change will likely not impact usage to any great degree given that SweetHART requires reservations at least 24 hours in advance. The problem is that service must be reserved for one particular municipality during a given span of hours at least a day ahead. To reroute service from one municipality to another on an advance scheduled basis would mean that one municipality may not get its fair share of service.

A possible solution to this problem and the problem of underutilization of service may be to promote "real time" scheduling. This would allow persons to call the same day and reserve trips as the schedule allows. This new service would cater primarily to discretionary trips such as shopping and not to planned activities such as medical appointments.

HART should initiate efforts to promote the times of day that are least in demand for SweetHART. Within each municipality efforts should be undertaken to identify times of day that are predictably in less demand. Those times could be promoted for specific usage such as shopping trips within that particular municipality. Such micro-marketing efforts could help bolster unproductive time segments in each municipality.

Some SweetHART runs experience poor ridership during the last 1-2 hours of the run. Figure 5.10 indicates that to be true for Newtown #2 from 5:00 to 6:00 p.m., for New Fairfield #1 from 1:00 p.m. to 2:15 p.m., and for the ADA Danbury/Bethel afternoon run from 4:30 to 6:25 p.m. During the month of May, 1994, the last dropoff for Newtown #2 occurred at 5:05 p.m. It is recommended that Newtown #2 start earlier at 9:30 a.m. and finish earlier at 5:00 p.m. so that the unproductive late afternoon time can be better used during the morning period. During May, 1994, the last dropoff on New Fairfield #1 occurred beyond 2:00 p.m. only twice. It is recommended that New Fairfield #1 finish its run with return trip pickups in Danbury after the last dropoff occurs in New Fairfield. The ADA Danbury/Bethel vehicle is seldom used in the afternoon period. It is recommended that this time be added to the beginning of the ADA intertown run so that it starts at 11:30 a.m. instead of 1:30 p.m.

Summary of Recommended Actions

- **Reroute vehicles with blocks of time greater than or equal to one hour with no scheduled pickups to areas where demand is higher.**
- **Implement and promote "real time" scheduling to encourage persons to call the same day for service for discretionary trips.**
- **Micro-market availability of service during predictable days and hours of low demand in individual municipalities.**
- **End Newtown #2 at 5:00 p.m. and start earlier at 9:30 a.m. instead.**
- **Reroute New Fairfield #1 to service return trip pickups in Danbury once the last dropoff occurs in New Fairfield.**
- **Eliminate ADA Danbury/Bethel afternoon run and cover ADA trips with Danbury #4. Start ADA Intertown run at 11:30 a.m. instead of 1:30 p.m.**

6.3 Availability of Intertown Service

Intertown service is more difficult to provide because of longer distances and travel times. Demand is greatest from the towns of New Fairfield, Bethel, and Redding going to destinations in Danbury. Additional intertown service is needed to meet demand and service ADA eligible trip requests.

As mentioned above, it is recommended that the existing ADA Intertown run be changed to start 2 hours earlier. This will help provide additional capacity to meet intertown demand.

Section 4.3 mentions days of the week that intertown service is available for non-ADA eligible trips. Improved utilization of these days is possible through improved awareness of the availability of intertown service on these specific days. Micro-marketing should be done in each municipality to let riders know the days and times intertown service is available.

Recently, additional funding will be made available to HART from CT DOT through the ADA funding program. This funding should be used to further expand the span of intertown hours and days. Specifically, intertown hours should be expanded to run from 6:00 a.m. to 6:00 p.m. in Danbury, Bethel, Brookfield and New Milford (ADA corridor municipalities). Service could be utilized by other municipalities when not in use by eligible riders in the ADA corridor.

Summary of Recommended Actions

- **Micro-market intertown service in each municipality to improve awareness of specific days/times offered.**
- **Expand intertown service in ADA corridor using new State ADA funds.**
- **Allow intertown trips for non-medical purposes between contiguous municipalities.**

6.4 Excessive Travel and Return Trip Waiting Time

As mentioned in Section 5.5, travel time is greatest in New Fairfield with an average of 31 minutes for local trips and almost 47 minutes for intertown trips. In all other municipalities with the exception of New Milford, local travel time averages less than 20 minutes per trip.

On a few occasions, travel time has been noted to exceed 60 minutes for some trips. HART should establish an operational standard that 95 percent of all SweetHART trips shall have travel time of 60 minutes or less. In municipalities where this a problem, efforts should be made to carry smaller groups at a time to reduce excessive travel time for some.

As noted in Section 4.2, return trip waiting time can occassionally exceed two hours in Danbury for unscheduled return trips. HART should initiate an operational standard that return trip waiting time for unscheduled trips shall not exceed 30 minutes for 95 percent of all trips. To assist in attaining this standard, vehicles with blocks of time greater than or equal to one hour with no scheduled pickups should be rerouted to areas where waiting lists are used for return trip pickups.

Summary of Recommended Actions

- **Establish operational standard that 95 percent or more of all SweetHART trips shall not exceed 60 minutes in travel time.**
- **Carry smaller groups of persons at a time on SweetHART where excessive travel time problems occur.**
- **Establish operational standard that 95 percent or more of all unscheduled return trips shall be served within 30 minutes of request.**

6.5 Employee Sensitivity and Training

A common SweetHART complaint is sensitivity and courtesy. Recently, HART's ADA Paratransit Advisory Committee noted this as a problem.

HART should develop customer relations standards and ensure compliance at all times by all employees who have contact with the riding public. In-house training programs should be developed and delivered by operations personnel to ensure that dispatchers, drivers and

supervisors are properly equipped to handle dealing with difficult people in person and by telephone under stressful circumstances. Proper reinforcement by top management is necessary to ensure the success of this training effort.

A proactive and consistent counseling program should be developed to ensure prompt discipline of offenders. A monitoring program should be established to eliminate reliance on passenger complaints as the sole indicator of success in passenger relations. Inexpensive employee awards in the form of uniform pins or patches for outstanding public relations skills can and should be developed and implemented to reward and affirm such skills.

Summary of Recommended Actions

- **Develop and implement in-house reinforcement programs to encourage, reward and affirm outstanding customer relations skills in all employees.**

- **Provide continuing and committed reinforcement of this goal from top management.**

6.6 Increased Volume of Wheelchair Trips

As noted in Section 5.6, wheelchair trips have more than tripled since FY 1989 on SweetHART. The effect has been to increase travel time for all passengers on the vehicle due to the additional time necessary to load, secure, unsecure and unload the wheelchair passenger. At least half of the estimated 5-10 minutes in additional time is necessitated through the securement of the wheelchair to the vehicle floor using a four point belt tie down system. Each wheel of the wheelchair must be strapped to the floor with a separate belt tie down.

HART should research new technology in wheelchair securement systems to identify recent advances that could facilitate the securement process resulting in time savings. New vehicle purchases should be equipped with improved technology if found to be available. HART should consider retrofitting older vehicles if more suitable technology is available. Costs of such retrofitting would be eligible for increased federal funding given it is an eligible ADA related improvement.

Summary of Recommended Actions

- **Research new technology to identify improved wheelchair securement hardware.**
- **Procure new hardware on new vehicle purchases.**
- **Retrofit new hardware on older vehicles.**

6.7 Trip Scheduling, Automation and Record Keeping

As noted in Section 4.2, the trip scheduling process is accomplished manually each day. Dispatchers manually log each reservation upon receipt of telephone calls. The process is labor intensive and limits call intake to one dispatcher for each municipality.

Trip assignment to vehicles is fairly simple for most of the SweetHART system with the exception of Danbury where as many as 5-6 vehicles may operate during a given time. Other municipalities generally have no more than 2 vehicles operating at a time making the trip assignment process easier. Trip assignments are done manually by a dispatcher who examines trip requests for a given day and assigns trips to vehicles based on knowledge of the geographic area, time sequence of appointments, trip origins and destinations, and vehicle wheelchair capability. Passenger manifests for drivers are handwritten for Danbury and printed by computer for other towns.

An automated reservation intake system may offer more versatility through multi-dispatcher scheduling and instantaneous update of scheduling input. Potentially the entire scheduling process could be made more productive through the implementation of such a system.

Further, such a system could offer many other advances to facilitate functions such as automated trip assignment to vehicles (especially in Danbury), printing of passenger manifests, automated intake of reservations, and improved record keeping and reporting capabilities.

Such a system should have the capability to easily generate monthly reports in prescribed formats itemizing ridership by municipality and funding program including the following information: number of ADA trips, elderly and non-elderly trips, wheelchair trips, subscription trips, trip denials, trip cancellations, trip no shows, users with excessive no

shows or cancellations, and trip making characteristics of users.

Further, such a system should have the capability to flag problem areas such as persons with excessive no shows or trip cancellations and possibly even generate correspondence to persons with such problems.

Several employees should be thoroughly trained in the administration of the automated system. A managerial position should be assigned overall responsibility for the system including trouble shooting, daily backup, and monthly reporting.

Summary of Recommended Actions

- **Automate the SweetHART reservation intake process and reporting function.**
- **Train several employees in the administration of automated system.**
- **Assign responsibility for overall system administration to a managerial position.**

6.8 Improved Driver Supervision

Presently, most supervision of SweetHART drivers and service provision is indirectly accomplished from the HART Operations Center by radio contact. Supervisors generally stay in the office with the exception of investigation of accidents or other operational problems. Very little direct oversight of drivers is presently provided.

Random road supervision is needed to ensure quality in SweetHART service provision, labor productivity, and service safety. Road supervision could monitor timeliness in passenger pickups, route selection by drivers, safety habits, driver idle time, sensitivity to persons with disabilities, and productivity measured in terms of numbers of trips carried.

HART should establish a goal of providing direct road supervision for SweetHART service at least 50 percent of each service day. Supervisors could then devote the other half of each day attending to driver training and discipline, providing for driver coverage, administration and monthly reporting, and supervision of dispatchers.

Summary of Recommended Actions

- **Establish and implement goal of providing road supervision of SweetHART drivers at least 50 percent of each service day.**

6.9 Operations Work Environment and Separation of Functions

The existing work environment at the HART Operations Center is not conducive to labor productivity. Dispatchers and supervisors are housed in cramped offices immediately adjacent to the maintenance garage. SweetHART and fixed route drivers frequent the office area to pick up work assignments and interact with dispatchers and supervisors. The office environment is noisy and dirty as a result of its proximity to the maintenance garage.

Radio, telephone and office communications occur simultaneously in the small office area often creating a chaotic and stressful environment. Dispatchers and supervisors need a quieter, less hectic environment to work on tasks that require concentration for peak productivity.

HART should remodel the dispatcher/supervisor offices to provide an improved work environment that minimizes interruptions from outside sources such as drivers, maintenance personnel, and radio communications. Efforts should be made to provide improved employee amenities such as carpeting, new furniture, new equipment, and better heating and air conditioning.

Further, SweetHART dispatchers fill several complex roles within the organization including SweetHART reservation intake, SweetHART eligibility review, SweetHART trip assignment, real time return trip scheduling, SweetHART data base input and reporting, driver radio communications for both fixed route and SweetHART service, and dissemination of customer information for fixed route and SweetHART by telephone.

Operations, excluding maintenance, presently consists of 7 full-time and 1 part-time personnel responsible for the daily provision of fixed route, SweetHART and contract services to the public. HART should promptly examine the potential of restructuring the roles and responsibilities of Operations personnel to include greater separation of functions wherever possible using existing resources. Examples of possible separation of functions would be to separate the telephone information function from

the radio communications function. It may be possible to transfer fixed route telephone information calls to the customer service representative at the Pulse Point. Another example would the separation of responsibility for fixed route and SweetHART radio communications.

Summary of Recommended Actions

- **Remodel the dispatcher/supervisors offices so as to provide a cleaner and quieter work environment. Add new employee amenities including new furniture, office equipment, carpeting and improved heating and air conditioning.**

- **Explore the possibility of restructuring departmental roles and responsibilities to add greater separation of functions wherever possible.**

6.10 SweetHART Eligibility Review

Eligibility review for SweetHART is conducted by the Operations Department to determine the ADA eligibility status and to determine other eligibility criteria for SweetHART based on age or disability.

Recertification for ADA took place from September, 1992 to February, 1993. Several thousand SweetHART users were requested to recertify so as to determine ADA eligibility status. Less than half of the certified users on SweetHART bothered to recertify but continue to ride. Certifications completed in 1992-1993 are scheduled to expire in June, 1995. The number of ADA eligible trips carried annually is a factor used in the State formula for funding to each Region of the State.

It is important that HART double its recertification efforts in 1995 to ensure that all current and new users of SweetHART be recertified to determine ADA eligibility status so that the Region can be assured it receives its fair share of State ADA funding. Those persons who fail to recertify should be denied service until their recertification is completed.

Summary of Recommended Actions

- **Take action to ensure that all SweetHART users recertify to properly determine ADA eligibility status by June, 1995.**

6.11 Labor/Management Relations

Much of the success any organization can hope to enjoy comes through the contributions of every individual in the organizational team. HART management has a tremendous resource available in the form of SweetHART drivers and dispatchers. The experience and knowledge of the work force is invaluable in the development of efficient and productive services. Management alone cannot possibly know all the intricacies and complexities posed by a paratransit service like SweetHART.

HART should endeavor to develop a management/labor council that is committed to formulating solutions to complex problems and issues arising out of service delivery and policy development. Representatives from the driver ranks, dispatchers, operations, and service development should come together on a regular basis to tackle important problems with the goal of making SweetHART a better public service. Such actions will likely improve employee morale while at the same time providing a higher quality product to the communities served.

Participants in such a council must come to the table committed to the development of realistic solutions keeping service quality, fiscal responsibility and customer satisfaction as the ultimate goals.

Summary of Recommended Actions

- **Develop a labor/management labor council committed to the development of practical solutions to SweetHART service and operational issues.**

MEMBERS OF THE HVCEO

Bethel
First Selectman
Clifford J. Hurgin

Bridgewater
First Selectman
William T. Stuart

Brookfield
First Selectman
Bonnie P. Smith

Mayor of
Danbury
Gene F. Eriquez

New Fairfield
First Selectman
Cheryl D. Reedy

Mayor of
New Milford
Liba H. Furhman

Newtown
First Selectman
Robert Cascella

Redding
First Selectman
Henry Bielawa

Ridgefield
First Selectman
Sue Manning

Sherman
First Selectman
Anthony Hapanowich

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Jonathan Chew.....Executive Director
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