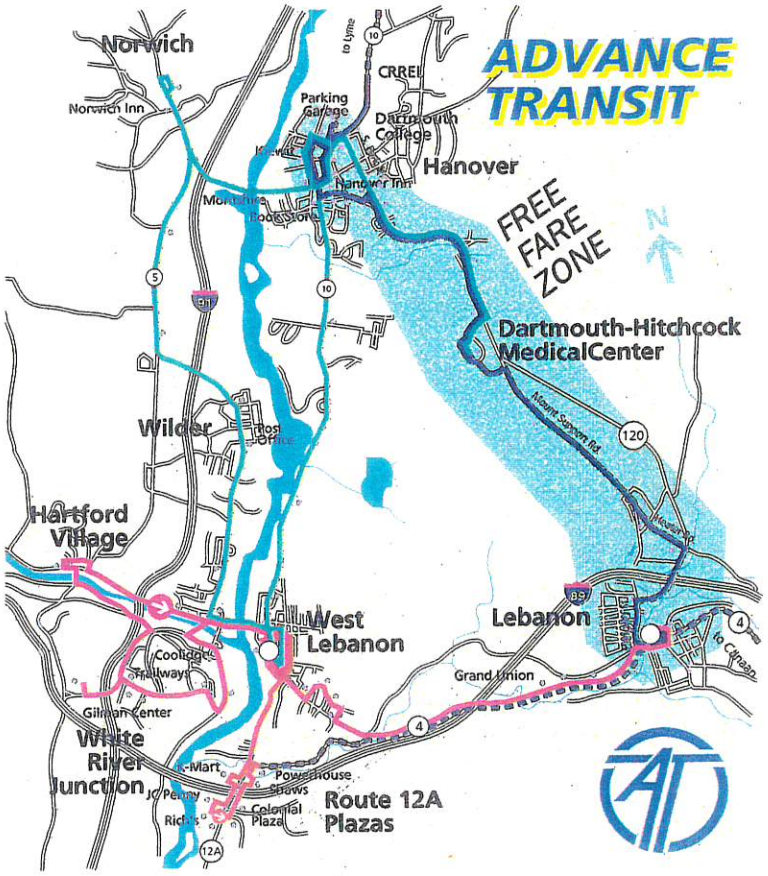
SHORT RANGE TRANSIT PLAN

Final Report



Submitted to:

Advance Transit, Inc.

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MULTISYSTEMS

1050 Massachusetts Avenue
Cambridge, MA 02138-5381

Fitzgerald & Halliday, Inc.
KKO & Associates, Inc.
Connie Garber

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Chapter 1: Introduction and Project Workscope

1.1 Introduction

Throughout most of 1994, Multisystems, Inc., and its subcontractors (Fitzgerald & Halliday, Inc. KKO & Associates, and Connie Garber) performed a study for Advance Transit, Inc. (AT) to develop of a five-year Short Range Transit Plan. The study was funded with planning monies made available to AT by the Vermont Agency on Transportation (AOT). This document is the Final Report of the study, and, together with the Marketing Plan that has been submitted under separate cover, constitutes the Short Range Transit Plan.

The following presents an outline of this Final Report:

Chapter 1: Introduction and Project Workscope

The remainder of this chapter outlines the workscope of the project.

Chapter 2: Service Goals, Objectives, and Performance Standards

This chapter presents the goals, objectives, and service performance standards that were jointly developed by AT staff, the Transportation Advisory Committee, and the consulting team.

Chapter 3: Service Description

This chapter describes AT's fixed-route transit system.

Chapter 4: Organizational Infrastructure

This chapter describes the organizational infrastructure of Advance Transit and looks at the advantages and disadvantages of alternative organizational structures. Chapter 4 also describes the administrative staffing and facilities, fleet characteristics, and vehicle maintenance.

Chapter 5: Performance

This chapter details ridership, service statistics, and costs and revenues, and looks at AT's service and cost performance, especially in comparison with internal service standards and with peer operations.

Chapter 6: Service Area Profile and Demand

This chapter presents a profile of AT's service area and presents a demand estimate for public transportation services.

Chapter 7: Public Input

This details the public input from the open forums and surveys.

Chapter 8: Alternative Service Improvements and Recommendations

This chapter presents and analyzes alternative service improvements and culminates in our recommendations.

Chapter 9: Capital and Financial Plan

This chapter presents five-year Capital and Financial Plans that correspond to the recommended service improvements.

As mentioned above, another product developed in the course of this project was a Marketing Plan for AT. This has been submitted to AT in a loose-leaf binder so that future marketing efforts and materials can be added to the binder. The Marketing Plan that was developed by the consulting team is comprehensive in nature and includes marketing materials that present a fresh new face for public transportation in the Upper Connecticut Valley region. However, the authors of this report wish to add a cautionary note here since it is of paramount importance to the success of the service improvements:

> *Marketing is the one activity that typically gets put on the back-burner, and should be an activity that is continuous. (There are new prospective riders every day; how will they know about Advance Transit if it is not promoted?) The projected increases in ridership are not likely to materialize unless the implementation of the recommended service improvements is accompanied by the implementation of the recommended, on-going marketing activities. AT must recognize that one-shot marketing efforts will not produce the desired results; moreover, AT must be patient in giving the on-going marketing efforts a chance to work.*

It is also appropriate at this point to acknowledge the help and guidance of AT staff and the Transportation Advisory Committee members over the course of this project.

1.2 Project Work Scope

This project consisted of 12 tasks, each of which is described below: These task descriptions also serve to recap the project.

Task 1: Collect Studies/Data/Maps - This task involved collecting and reviewing (1) service area data from the 1990 US Census; (2) previous transit studies such as Resource Systems Group's *Route and Schedule Analysis and Design*; UVLSRPC's *Regional Transportation Development Plan (August 1992)* and *Advance Transit Planning Study (June 1992);* and The Town of Hartford's *1993 Master Plan*; (3) AT service and cost/revenue data for FY 1993; (4) AT boarding counts by route for October 1, 1993; (5) DHMC employee data from UVLSRPC; and (6) AT's route schedule/brochure and various marketing materials.

Task 2: Develop/Implement Public Participation Process - This was an on-going, evolving task that took place during the course of the entire project. Elements of this task included: (1) establishment of and monthly meetings with the Transportation Advisory Committee; (2) two open forums; (3) a rider survey; (4) a downtown pedestrian survey; (5) a combination of on-site and telephone interviews with several employers and human service agencies; and (6) interviews with UVLSRPC and Town of Hartford planning staff. Also note that all public meetings and various elements of the study were well-publicized via a variety a means including use of the media (newspapers, radio stations, and the local public access cable TV station) as well as personal letters.

Task 3: Develop Goals/Objectives/Service Standards - This task involved helping AT management and the Transportation Advisory Committee develop service goals, service objectives, and service performance and cost performance standards, by which AT's performance could be measured.

Task 4: Document Service Area Characteristics - This task involved documenting and analyzing 1990 census information, employer and human service agency information, and information on new developments.

Task 5: Analyze/Recommend Organizational/Service Delivery Structure - This task involved exploring the advantages and disadvantages associated with AT remaining a New Hampshire private, non-profit (PNP) corporation versus several other organizational structures, including a Vermont PNP, a regional transit district or authority based in Vermont or New Hampshire, and a bi-state regional transit or authority.

Task 6: Evaluate Existing Services - This task involved documenting service and cost statistics and then calculating and evaluating AT's service efficiency (e.g., passengers per vehicle hour, per vehicle mile) and cost-effectiveness (e.g., cost per passenger, per vehicle hour, per vehicle mile). Then, these evaluation measures were compared against counterpart measures from peer systems and the internal service performance standards developed in Task 3.

Task 7: Estimate Demand - This task involved developing a demand estimate based on: (1) current and projected AT ridership; (2) peer system ridership statistics; (3) employer interviews and employee surveys; and (4) elasticity models, which were used to forecast changes in ridership that result from changes in headways.

Task 8: Develop Service Improvement Strategies - This task involved developing a set of service improvements designed to: (1) meet service delivery goals and objectives; (2) reduce gaps in service; (3) meet unmet demand; and (4) correct service deficiencies. A number of service alternatives (which included route maps and descriptions, along with respective ridership and cost estimates) were developed.

Task 9: Develop a Five-Year Capital Plan - This task involved evaluating the need for the number and types of vehicles, the timing of fleet replacement and expansion, additional vehicle equipment, shelters, and bus signs, and schedule holders. This task also involved developing cost estimates for capital needs over the next five years, as input to the Financial Plan developed in Task 10.

Task 10: Develop a Five-Year Financial Plan - This task involved developing cost estimates for operating and maintenance costs (based on levels of service, and using current unit costs) as well as identifying funding sources/financing to cover operational, maintenance, and capital expenses

Task 11: Prepare Draft Final and Final Report - This task involved preparing this document, which contains all work, findings, and results from the previous tasks.

Task 12: Develop a Marketing Plan - This task involved: (1) reviewing existing marketing materials and programs; (2) preparing an inventory and analysis of existing and potential market groups; and (3) developing a comprehensive marketing strategy for AT; (4) preparing a detailed discussion of implementation steps for individual marketing efforts; and (5) preparing draft camera-ready materials, including a maps, timetables, display ads, and flyers.

Chapter 2: Service Goals, Objectives, and Performance Standards

The following set of goals, objectives, and service standards were adopted by the AT SRTP Advisory Committee.

2.1 Goals

1. To provide the Upper Valley region with efficient, reliable, accessible, attractive, safe, comfortable, and affordable fixed-route transit.

2. To work closely with Upper Valley officials, businesses, organizations, and individuals to:

   a. promote use and support of Advance Transit as a mechanism to:

      1) reduce traffic congestion, air pollution, and highway development;

      2) preserve the quality of life, environmental integrity, and small-town New England character of the region; and, at the same time;

      3) stimulate business and economic growth; and

      4) increase the availability of customer parking in downtown areas; and

   b. provide accessible and convenient bus stops.

3. To inform Upper Valley residents and visitors as to the availability and benefits of public transportation alternatives to single-occupant vehicles; and to encourage their use of Advance Transit.

4. To provide Upper Valley workers with competitive alternatives to single-occupant vehicles, such as:

   a. frequent commuter bus service that provides access to all major employment centers in the region; and

   b. other commuting alternatives, including paratransit and ridesharing services.

5. To provide college students with access to college campuses, downtown centers, and shopping facilities, as well as Upper Valley residents with access to the region's college campuses.

6. To expand access to medical services, shopping, nutrition programs and other life-enhancing and life-sustaining services, as well as to personal and recreational pursuits.

7. To provide area students with home-to-school and/or school-to-after-school public transportation services that:

   a. provide an alternative to single-occupant vehicles; and

   b. are not duplicative of school-operated transportation services.

8. To assist in the development of a transportation network which provides convenient links with intercity bus, rail, and airline services.

9. To improve coordination with human service agency transportation providers within the Upper Valley as well as public transportation service providers and human service agency transportation providers from other regions.

2.2 Objectives

1. Services and Service Area Coverage

a. To continue to provide fixed-route bus service for the municipalities of Hartford, Norwich, Lebanon, Hanover, Canaan, Enfield, and Lyme.

b. To adjust routes to better serve densely-populated residential neighborhoods.

c. To introduce, if financially-feasible, coordinated paratransit services.

d. To continue to provide Rideshare services.

e. To assist in the development of park 'n ride facilities to enable residents of outlying communities to take advantage of transit and ridesharing opportunities.

2. Hours and Days of Service

a. To continue to provide five-day-a-week commuter-hour bus service between residential neighborhoods and from major employment centers.

b. To offer improved midday access to area shopping centers for senior citizens and other midday bus riders.

c. To improve the Saturday schedule and to encourage weekday riders to use the Saturday service.

3. Level of Service

a. During peak commuter hours, to provide:

1) 20-minute headways between Dartmouth College and the Dartmouth-Hitchcock Medical Center,

2) 30-minute headways between downtown Lebanon and Hanover; and

3) 60-minute headways for other Vermont and New Hampshire communities.

b. During midday hours, to provide:

1) 30-minute headways between Dartmouth College and DHMC;

2) 60-minute headways between downtown Lebanon and Hanover; and

3) convenient 3-hour stays in town for residents of other communities.

c. To provide through bus service from West Lebanon, Hartford, and Norwich to the Dartmouth-Hitchcock Medical Center, eliminating the need for a transfer in downtown Hanover.

d. To provide faster commuter bus service between Hartford, West Lebanon, and downtown Lebanon by avoiding the Route 12A shopping plaza area on key employment runs.

e. To eliminate the need for transfers in downtown Lebanon for Canaan and Enfield residents traveling to the Route 12A plazas for midday shopping.

f. To assist in the development of merchant-sponsored free transportation within the Route 12A Plaza area.

g. To provide improved connections for intercity travelers at the Vermont Transit terminal in White River Junction.

4. Promotion

a. To develop a large-size route map and master schedule for posting in bus shelters and other prominent locations.

b. To develop promotional materials to inform area residents about the newly-expanded "Free Fare Zone," and to distribute this information directly to each household within the "Free Fare Zone."

c. To develop improved graphics for one-ride tickets, ten-ride tickets, and monthly passes.

d. To develop a "Monthly Pass" advertisement to be placed in sign frames on the sides of Advance Transit buses

e. To develop a ONE-DAY off-peak fare good for unlimited rides between 9:00 a.m. and 3:00 p.m. in a single day, to encourage increased ridership

f. To encourage other towns in AT's service area to establish free fare zones.

g. To promote AT's family of transportation services through ads, flyers, and outreach at employment centers and human service agencies.

h. To promote the use of fixed-route buses for after-school activities and summer youth programs.

5. ***Target Populations/Ridership Objectives***

a. To increase ridership among transportation disadvantaged groups such as seniors, young people, persons with low-income, persons with disabilities, and persons who have limited or no access to private transportation.

b. To increase ridership within the newly-expanded "Free Fare Zone" by 25% to qualify for increased local funding.

c. To develop and distribute individual "Bus Guides" for target communities, explaining how area residents can use existing buses for a variety of possible trip purposes.

d. To develop a series of charts and graphs to measure Advance Transit ridership and performance, and to display these charts in the AT office so that employees can see the results of company efforts.

e. To achieve a market penetration of 4.0 trips per capita on the fixed-route transit system by 1996. (1993 market penetration = 3.6 trips per capita)

f. To achieve a paratransit productivity of at least 2.0 passenger-trips per hour by 1996.

g. To increase the number of Rideshare referrals over 1993 levels.

6. ***Financial Requirements***

a. To obtain "Intercity" funding from the New Hampshire Department of Transportation to make possible expanded service for the New Hampshire communities of Canaan and Enfield.

b. To qualify for increased local funding from the Town of Lebanon by generating a 25% increase in the number of trips taken within the newly-expanded "Free Fare Zone."

c. To obtain increased municipal funding to offset the cost of local service improvements.

d. To obtain financial support from developers, merchants, and employers in the region who stand to benefit from the availability of transit services.

7. ***Capital Requirements/Passenger Amenities***

   a. To complete procurement of new ADA-compliant buses to replace older vehicles in the Advance Transit fleet.

   b. To assist in the development of improved bus stop configurations in key locations.

   c. To encourage local municipalities to improve and expand bus stops and shelters via enhancement and other similar funding programs.

2.3 Performance Standards

1. ***Schedule Adherence*** - To achieve a 95% or better on-time performance for fixed-route service, and to achieve a 100% reliability for downtown transfers between routes.

2. ***Reliability*** - To keep the number of missed trips under 1%.

3. ***Rider Satisfaction*** - To maintain a complaint ratio of less than two passenger complaints per month, and to respond with a letter and a complimentary ticket to all passenger complaints within a period of one week.

4. ***Accident Ratio*** - To achieve an accident ratio of less than one accident per 100,000 vehicle miles.

5. ***Cost Per Trip*** - To achieve a fixed-route transit cost per tirp of $4.50 per trip by 1996. (1991 cost per trip = $5.63; peer average = $3.00 per trip)

6. ***Cost Per Mile*** - To maintain a fixed-route transit cost per mile of $2.37 per mile or below.. (1991 cost per mile = $2.16; peer average = $2.37 per mile)

Note: the cost per trip and cost per mile standards were derived from the average of the peer systems to which AT is compared in Section 5.7.

Chapter 3: Service Description

3.1 Service Overview

Advance Transit operates fixed route service along three sides of a triangular-shaped service area. The points of the triangle are the towns of Lebanon, West Lebanon, and Hanover (see Figure 3-1). Between West Lebanon and Hanover, parallel service is provided on both sides of the Connecticut River, in Vermont as well as in New Hampshire. Service extends beyond each point of the triangle: to Lyme in the North, to Enfield and Canaan in the Southeast, and to the Route 12A shopping plazas to the Southwest.

The fixed-route system consists of three routes:

- The "Blue Route" serves the eastern side of the triangle, connecting Lebanon and Hanover, plus the outlying towns of Canaan, Enfield, and Lyme.

- The "Red Route" serves the southern and western sides of the triangle within New Hampshire, connecting Lebanon, the Route 12A shopping plazas, West Lebanon, and Hanover.
- The "Green Route" serves the western side of the triangle on the Vermont side of the Connecticut River, connecting West Lebanon, White River Junction, Hartford, Wilder, Norwich, and Hanover.

The three routes are connected by three transfer points at the points of the triangle, i.e., in downtown Lebanon, West Lebanon, and downtown Hanover.

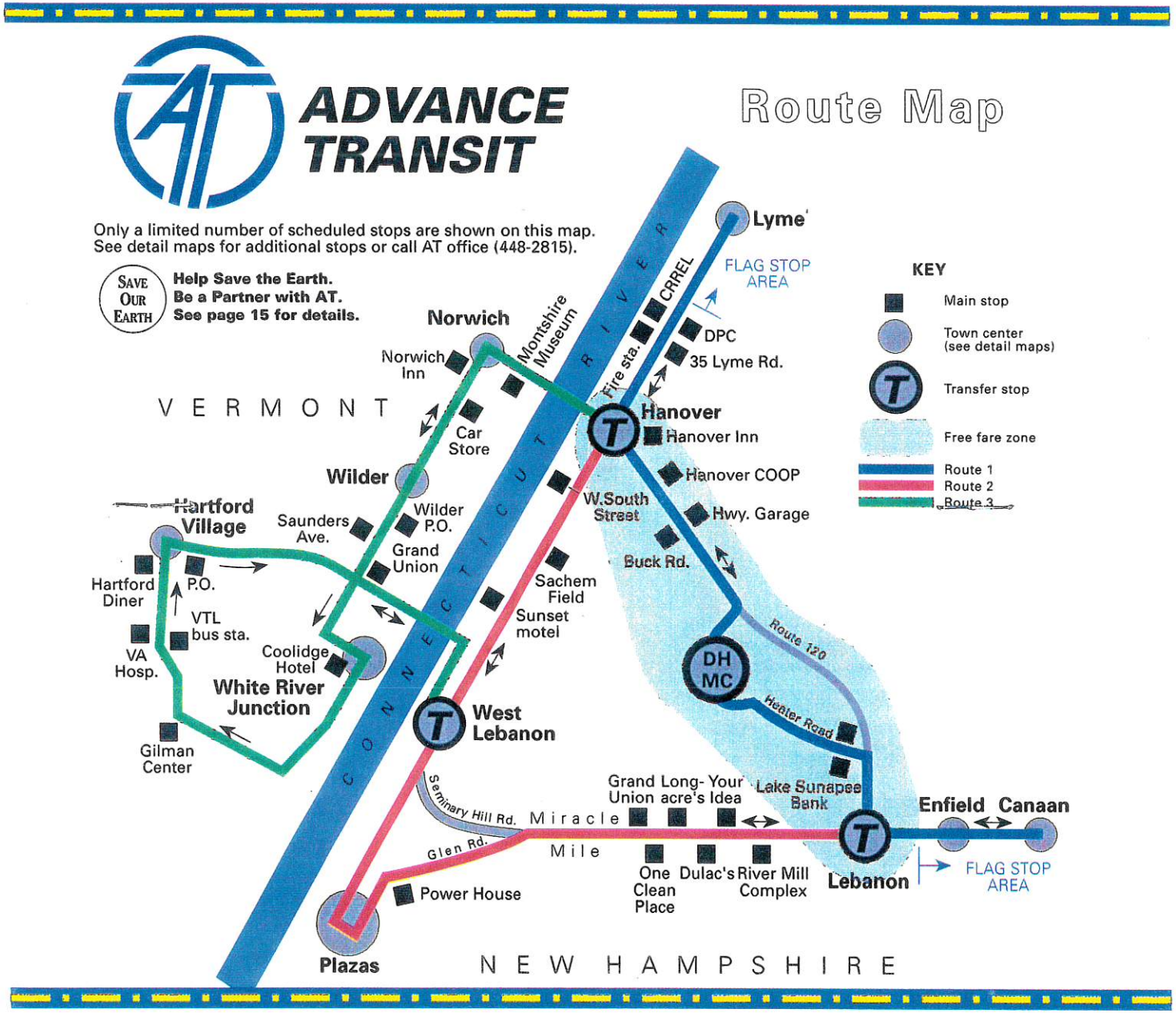
Major sites served on these routes include Dartmouth College, the Dartmouth Medical School, the Dartmouth Hitchcock Medical Center, the CRREL Research Facility, the Montshire Museum of Science, the Route 12A Plazas in West Lebanon, and the VA Hospital.

These three routes are operated on non-holiday weekdays between the following hours:

	Northbound	Southbound
Blue Route	5:50 a.m. - 6:30 p.m.	6:12 a.m. - 6:37 p.m.
Red Route	6:30 a.m. - 5:18 p.m.	6:55 a.m. - 6:30 p.m.
Green Route	6:55 a.m. - 4:47 p.m.	7:03 a.m. - 6:00 p.m.

Holidays include New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. On Saturday, one bus operates over a combined route from 6:45 a.m. to 6:45 p.m. No Sunday service is provided.

Figure 3-1: Route Map



A free-fare zone exists on the Blue Route between Hanover and Lebanon. The base cash fare for rides originating or ending outside the free-fare zone is $1.25. A 10-ride pass is available for $11.50, which is slightly more than the cost of 9 rides. A monthly pass is available for $35.00 (the equivalent of 28 rides). Children under 5 ride free. Transfers are free via use of transfer slips available upon request from the drivers.

Advance Transit schedules call for seven vehicles to be on the road during peak service hours.

3.2 Service Description

This section describes Advance Transit's services, including:

- A description of individual route segments (Sections 3.2.1 through 3.2.3)
- An overview of existing transfers and bus stops (Section 3.2.4)
- An analysis of Saturday service (Section 3.2.5)
- An analysis of the schedule and connecting times for selected trip purposes (Section 3.2.6)

3.2.1 Blue Route

Lebanon - Hanover Route Segment

This route segment connects downtown Lebanon, the Dartmouth Hitchcock Medical Center, downtown Hanover, and the campus of Dartmouth College. It includes 35 weekday round trips between Hanover and the Medical Center, and 18 weekday round trips between Hanover and Lebanon.

This segment coincides with Advance Transit's newly expanded "Free Fare Zone." There is no charge for bus rides that both start and end along this route segment.

The southern end of this route segment is the downtown Lebanon transfer stop on Court Street. This stop is located in the middle of Lebanon's downtown commercial district. It is adjacent to a senior citizen apartment complex, and within walking distance of the Grafton County Senior Center and the Carter Community Building. (As buses arrive in Lebanon, they offer a stop directly behind the senior apartment building. This stop is about one block closer to both the Senior Center and the Carter Community Building.)

The Carter Community Building Association operates a recreation center for the residents of the Upper Valley region. It offers programs in aerobics, swimming, fitness, volleyball, adult classes, and youth activities. Programs are available for a variety of age groups. Baby-sitting services are offered on weekday mornings for parents who are participating in CCBA activities.

The bus travels via Hanover Street to the north of downtown Lebanon. Hanover Street is a commercially-developed north-south thoroughfare. It borders a residential neighborhood which extends to a depth of about two blocks to the west. A high-rise senior citizen apartment building is located along this route segment. Although a curb-side bench in front of the apartment

building seems to offer an ideal location for a bus stop, the bus stops about 50 yards further north, in front of a travel agency.

Buses travel via Route 120 across Interstate 89, and then turn on to the Heater Road, where they offer a stop within walking distance of the Lebanon High School. The route continues north via Mount Support Road through a rural area that includes single family homes, a small condominium development, and a small office complex.

Buses then travel through the grounds of the Dartmouth Hitchcock Medical Center, with stops at the Research Center and at the Main Entrance. North of the Medical Center, buses return to Route 120 heading toward downtown Hanover. They include stops south of town at Buck Road, which is adjacent to a group home for developmentally disabled adults, and in front of the Hanover Coop.

Buses stop adjacent to a senior citizen apartment complex on Summer Street. During peak commuter hours, they operate via the Thompson Arena parking lot. This parking lot serves as a "park and ride" facility for individuals who work on the Dartmouth College campus. Individuals leave their cars in the arena parking lot, and ride the bus to their final on-campus destinations.

After leaving Summer Street, buses make a variety of stops in downtown Hanover, and then make a one-way loop through the Dartmouth College campus.

The Lebanon-Hanover route is Advance Transit's most heavily traveled service segment. Many peak-hour riders are employees traveling to Dartmouth College and DHMC, the two largest employers in the region.

There is a limited amount of parking available for individuals who work on the Dartmouth College campus, and the spaces that exist tend to be expensive. (Parking in Hanover was an even greater issue before the Medical Center moved south of town. Prior to the move, eight shuttle buses served downtown Hanover and two outlying parking lots with 10 minute headways.)

Parking is not currently a problem at the Medical Center, but it may become a greater issue as existing spaces fill up. Individuals who ride the bus to the Medical Center benefit from front door service, and avoid having to walk between their cars and the hospital.

Students and staff use the bus to ride between the Medical Center and the Dartmouth Medical School. This route also provides other area residents with access to medical services at the Medical Center.

Trips between the north end of the Dartmouth College loop and the Medical Center take about 11 minutes, while trips between DHMC and downtown Lebanon take about 10 minutes.

Northbound headways between Hanover and the Medical Center vary between 4 minutes and 33 minutes. The average northbound headway is 20 minutes. Southbound headways vary between 2 minutes and 34 minutes. The average southbound headway is 19 minutes.

Although individual times vary, headways on the Hanover-DHMC segment are roughly 15 or 20 minutes during morning and afternoon peaks, and roughly 30 minutes during the middle hours of the day.

For passengers traveling between Lebanon and Hanover, morning and afternoon headways range from 15 to 55 minutes, with an average wait of 27 minutes. Between 9:30 a.m. and 2:10 p.m., northbound headways are either 2 or 2 1/2 hours. Between 10:00 a.m. and 3:40 p.m., southbound headways range from 1 1/2 to 2 1/2 hours.

Canaan - Enfield - Lebanon Route Segment

A number of Hanover-Lebanon buses continue east beyond downtown Lebanon to Enfield and Canaan, a distance of approximately 11 miles. Eight Canaan-Enfield trips are made each weekday, four in the morning, three in the evening, and one between 2:30 and 3:30 in the afternoon.

The bus takes about 25 minutes to travel between downtown Lebanon and Canaan. The schedule allows one hour for a round trip run. Morning headways are approximately one hour. Evening headways are 1 hour 15 minutes and 40 minutes.

Morning and evening buses serve commuters who work in downtown Lebanon, at the Medical Center, at Dartmouth College, and at the Route 12A shopping plazas. The mid-afternoon bus appears to be transporting children from Mascoma High School to the Carter Community Building for after school activities.

Many of the commuters who use the bus on this route segment leave their cars in the Methodist Church parking lot in Canaan.

The Canaan-Enfield route provides only limited service to a densely populated neighborhood that extends several blocks east of the downtown Lebanon transfer site. (Canaan-Enfield buses will stop on Elm Street and at the Lebanon Junior High School.)

This Lebanon neighborhood receives almost no service during the middle hours of the day. AT may want to look at the possibility of routing some of its midday buses into this neighborhood via Green Street and Shaw Street, or via Kimball and Shaw Streets. Buses would travel through this residential part of town after they pass the town green and before they arrive at the transfer site. Another way to increase service to this neighborhood would be to add a late morning bus to Canaan and Enfield offering direct service to the Route 12A shopping plazas. This extra run would offer improved midday trip times for Canaan and Enfield shoppers. This approach might have the added benefit of making the Lebanon-Canaan route segment eligible for intercity funding.

Hanover - Lyme Route Segment

AT offers one morning trip and two afternoon trips each weekday between Lyme and Hanover, a distance of approximately 11 miles. This service is used primarily by local students who live in Lyme and travel to the high school in Hanover.

The bus company operates limited additional service north of the Dartmouth campus. Five morning and afternoon peak-hour buses travel as far as the CRREL research facility on the road to Lyme, serving residents who live along this stretch of Route 10. Only one trip is made via this route segment during the middle hours of the day.

The trip from the Dartmouth Parking Garage to CRREL adds roughly 5 minutes to the schedule in each direction. One-way trips to Lyme take about 20 minutes. Buses serve CRREL approximately every 45 minutes in the morning. Evening headways vary between 50 and 75 minutes.

3.2.2 Red Route

Lebanon - West Lebanon Route Segment

This route segment connects downtown Lebanon with the village center of West Lebanon. All northbound buses heading from Lebanon to West Lebanon operate via the Route 12A shopping plazas. Southbound buses traveling from West Lebanon to Lebanon likewise travel through the plazas, with the exception of one early morning bus, and two evening buses.

Buses leave the transfer site in downtown Lebanon and travel west via Mechanic Street. Stops are made on request at the Rivermill complex, which is located on the south side of Mechanic Street. This complex includes the Unemployment Office, the Department of Motor Vehicles, and a catalogue store employment center. Westbound buses must turn left into the complex in order to stop, because there is no safe place to pull over on the right side of the road.

Buses serve a variety of retail stores on Mechanic Street and the Miracle Mile, including a Grand Union. The bus will also stop on Mechanic Street for persons who can make the uphill walk to the Alice Peck Day Hospital. Buses also provide access to the Split Ball Bearing factory located on this route segment.

Along Route 12A, buses follow a slow and circuitous route through five different shopping plazas. They offer front door service to the Powerhouse Plaza, and to K-Mart, JC Penney, Rich's, Sears, McDonald's, the Colonial Plaza, and Shaws.

The route continues north from the plaza area to West Lebanon. Red Route and Green Route buses meet on opposite sides of the street in West Lebanon, between the public library and Mascoma Bank (see discussion of transfer sites below). Residential neighborhoods are located up a hill to the east of Main Street, and include two senior citizen apartment complexes. However, passengers must walk down the hill to get access to the bus, because AT vehicles are unable to maneuver these narrow hillside streets.

Rides between West Lebanon and Lebanon take between 25 and 35 minutes on buses that are routed through the Route 12A shopping plazas. A West Lebanon to Lebanon trip that bypasses the plazas takes between 10 and 15 minutes.

Northbound buses travel through the shopping plazas roughly every hour during the morning and afternoon. Between 9:45 a.m. and 2:30 p.m., headways are either 2 hours 45 minutes or 2 hours. Southbound buses serve the plazas hourly between 8:00 a.m. and 10:00 a.m. and between 4:30 p.m. and 6:30 p.m. Midday headways are 1 hour 15 minutes, 2 hours 30 minutes, and 2 hours 20 minutes.

While this route offers good access to the shopping plazas for Lebanon and West Lebanon riders, it provides a very slow route for commuters and other through travelers. Also, AT devotes a large number of labor hours to serving the shopping plazas, because buses make a full circuit of the area traveling in both directions. This amounts to 16 trips through the plaza area each day, for a total of almost 8 driver hours a day.

It may be possible to operate a dedicated service for the plaza area, with connections available in West Lebanon. This would allow faster trips between West Lebanon and Lebanon. It would also add service to the Seminary Hill residential neighborhood on Route 4 between South Main Street and Glen Road.

West Lebanon - Hanover Route Segment (via New Hampshire)

Buses are scheduled to make the trip between West Lebanon and downtown Hanover in eight minutes. Most riders board either in Lebanon, at the plazas, in West Lebanon, or in Hanover. It appears that very few people get on or off the bus along the stretch of road between West Lebanon and Hanover. Some passengers board the bus just north of the West Lebanon transfer site. While the bus offers a stop at the driveway of the Sachem Village housing for graduate students, there is very little demand for service at this stop.

After arriving in Hanover, buses travel the one-way loop on the Dartmouth campus north of downtown, and then connect with the Blue Route at the downtown Hanover transfer site (see discussion of transfer sites below).

AT buses make 10 northbound trips on this route segment each weekday, and 13 southbound trips. Northbound buses operate approximately every hour. Southbound headways are also approximately 1 hour, with a 90 minute wait in the middle of the day, and half-hour waits for the last two buses of the day.

This route appears to be used primarily by students and staff traveling to Dartmouth College for work and classes, and by Dartmouth students and Hanover residents traveling to the plazas for shopping.

It is not immediately clear why so many trips are made on this route segment throughout the course of the day. At least some of these runs appear to exist in order to move drivers and vehicles between AT routes.

3.2.3 Green Route

A route from West Lebanon to Hanover provides service to the Vermont villages of White River Junction, Hartford, Wilder, and Norwich. The weekday schedule includes seven trips in each direction.

Trips between West Lebanon and downtown Hanover via Vermont take approximately 45 minutes. Northbound headways are between 60 and 75 minutes in the morning, and increase to 2 and 1/2 hours after 11:00 a.m. The last northbound bus leaves West Lebanon at 3:55 p.m. Southbound headways are greater earlier in the day, ranging from 75 minutes to 2 and 1/2 hours. After 3:00 p.m., there are three southbound departures approximately one hour apart. The last southbound bus leaves the Dartmouth College campus at 5:18 p.m.

Both north and southbound buses include a one-way loop at the southern end of the route through White River Junction and Hartford. After leaving West Lebanon and crossing the river into Vermont, buses include a stop in front of a Grand Union which is used by bus riders from both sides of the river.

They then turn on Bridge and Main Streets, passing in front of the Bugbee Senior Center. Buses do not currently stop at the Senior Center because there is no room to stop on the side of the highway. A stop here would require that the driver turn into the Senior Center parking lot.

After passing the Senior Center, buses travel into downtown White River Junction and stop at the front door of the Hotel Coolidge. The hotel is centrally located in the downtown area, and passengers can wait in the lobby on cold and rainy days. Buses continue along South Main Street past a number of lower income residences, and then climb Mountain Avenue. Near the top of the hill, they include a stop adjacent to a small trailer park. They then continue on Sykes Avenue, turning in at the Gilman Office Center.

The Gilman Center includes a variety of State offices, including the Department of Health, Employment and Training, Vocational Rehabilitation, Aging and Disabilities, SRS Social Services, and SRS Child Care Services. Other offices in the center include the US Department of Agriculture, the University of Vermont Extension Service, the Vermont Public Transit Association, a Veterans Center, and a number of medical services.

Potential bus riders include commuters who work at the Gilman Center, and individuals who need to visit State offices to inquire about available services. Commuters may need improved peak hour schedules. Midday riders will probably need increased publicity about the availability of the Gilman Center bus service.

After leaving the Gilman Center, the bus offers a stop adjacent to the Vermont Transit depot, which is located behind the Tallyhouse Restaurant. This Vermont Transit depot is the main intercity bus terminal for the entire Upper Valley region. While Vermont Transit includes stops in Hanover for some routes, the intercity carrier makes no stops in Lebanon.

From the Vermont Transit depot, the AT bus travels to the VA Hospital, offering a front door stop at the out-patient entrance. This stop is used primarily by patients visiting the hospital for treatment. Few, if any, VA employees appear to be using AT to get to and from work.

After leaving the VA Hospital, the bus stops in front of the Howard Johnson's restaurant on Route 5. This stop is used by at least one Dartmouth College commuter who leaves his car in the Howard Johnson's parking lot and rides the bus to the computer center on the Dartmouth campus.

The bus crosses the White River and then turns right on Route 14 in Hartford Village. The current bus stop is located on this corner in an exposed location, with no nearby shelter from the weather. This stop in Hartford Village needs improvement.

One alternative would be to relocate the stop by routing the bus into the Village residential neighborhood. The bus could turn left on Route 14 and stop in front of the neighborhood store located on the right. After leaving the store, the bus could make three right hand turns, traveling around the block on narrow residential streets, and then turn left once again onto Route 14. This maneuver would add two or three minutes to the schedule. However, it would make using the bus easier and more inviting for Village residents. Another approach would be to install a bus shelter at the existing bus stop location. Landscaping should be included, in an effort to suggest to nearby residents that Advance Transit is a pleasant, convenient, and comfortable transportation alternative.

The bus follows Route 14 until it reaches the intersection with Route 5. Northbound buses originating in West Lebanon then turn left onto Route 5. Southbound buses that started their runs in Hanover continue straight across the bridge into West Lebanon.

A bus stop is located just north of the Route 5 intersection. Some riders walk between this stop and the nearby Grand Union on Route 14. There appear to be no other safe places to stop until the bus reaches the top of a long hill. The Hartford High School is located one block to the west just past the summit of the hill. The existing Saunders Avenue bus stop provides limited access to the High School. The bus could be routed closer to the school, at a cost of adding several minutes to the schedule. Such a change would probably only be justified at specific times of the day when groups of high school students are expected to board.

The bus continues north through the village of Wilder, making several stops along the main highway. Most of the stops between here and downtown Norwich suffer from the fact that waiting riders are required to stand out on the highway. While some individuals may be willing and able to do this, elderly people, middle class riders, and others who could benefit from the service are less likely to do so.

Some of these locations may be candidates for bus shelters. There may little or no opportunity to route the bus away from the main highway in Wilder, but this possibility should at least be examined. Once again, a trade off will arise between fast service and convenient stops. Fast service is important, but it is equally important that passengers be able to get on and off the bus.

A condominium development located along Route 5 north of Wilder is served by a highway bus stop. A bus shelter could be placed here, but this may not be enough to generate a meaningful level of ridership, given the higher income level of condominium owners.

The bus turns left when it reaches Route 10A and travels a short way into the town of Norwich. It reverses direction via Hazen Street, making a stop near a small senior citizen apartment complex, and then returns on Route 10A heading toward Hanover. A stop at the Norwich Inn allows Norwich residents to board the bus for the short ride across the river into Hanover. Several local commuters use the bus from this location to avoid having to find a parking space in Hanover.

Before crossing the river, the bus offers a stop at the top of the access road to the Montshire Museum. Bus trips to the museum could perhaps be promoted for families during the summer season and on Saturdays. Travel to the museum would probably need to focus on northbound buses, to avoid the need to cross Route 10A. Adjustments to the schedule would probably be needed for Saturday museum trips.

Traffic often moves very slowly across the Norwich-Hanover bridge during peak commuter hours. Given the existing level of traffic congestion, combined with limited parking in downtown Hanover, Advance Transit should be able to play a significant role in moving people across the bridge between Vermont and New Hampshire. This would require the development of a park and ride facility on the Vermont side of the river. The possibility of locating a park and ride lot near the Route 5 and 10A intersection should be investigated, although the Town of Norwich historically has not been in favor of use of publicly-owned land for this purpose. Alternatives may include (1) use of private parking space (similar to the Canaan park and ride lot); and (2) use of the new Advance Transit facility in Wilder. In the case of the latter alternative, there is room for parking; however, the location is probably too far south to offer a popular alternative for Vermont commuters heading south- and west-bound.

Upon entering downtown Hanover, the bus stops at the Hanover Inn, and then continues around the one-way Dartmouth campus loop.

Figure 3-2 shows the current vehicle-to-route assignments for each of the seven AT buses. Route 1 (blue lines) represents the Blue Route, Route 2 (red dots) represents the Red Route, and Route 3 (green solids) represents the Green Route. Vehicles spend 58% of in-service time on the Blue Route, 24% of time on the Red Route, and 18% of the time on the Green Route.

Figure 3-2: AT Bus Routings - Current Schedule

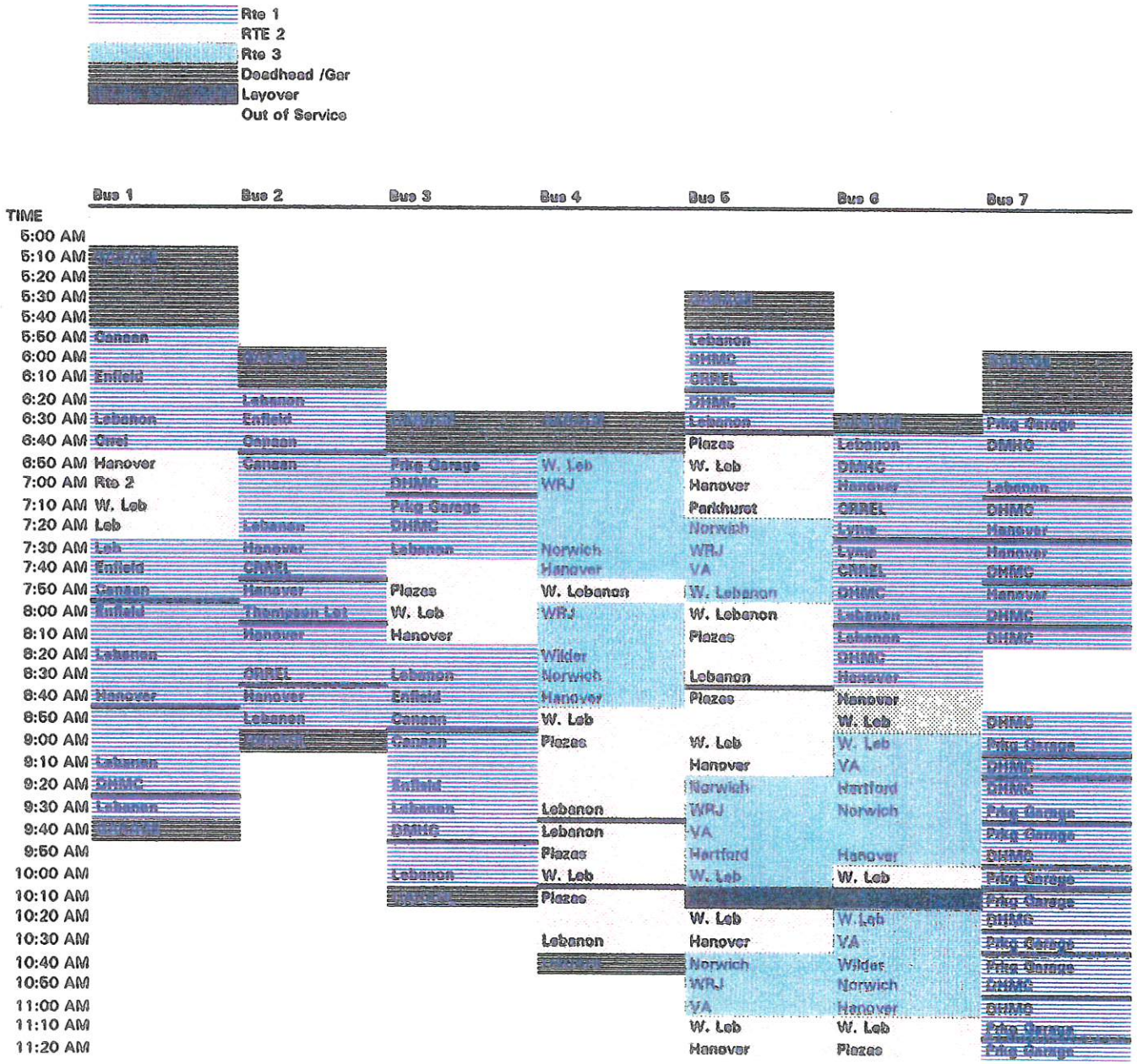
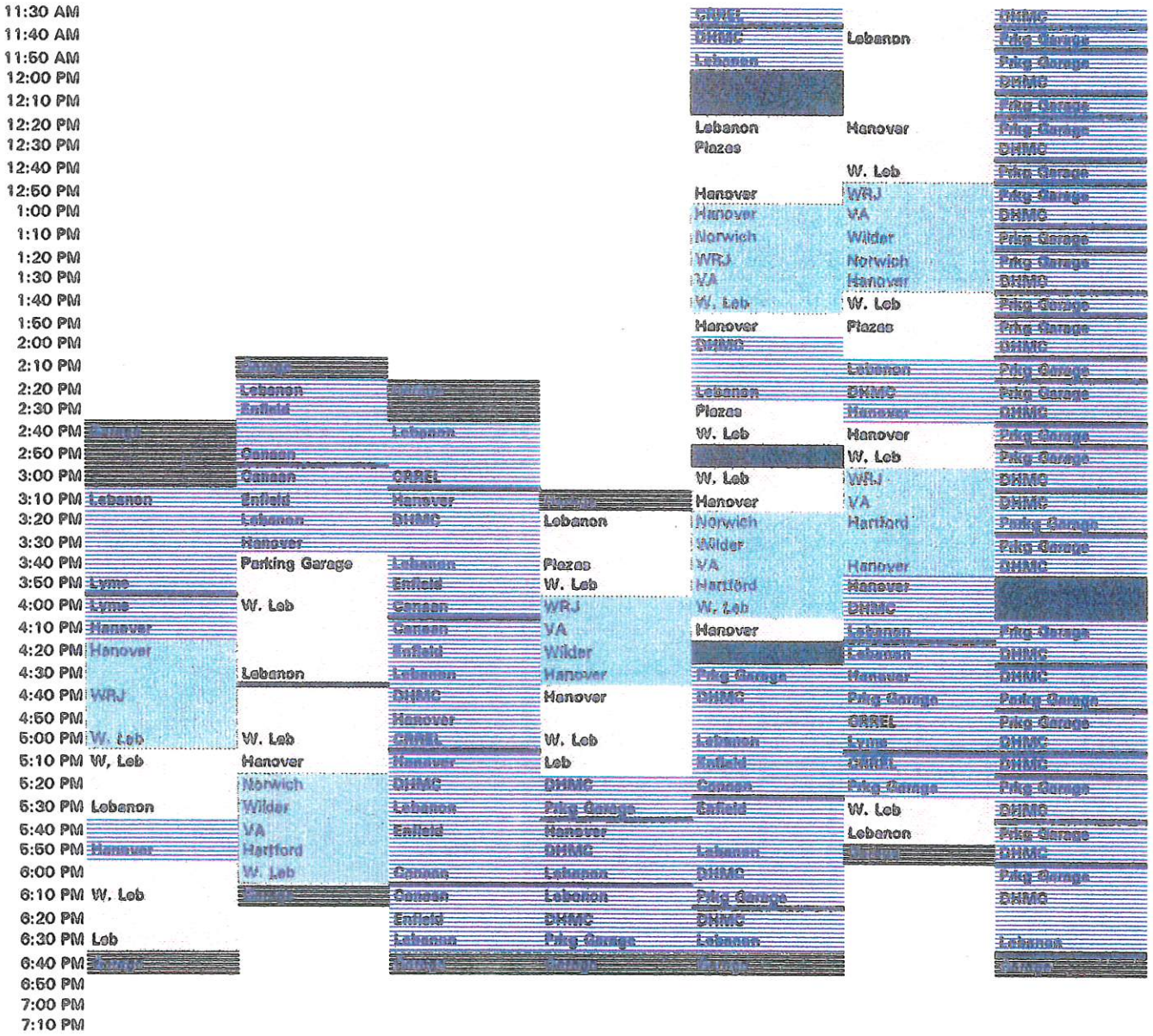


Figure 3-2: AT Bus Routings - Current Schedule (Continued)



3.2.4 Transfers and Bus Stops

The Advance Transit route structure includes three principle transfer locations, one in downtown Lebanon, a second in West Lebanon, and a third in downtown Hanover.

Downtown Lebanon Transfer Site

The transfer location in downtown Lebanon offers easy and convenient transfers between routes. Buses pull up directly behind one another. It takes only a matter of seconds for passengers to walk between buses. Moreover, there is a heated lobby adjacent to the bus stop where passengers can wait protected from the cold and the weather.

West Lebanon Transfer Site

In West Lebanon, buses stop either in front of the public library on the west side of Main Street, or in front of the Mascoma Savings Bank on the east side of the street. These two locations are directly across the road from each other.

Buses traveling toward Lebanon and the shopping plazas wait on the library side. Buses traveling toward Vermont towns and Hanover wait in front of the Bank.

While this situation is less than ideal, it does not appear to present a significant problem at the present time, in part because few people cross the street to make connections at this location. Buses that stop on the east side of the road have just come from the shopping plaza area. Riders on these buses would cross the street to make a transfer only if they wanted to ride back in the direction from which they had just come.

"Green Route" buses heading to and from Vermont stop on the same side of the road as "Red Route" buses heading to and from the shopping plazas.

Occasional requests do arise for transfers between "Green Route" White River Junction buses and "Red Route" buses running between West Lebanon and Hanover. In order to avoid across-the-street transfers, drivers will circle the block in West Lebanon so that connecting buses end up on the same side of the road. This maneuver is only possible when schedule time permits. When buses are running behind schedule, passengers are required to walk across Main Street to board their connecting bus.

Across-the-street transfers will present more of a problem if Advance Transit decides to operate a separate bus between the shopping plazas and West Lebanon. With such a configuration, riders from downtown Lebanon would travel directly to West Lebanon via the Seminary Hill Road, and then transfer to the shopping plaza bus. This would allow AT to make fewer runs through the plaza area, and faster trips between Lebanon and West Lebanon. But it might also require either Lebanon or Hanover riders to cross the street in West Lebanon when traveling to the plazas. (The alternative would be for drivers to circle the block in West Lebanon so that connecting buses end up on the same side of the road.)

One way to reduce the number of across-the-street transfers in West Lebanon would be to operate key mid-morning and early afternoon shopping trips from Canaan, Enfield, and Lebanon directly to and from the plaza area. This might be appropriate even if these transfer issues are fully resolved.

Downtown Hanover Transfer Site

Transfers in downtown Hanover are the most troublesome, especially for Vermont and West Lebanon commuters who are trying to reach the Dartmouth-Hitchcock Medical Center. Passengers can get off the bus at the Hanover Inn on Wheelock Street and walk half a block and across the street to the Dartmouth Book Store. Or they can stay on the bus as it travels through the Dartmouth College campus, returning eventually to the Dartmouth Book Store. Crossing the street may result in a faster connecting time, while staying on the bus may be more comfortable.

In addition, drivers cannot pull over and wait for connecting buses at the Dartmouth Book Store. This means that passengers must get off and wait on the sidewalk for their connecting bus to arrive.

Transfer difficulties arise in part because some passengers want to travel north to the Dartmouth campus, while others travel south to the Medical Center.

The best solution would no doubt be to minimize the need for downtown transfers. One approach would be to route peak-hour Vermont buses to the Medical Center after making stops on the College campus. For example, buses from Vermont could travel toward the hospital via Park Street after making stops on North College Street. This possibility should be addressed when service alternatives are considered. The principle problem would be increased travel time, which could disrupt subsequent runs on the Vermont-Hanover route.

Bus Stops

Advance Transit buses provide excellent access to a wide variety of employment and commercial destinations throughout the region. However, they generally provide less than ideal stops in residential areas where passengers might be expected to start and end their trips.

While some people along existing routes receive front-door service, most riders must walk several blocks to reach a bus stop. This is particularly true in downtown Lebanon and within the town of Hartford.

Advance Transit faces a classic dilemma for fixed-route transit systems. The agency needs to provide fast service in order to compete with private automobiles. And it must provide riders with easy and convenient bus stops, to minimize walking distances and to keep riders from having to wait in exposed locations along busy highways. There is an obvious trade off between these two objectives.

Advance Transit needs to look for ways to increase the comfort and convenience of existing bus stops. In some cases this will mean the installation of bus shelters. In others, it may mean moving stops to better locations. And it may be necessary in some cases to reroute buses to add

service to important residential neighborhoods. Such changes may be needed in order to convince a wider segment of the public to consider traveling by bus.

(The town of Hanover has recently applied to the New Hampshire Department of Transportation for funds to install bus shelters at key stops in Hanover.)

Possible candidates for added neighborhood service include residential areas east of Coburn Park in downtown Lebanon and residential streets in Hartford Village.

It is also worth noting that several destinations indirectly served by AT buses are not identified on existing route maps. These locations include: high schools in Hanover, Lebanon, Hartford, and Canaan; the Lebanon Junior High School; the Carter Community Building; the Alice Peck Day Hospital in Lebanon; and the Split Ball Bearing factory. Also, route maps do not show the existing "park and ride" lot located at the Methodist Church in Canaan; however, this may need the "blessing" of the church before this stop is added to the route map and schedule.

3.2.5 Saturday Service

Advance Transit's Saturday service consists of one bus operating continuously between 6:45 a.m. and 6:45 p.m. This bus serves all routes except the segment between Hanover and Lyme.

As presented in the Advance Transit timetable, Saturday schedules are very difficult to understand. It is difficult to identify origin and destination pairs, and it is especially difficult to see what return trips are available.

The Saturday timetable needs to be reconfigured to show available round trips by route segment. Some of the possible Saturday trips that become apparent once this is done include the following:

- Canaan and Enfield riders can travel to Lebanon, the shopping plazas, West Lebanon, and Hanover at 7:50 a.m. and 2:15 p.m. They can return home on buses that depart Hanover at 1:00 p.m. or 5:00 p.m. This leaves Canaan and Enfield riders with either a 2 hour and 20 minute (3:00 p.m. - 5:20 p.m.), a 5 hour (8:30 a.m. - 1:20 p.m.), or a 9 hour (8:30 a.m. - 5:20 p.m.) stay at the shopping plazas between bus runs.

- Lebanon residents can travel to the Dartmouth Hitchcock Medical Center from downtown Lebanon at 6:45 a.m., 10:10 a.m., and 4:40 p.m. They can return from the Medical Center to Lebanon (traveling via Hanover and West Lebanon) at 10:20 a.m. and 4:50 p.m.

- Lebanon residents traveling to Hanover can depart downtown Lebanon at 6:45 a.m., 8:00 a.m., 10:10 a.m., 11:15 a.m., 2:45 p.m., and 4:40 p.m. The first, third, and sixth buses travel via DHMC; the others travel via the plazas and West Lebanon. Return buses from Hanover travel through West Lebanon and the plazas. They depart downtown Hanover at 9:00 a.m. (via Vermont), 10:30 a.m., 1:00 p.m., 4:00 p.m., and 5:00 p.m.

- Hanover residents can travel to the West Lebanon shopping plazas at 10:30 a.m. and 1:00 p.m. They can leave the plazas for the return to Hanover at 11:30 a.m. or 3:00 p.m.

- Hanover residents can travel to downtown Lebanon at 7:05 a.m., 10:30 a.m., 1:00 p.m., 4:00 p.m. and 5:00 p.m. They can leave downtown Lebanon for Hanover at 8:00 a.m., 10:10 a.m., 11:15 a.m., 2:45 p.m. (via Vermont), and 4:40 p.m.

- The bus makes stops in Vermont towns between 9:00 a.m. and 9:35 a.m. heading toward West Lebanon, the plazas, and Lebanon. The return bus leaves Lebanon at 2:45 p.m., the plazas at 3:00 p.m. and West Lebanon at 3:15 p.m. This leaves Vermont passengers with a 5 hour and 10 minute stay in the Route 12A shopping plaza area, which may be too long for most Saturday shoppers.

- Lebanon shoppers can leave downtown Lebanon for the plazas at 8:00 a.m., 11:15 a.m., and 2:45 p.m. They can depart the plazas for the return to Lebanon at 9:50 a.m., 10:50 a.m., 1:20 p.m., 4:20 p.m., and 5:20 p.m.

- Hanover residents have only one opportunity at 7:05 a.m. to travel by bus to the Medical Center. Return buses are available at DHMC at 10:20 a.m. and 4:50 p.m.

- Lebanon residents who wish to travel to the Montshire Museum in Norwich would need to board the bus in downtown Lebanon at 8:00 a.m. This bus arrives in Hanover at 9:00 a.m. and then crosses the river into Vermont. Passengers would need to get off the bus on the north side of Route 10A (unless arrangements were made for the bus to turn off its regular route). They would arrive at the top of the museum access road just a few minutes after 9:00 a.m. They would need to get back on the bus for their return trip shortly before 4:00 p.m. They would arrive back in downtown Lebanon at 4:40 p.m.

An effort needs to be made to analyze past ridership records to better understand the existing demand for Saturday service. Schedule adjustments may be needed to better match available travel times with anticipated trip purposes.

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Chapter 4: Organizational Infrastructure

This chapter explores alternative organizational structures for Advance Transit and describes AT's current administrative and operational infrastructure.

4.1 Alternative Organizational Structures

AT is a private, non-profit New Hampshire corporation, with a 501(c)(3) status. In this section, this organizational status is examined and contrasted with alternative private sector alternatives (i.e., Vermont corporation) as well as several public sector alternatives, including a New Hampshire Municipal Transit Authority, a Vermont Regional Transit District, a Vermont Regional Transit Authority, and a Bi-State Authority.

The following sections describe and analyze each alternative with respect to the organization, creation, control, obligations, funding, and other differences, and concludes with our recommendation as to whether or not the type of entity would be appropriate for AT.

4.1.1 New Hampshire and Vermont Private Non-Profit Corporations

Organization

Advance Transit is currently organized and operating as a New Hampshire PNP under New Hampshire Revised Statutes Annotated (NHRSA) chapter 292. However, since AT also operates in Vermont, and indeed has recently moved its facilities to Wilder, Vermont, it has the option of becoming a Vermont PNP. Furthermore, since AT has moved its office and facility to Vermont, there is a question as to whether it still qualifies as a New Hampshire PNP or may be required to become a Vermont corporation. Neither states' statute includes any requirement regarding the location of a PNP's main office or facilities. However, both New Hampshire and Vermont require all PNPs operating in the state to make an annual filing which must include, among other things, the address of AT's "principal office in New Hampshire". This means that both states would be notified if AT did not keep any office in New Hampshire, and might object to AT continuing to operate as a New Hampshire PNP. Note that neither state asks about the location of the PNP's main office or facilities, so that it is probably only necessary to have a part-time or shared office in New Hampshire. We have attempted to contact the Vermont and New Hampshire Secretary of State offices to discuss this matter. However, we have not yet been able to get a response from either office.

Vermont PNPs are governed by Title 11, chapter 19 of the Vermont Statutes Annotated (VSA). This law is very similar to, although much more detailed than, the New Hampshire statute. It allows PNPs considerable latitude in structure and operations, provided that the PNP's articles or bylaws are explicit regarding the changes from the standard procedure defined in the statute.

Creation

A Vermont PNP is formed by filing articles of incorporation, or association, with the Secretary of State. These articles could be almost identical to AT's current "Articles of Agreement".

Conversion from a New Hampshire PNP to a Vermont PNP will require first the creation of a proper Vermont PNP. AT could then either (1) merge the two entities, with the surviving entity being the Vermont PNP, or (2) transfer all assets from the New Hampshire PNP to the Vermont PNP followed by dissolving the New Hampshire PNP.

Control

Vermont law governing PNPs appears to allow sufficient flexibility in selecting a Board of Directors that AT would not be required to change the current process for selecting Directors. (Note, however, the provision discussed below regarding funding.) Vermont law would also not require changes in officers.[1]

Obligations

With respect to the ADA, AT, as a private transportation provider that is not "standing in the shoes" of a public transportation entity (as it would be if it received Section 18 assistance through a local public body or contracted with a public entity to provide service) is not required to provide complimentary paratransit service under the ADA. However, if AT were to become a public entity, AT would be required to provide complementary paratransit service.

Therefore, a key element to consider with respect to converting AT into any type of public entity, is the effect on it's finances of being required to operate a complementary paratransit service. The experience to date in New Hampshire provides a rough idea of what the demand for ADA paratransit trips in AT's service area might be. Manchester Transit Authority, in Manchester, NH, (service area population of 101,000) provided 14,100 ADA paratransit trips in 1993 and expects to provide 15,000 trips in 1994. This indicates that AT, which serves a population of 44,000, might expect to serve about 6,500 ADA paratransit trips, or about 26 trips per day (based on 255 days of service). At a productivity of 2 trips per hour and a cost of $35.60 per hour[2], this

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1 The only change that would be required by differences in the statutes is that under Vermont law committees of the Board of Directors must consist of two or more directors, whereas the current Articles allow for non-director members of committees. Of course, non-directors can be members of advisory committees.

2 This is the fully allocated cost of Marble Valley Regional Transit District's (Rutland, VT) paratransit service.

would cost approximately $115,000. However, Marble Valley Regional Transit District (MVRTD), in Rutland, VT (population 18,230) had estimated that there would be a demand for 8,100 to 10,125 paratransit trips per year. During the last year, MVRTD only provided 14 ADA paratransit trips. To a large extent, this low ADA paratransit ridership can be attributed to the continued use of other funding sources to sponsor these trips, i.e. the unburdening of human service agency trips onto the ADA paratransit service has not happened in Rutland.

Both public entities and private non-profit entities are subject to a large number of other requirements if they receive funding from the federal government, including reporting, auditing and anti-discrimination rules. These requirements do not distinguish as between public and private entities in any substantial way.

Funding

Currently AT's primary sources of funding are fares, federal grants (distributed through both Vermont and New Hampshire), Vermont grants, and contributions from local municipalities. There is no reason that fares, federal grants or contributions from local municipalities should be disrupted by AT becoming a Vermont PNP.

With regard to funding from the state of Vermont, it provides funding according to a single formula to all "public transit services" (VSA section 5091). "Public transit services" are all:

(a) transportation authorities as provided by No. 122 of the Acts of 1973;

(b) transit authorities and transit districts as provided by 24 VSA chapter 127; and,

(c) municipal transit system or nonprofit public transit system. (VSA section 5088 (7))

Nonprofit public transit systems include:

(a) a Vermont nonprofit corporation having the majority of its governing board appointed by the legislative body of the municipality or municipalities served and a function of providing a public transit service; and,

(b) a foreign nonprofit corporation located in a state which borders Vermont and provides public transit service in both Vermont and bordering state.

Therefore, if AT becomes a Vermont nonprofit corporation, it will become subject to an additional requirement that the majority of its governing board is appointed by the municipalities served. Failure to do so would result in AT no longer qualifying for aid according to Vermont's formula.

The Vermont statute on PNPs does allow a PNP to assess its members, or specific groups of them, if this is expressly provided for in the PNP's articles. If AT's municipal members were agreeable, this could provide AT with a greater assurance of stable funding.

Other Differences

There are two important provisions relating to the liability of officers and directors of PNPs in Vermont law. The purpose of these provisions is to make people more willing to serve as officers and directors of PNPs by eliminating much of the risk of personal liability and lawsuits. The first, Title 11, section 2352 is very similar to Article IX of AT's Bylaws and expressly allows a PNP to indemnify an officer or director (1) for the expenses of defending a lawsuit relating to the PNP or his/her actions as an officer or director, provided the officer/director is not found to have committed gross negligence or intentional misconduct, or (2) as otherwise specified in the articles or bylaws. The second, Title 12, section 5781 provides more protection and states that directors and officers of corporations that are nonprofit (as defined in section 501 of the Internal Revenue Code) are not personally liable for damages from acts or omissions in good faith, unless there is gross negligence or an intentional tort. This section does not apply to automobile accidents.

Conclusion

There appear to be no strong reasons either for or against operating as a Vermont PNP, since AT would be able to continue operating in much the same fashion as it currently operates. However, if AT is converted to a Vermont PNP, care will need to be taken with the structure of the Board of Directors to insure that AT continues to quality for Vermont formula aid.

4.1.2 New Hampshire Municipal Transit Authority

Organization

New Hampshire law (NHRSA section 38-A:1) authorizes any single town or city to "incorporate a public authority for the purpose of acquiring, owning and operating, or causing to be operated, a mass transportation system within such city or town". A municipal transit authority may provide transit service outside of the city or town that formed it, however in doing so it is treated as a normal common carrier and subject to the control of the New Hampshire public utilities commission. It may also enter into contracts with persons or public/quasi-public corporations of any state. One of the examples of these contracts that is provided in the statute is a joint operating authority.

There is no general provision in the New Hampshire statutes authorizing a group of local governments to establish a regional mass transportation system. The Cooperative Alliance for Seacoast Transportation, which operates a regional mass transportation system in south-east New Hampshire, was formed by a special statute (NHRSA chapter 239).

With any type of public transit entity that provides transit service in more than one state, there is an issue of whether its interstate agreements rise to the level of an interstate compact that needs the approval of Congress. Because a simple contract to provide service does not alter the balance between the states and the federal government, we doubt that Congressional approval would be required. However, if AT changes to a single state public entity and provides service under an interstate contract, an unsatisfied municipality or individual could challenge operations, or the contract.

Creation

A New Hampshire municipal transit authority is created by resolution of the municipality followed by filing of articles of incorporation for the authority.

Control

The authority is governed by a 5 member board, who are appointed by the municipality's legislative body. The initial members serve terms of between 1 and 5 years. Thereafter, one member is appointed every year, to serve a five year term. Members of the Board must be residents of, and registered voters in, the municipality forming the municipal transit authority. This means that none of the other municipalities, regardless of the state in which they are located, could have any representation on the Board. Also, none of the current representatives of human service agencies, institutions and businesses could continue to be represented on the Board.

Members may not hold any remunerative public office or position or any employment for compensation (except as an independent contractor) with the United States, the state of New Hampshire, or any political subdivision of either. The authority must appoint a chairman, a secretary and a treasurer, and may appoint a general manager.

Obligations

The obligations of a municipal transit authority are generally set out either in the municipalities resolution forming the authority or in its articles of incorporation. Additional obligations may be imposed on it by the municipality it serves or under contracts if it provides service outside of the municipality. Finally, a municipal transit authority, as a public entity, has a public entity's obligations under the ADA.

Funding

Municipal transit authorities have the power to issue bonds and incur debt and to set the fares for all services it acquires, constructs, operates or maintains. They may also accept grants from the State or the United States. It is unclear if a municipal transit authority can obligate the municipality that formed it, or if it must rely on the municipality for whatever contribution the municipality chooses to make.

One potential problem is with Vermont formula funding. Funding in provided to public transit systems. The statute also states that the term "public transit system" includes "any municipal transit system". However, it is unclear whether the Vermont AOT would treat a New Hampshire municipal authority providing service in Vermont as eligible for funding.

Other Differences

All property owned or operated by any municipal transit authority is exempt from all taxes, fees, or other charges levied by the state of New Hampshire and all of its political subdivisions and taxing districts. It is also required to pay no taxes or assessments upon its activities or upon any of its revenues.

Conclusion

This type of entity is not recommended for three principal reasons. First, as a municipal transit authority the governing board consists solely of representatives of the single municipality which formed the authority. The other municipalities and groups providing funding to AT would undoubtedly be opposed to losing their membership on the governing board. Second, there is a question of whether Vermont formula funding would continue to be available. Third, it may be impossible to argue that AT is a New Hampshire municipal transit authority since its office and facilities have moved to Vermont.

4.1.3 Vermont Regional Transit District

Organization

Regional transit districts are a specific type of public transit provider authorized by statute in Vermont (24 VSA section 5121, et. seq.). A regional transit district may "purchase, own, operate or provide for the operation of land transportation facilities, and may contract for transit services, conduct studies and contract with other governmental agencies, private companies and individuals." (24 VSA section 5125 (a)) It may also

> "(b) . . . exercise all powers necessary, appurtenant, convenient or incidental to the carrying out of its functions, including, but not limited to, the following: . . .
>
> (2) to acquire, purchase, hold, lease as a lessee and use any franchise property, real, personal or mixed, tangible or intangible, or any interest therein, necessary or desirable for carrying out the purposes of the district, and to sell, lease as lessor, transfer or dispose of any property or interest acquired by it;
>
> (3) to fix, alter, charge and establish rates, fares and other charges for the services and facilities within its area of operation, which rates, fees and charges shall be equitable and just;

(4) to acquire and operate, or provide for the operation of local transportation systems, public or private, within its area of operation or in a municipality not already a member of a district, with which it contracts to furnish transit service; . . ." (24 VSA section 5125 (b))

This section states that a regional transit district generally has all other powers that may be useful to it in carrying out its principal function, operating a public transit system. The powers that are mentioned are both specifically granted to a regional transit district and intended to illustrate the types of powers possessed by a regional transit district. Powers that are significantly different from the listed powers, or that are listed in the similar section for regional transit authorities and not in this section, are probably not possessed by a regional transit district. This would include the power to issue bonds and the power of eminent domain.

Finally, a district has the traditional corporate powers, such as to sue and be sued, to buy, sell and/or lease property, to make contracts, etc.

Creation

A regional transit district is created by the approval of the voters of each of two or more municipalities. Currently, formation also requires the written approval of the Transportation Board.[3] The Transportation Board approval is statutorily required to be based on studies regarding whether the municipalities involved constitute a reasonable transit district and whether funding will be adequate to provide a continuing transit program. (24 VSA section 5122).

The statute gives a transit district the right to adopt rules regarding the number of qualification of members and for the termination of membership. These rules would apply after the district is formed.

Control

A regional transit district is controlled by a board. The initial membership of this board is "at least one representative appointed from each member municipality." The board may then adopt rules for the election or appointment of additional members to the board, although it must always contain at least one representative from each municipality. Note that there is no requirement that all of the members of the board be appointed by the municipalities or that each municipality appoint the same number of board members. The board appoints the officers that control the day-to-day operations of the regional transit district.

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[3] The Transportation Board is a Vermont state agency with limited powers over the formation of regional transit districts and whose approval is needed for any entity to provide new public fixed route service. Discussions with the AOT have indicated that this power will probably be transferred to the AOT in the near future. However, no legislation is currently pending.

Obligations

The obligations of a regional transit district are set out in the resolutions forming the district and approved by the voters. In addition, a regional transit district has the obligations of a public entity under the ADA, as described above.

Funding

Regional transit districts are funded by the board adopting a budget which is sent to the member municipalities. The board then determines "the contributions to be requested from member municipalities." (24 VSA section 5128.) The statute provides no method for the district to compel a member municipality to make the requested contribution.

Other Differences

The tort liability of regional transit districts is limited to $1,000,000 for each accident (24 VSA section 5129). The term "tort" basically encompasses all legal claims that are not based on a contract and are not a criminal prosecution (e.g., claims based on vehicle accidents and falls on buses). The municipal members of the district have no tort liability from the district.

A regional transit district and its systems and facilities are exempt from the sales, purchase and use taxes and from motor vehicle registration fees, except those registration fees applicable to municipalities (24 VSA section 5127).

Conclusion

Conversion to a regional transit district is worth considering. The principal advantages are the limitation of tort liability to $1,000,000 per accident and the exemption from many taxes. The most significant disadvantage to this type of entity is the ADA paratransit requirement. The requirement that the Transportation Board approve the formation of the district provides an additional hurdle.

4.1.4 Vermont Regional Transit Authority

Organization

A regional transit authority is also authorized by statute in Vermont (24 VSA section 5101, et. seq.). The initial description of its basic powers in 24 VSA section 5104 (a) is identical to the description for regional transit districts in 24 VSA section 5125 (a). The second paragraph of both of these sections describes some, but not all, of the supplemental powers of each agency. The only significant differences are that a regional transit authority:

- has an area of operation which is defined, by 24 VSA section 5102, as the area of the member municipalities, and does not expressly have the power to acquire, operate, or provide service in a municipality that is not a member of the authority,

- "may enter into management contracts with any person or persons for the management of a public transportation system or controlled by the authority for such period or periods of time, and under such compensation and other terms and conditions as shall be deemed advisable by the authority" (24 VSA section 5104 (b) (7)),

- has the ability to issue bonds,

- has the power of eminent domain within its area of operation, and,

- may enter into joint compacts with transportation authorities of other states provided that the compact has been approved by the general assembly of that state and the congress of the United States.

It is important to note, with regard to the first and second points above, that both a regional transit district and a regional transit authority have a general power to "make contracts of every name and nature". (24 VSA sections 5104 (b) (6) and 5125 (b) (5)) We are not aware of any rule for determining how a court would evaluate the interaction of the general contracting power and the provisions dealing with specific types of contracts. A court could hold that this general power gives a district, for example, the power to enter into any contracts whatsoever, even those that are specifically authorized only for an authority, and vice versa. On the other hand, a court could hold that the legislature, by specifically granting a power (e.g., the right to provide service outside its area of authority) to regional transit districts and not to authorities, intended to withhold that power from authorities. You should note that the Chittenden County Transportation Authority (a Vermont regional transit authority) does provide service by contract outside of the area of its member municipalities. However, if AT became an authority, there would be a risk that a court could hold it did not have the power to contract to provide service in New Hampshire, unless it was through a joint operating agreement with a New Hampshire entity, and the agreement had been approved by the New Hampshire legislature and Congress.

Creation

Two or more municipalities may form an authority by the majority vote of each of their voters. Unlike the transit district, there is no statutory role for the transportation board.

Member municipalities may withdraw from membership in the authority, provided that the notice of withdrawal is given more than one year after the member municipality joined the authority. The withdrawal takes effect at the end of the first full fiscal year following the notification. If an authority chooses to bond itself, a member municipality may withdraw from membership sooner,

but it will continue to be liable for its share of all existing indebtedness incurred at the time notice of withdrawal was given.

Control

A regional transit authority is controlled by a board consisting of two commissioners from each member municipality. There is no provision for any commissioners to be selected in any other manner. This means that AT could not continue to provide different voting rights for different municipalities and could no longer provide any representation on the board for human service agencies, institutions and businesses providing support to AT.

The board elects from its members a chairman, vice-chairman, secretary and treasurer, and appoints a transit director and such other personnel as they feel necessary.

Obligations

The obligations of a regional transit authority are set out in the resolutions forming the authority and approved by the voters. In addition, a regional transit authority has the obligations of a public entity under the ADA, as described above.

Funding

A regional transit authority's board prepares a budget and, after providing public notice and notice to the members of the legislative bodies of its member municipalities, holds a public meeting to review the budget. The board then adopts the budget, with or without changes, and apportions the net deficit among its member municipalities. The apportionment formula is based on the municipalities share of weekly miles of service, unless all of the member municipalities approve a different formula. This apportionment is termed an assessment, which means that the authority can apparently compel member municipalities to pay their apportioned amount.

In the event that the budget of the authority in any year is insufficient to support the operations of the authority, the board may assess the member municipalities for additional sums, apportioned as provided above. The additional assessment requires the approval of the legislative bodies of each of the member municipalities.

Other Differences

An authority is considered a "body politic and corporate with the powers incident to a municipal corporation under the laws of the state of Vermont". This means that an authority is an independent government entity, not just a subsidiary entity created by the member municipalities and for which they might be held responsible. There is a Vermont statute which provides a $75,000 limit on the tort liability of Vermont municipal corporations, including a Vermont regional transit authority; however, this statute specifically does not apply to the extent that the entity carries insurance.

An authority shall have a fiscal year commencing July 1 of each year.

Conclusion

This type of entity is not recommended. The power of eminent domain and the ability to compel payment of assessments are valuable advantages. However, the fact that the board of an authority, by statute, can only include representatives of the Vermont member municipalities of the district would undoubtedly be opposed by the New Hampshire municipalities and the other current members of the board. An additional disadvantage is the fact that an authority might not be able to provide service in New Hampshire except under a joint operating agreement with a New Hampshire entity, and the agreement was approved by Congress and the New Hampshire legislature. Finally, AT would be subject to the ADA paratransit requirement for public agencies.

4.1.5 Interstate Entity

Organization

Currently New Hampshire and Vermont have an Interstate School Compact and an Interstate Waste Compact which provide a general authorization for municipalities located near the border between the states to enter into certain cooperative agreements with municipalities in the other state and establishes the rules for such agreements. The two states do not have similar agreement for transit authorities, although such an agreement is not needed to create an interstate entity. For example, the Dresden School District existed prior to the Interstate School Compact and the Compact recognized its unique status. Forming an interstate public transit entity can therefore either be done in two steps, creating a general interstate compact such as the Interstate School Compact and then forming the specific new entity, or in a single step, by just forming the one new entity.

Creation

The constitution states that all agreements between the states need to be approved by Congress. This has been interpreted to mean that only agreements that may alter the balance of power between the states and the federal governments need Congressional approval. Therefore, it appears that an agreement to form an interstate entity providing mass transportation services in a limited region of two states should not require Congressional approval, only the approval of the two state legislatures.

However, it should be noted that both the New Hampshire - Vermont Interstate School Compact and the New Hampshire - Vermont Interstate Waste Compact provided for, and received, Congressional approval as well as the approval of both state legislatures. This may be because both of these statutes provided a general authorization for municipalities located near the border to enter into cooperative agreements with municipalities in the other state and therefore in a sense affected the general boundaries of each state's authority.

Note that in any case such an agreement would still require an agreement between the legislative bodies of both states. This allows the entity to have any powers and abilities upon which the two states agree. However, reaching such an agreement, and obtaining legislative approval (even without needing Congressional approval), can often be a long process.

Control

An interstate entity can incorporate whatever control provisions that the two legislative bodies agree on.

Obligations

An interstate entity's obligations would be controlled by the interstate agreement. Such an entity would also be subject to the ADA requirements for public entities.

Funding

The interstate compact would need to include specific provisions regarding funding. This would be especially important since an interstate entity providing transit service in Vermont does not appear to qualify for Vermont formula funds (i.e., it does not fall within the definition of a "public transit system" set forth in 23 VSA section 5088 (7)).

Other Differences

An interstate entity can have any other rights and powers set out in the interstate agreement. The entity also has more stability, since changes to the agreement can only be made by the agreement of both state legislatures (and perhaps with Congressional approval).

Conclusion

There is a potential for significant benefits by being an interstate entity, depending on the precise provisions incorporated in the interstate compact. However, an interstate entity will be subject to the ADA paratransit requirement and will not qualify for Vermont formula funds, under Vermont's current statute. In addition, establishing an interstate entity is a complex task, requiring the approval of two state legislatures and possibly of Congress. Therefore, we recommend that this not be pursued unless it appears that both state legislatures are willing to agree to the formation of an interstate entity providing significant benefits to AT and Vermont is willing to amend its laws and provide formula funding to an interstate entity providing public transit service.

4.1.6 Conclusions

None of the entities examined is significantly better for AT than the status quo and several have serious disadvantages. The only major advantage is the limitation of liability to $1,000,000 per accident granted to Vermont regional transit districts; the $75,000 limit for Vermont regional

transit authorities is less valuable since it does not apply to the extent that the authority carries insurance. Vermont regional transit authorities have bonding and taxing authority and the power of eminent domain; however, it is our understanding that AT does not see the need for any of these powers at the current time. The most common disadvantages are restrictions on the structure of AT's Board so that it would not represent all of the interested parties (New Hampshire municipal transit authority and Vermont regional transit authority), the possibility that Vermont formula funding would no longer apply (New Hampshire municipal transit authority and interstate entity), and the ADA complimentary paratransit requirement (all public entities). There are also significant difficulties associated with forming an interstate entity.

Therefore, it is our opinion that if AT is not required to convert from being a New Hampshire PNP, no change should be made. If AT is required to convert from being a New Hampshire PNP (because its office has moved to Vermont), the most serious consideration should be given to operating as a Vermont PNP, a Vermont regional transit district, or possibly an interstate entity. If AT decides not to operate a paratransit service, a Vermont PNP would probably be the best choice. If AT decides to operate a paratransit service, a Vermont regional transit district or an interstate entity would probably be the best choice since the ADA complimentary paratransit would probably not be an onerous obligation and each could provide other benefits. An interstate entity should be considered if it appears that:

- both state legislatures are willing to agree to the formation of an interstate entity that would not force AT to make significant changes in its Board of Directors and would provide AT with significant benefits (e.g., limited liability, eminent domain, bonding authority), and

- Vermont is willing to amend its laws and provide formula funding to an interstate entity providing public transit service in Vermont.

Otherwise, a Vermont regional transit district would probably be the best choice.

4.2 AT's Board of Directors

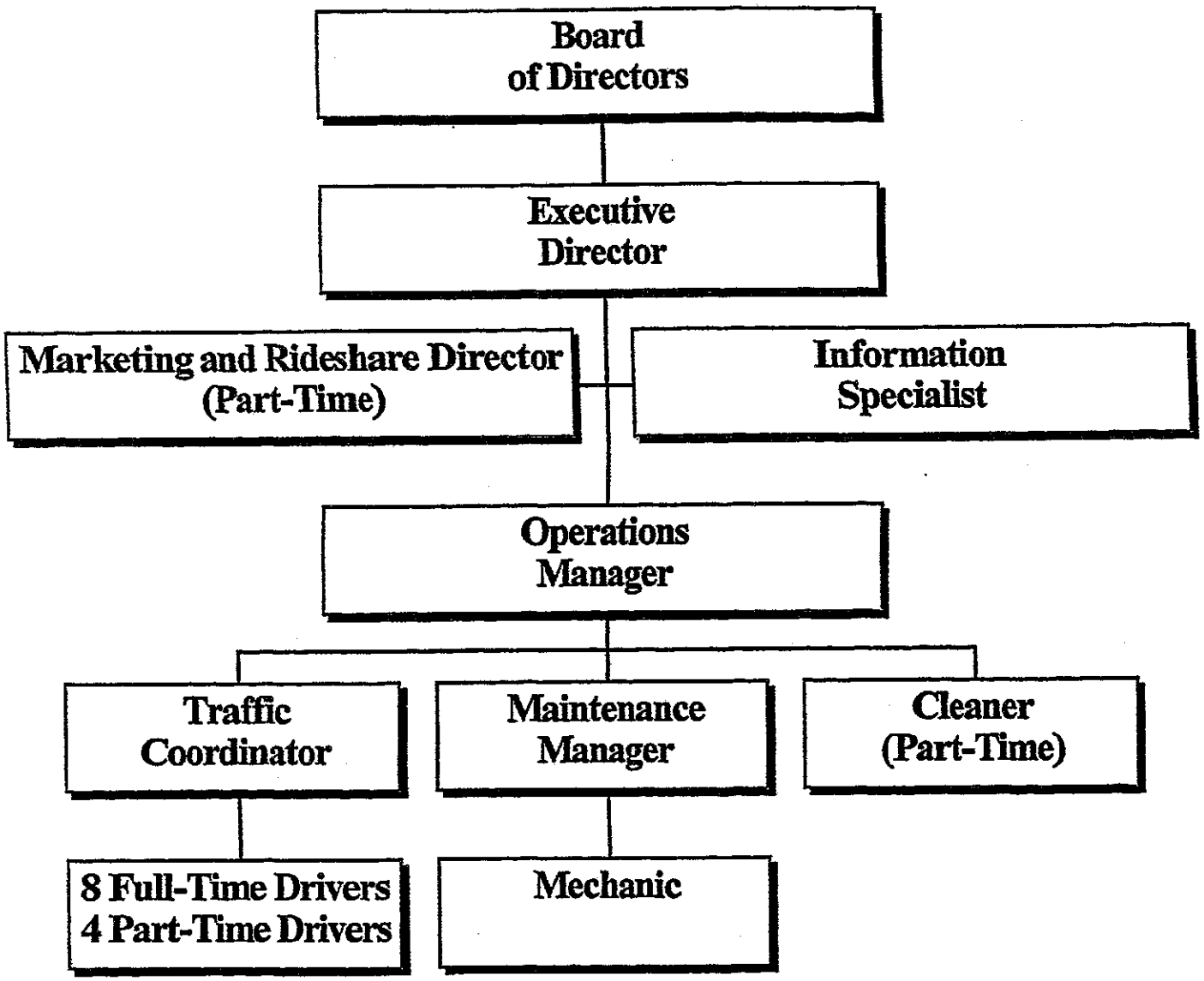
AT is overseen by a seven-member Board of Directors, which functions through a committee structure. The Board of Directors is composed of the President, Vice-President, Secretary, Treasurer and the chairs of the several committees of the Board of Directors. The committees include: (1) Finance and Administration; (2) Personnel; (3) Program Planning and Evaluation; (4) Executive and (5) Public Relations. The Finance and Administration committee is chaired by the Treasurer, the Executive committee is chaired by the President. The purpose of Advance Transit, Inc., as described in the by-laws, is to "provide a comprehensive transportation network for the several towns of the Upper Valley of New Hampshire and Vermont."

4.3 Administration/Office Staff

The administrative structure of AT's staff is shown in Figure 4-1. As shown, there are four administrative staff positions, including an Executive Director, who reports to a Board of

Figure 4-1: Organizational Chart

ADVANCE TRANSIT'S ORGANIZATIONAL STRUCTURE



Directors, an Operations Director, a part-time (3 days/week) Marketing/Rideshare Director, and an Information Specialist. The Operations Director supervises a Traffic Coordinator and a Maintenance Manger. The Information Specialist is responsible for all bookkeeping functions (including the processing of farebox revenue and trip log data). AT currently has accounting software and tracks revenue and ridership data on spreadsheet software.
The Traffic Coordinator's responsibilities include driver supervision, driver training, safety, routing scheduling and planning, dispatching, and customer service functions.

Note AT has also received $24,000 in accounting assistance over the past year, which became necessary with the departure of AT's Financial Manager. The only current staffing shortcoming, as identified by AT management, is a need for more support in the Rideshare program.

AT has an insurance policy which has a liability coverage of up to $1,000,000. Beyond that, AT has umbrella coverage of up to $5,000,000.

4.4 Drivers

AT currently has eight full-time drivers and four part-time drivers. AT's process for screening driver applicants includes (roughly in the following order): a formal application, review of the applicant's licensing (a CDL is required) and driving record, a physical and drug testing, a NHDOT road test in AT equipment, a NHDOT written test, an interview with AT's Operations Director and Traffic Coordinator, a background check on references, driving a few hours on the road under supervision, and an interview with AT's Executive Director.

After being hired and prior to actually beginning work, there is also extensive training which includes an introduction to AT's equipment by AT's Maintenance Manager, an introduction to each route and understanding assignments, and instruction as to procedures relating to fare handling, reporting, using the radio, what to do in case of an emergency, etc.

AT has five types of driver training: (1) defensive driving; (2) passenger assistance techniques; (3) substance abuse awareness; (4) passenger relations; and (5) brake and shifting. A noticeable shortcomings (of which AT management is aware) is the need for more frequent training. For example, a review of the training records reveals that five of AT's drivers last had defensive driving training in 1989, while some of the newer drivers have never been trained in defensive diving. Management is planning to implement more frequent training.

The beginning driver wage (for the first 90 days) is $7.32 per hour. Thereafter, the rate is increased to $7.68 per hour. AT gives its drivers merit increases and annual adjustments. For example, the highest paid driver is paid in the vicinity of $9.00 per hour. Note that there is not a different wage rate that differentiates full-time drivers from part-time drivers; the only difference is that part-time drivers to not receive benefits. As a side note, AT management reports that this beginning wage rate is higher than that paid to drivers of local human service agency transportation programs, but is lower than the beginning wage rate of school bus operators and intercity bus carriers, for example, and so there is competition in terms of recruitment. Note also that AT management is studying revising the wage rates to reflect longevity of service.

Up until the last year, driver morale and driver attrition was a problem. AT management reports that this was because there was not open communication between the drivers and AT management and between drivers and the maintenance staff. Since coming to AT about in 1993, AT's Operations Director has had this as a focus of his duties. Management improvements that he has instituted include monthly (or more frequently, if needed) operations meeting which are attended by management and drivers, and monthly maintenance meetings. In addition, AT management report improved communication between the drivers and maintenance staff. (These meetings are in addition to weekly management meetings of AT's administrative staff.) These changes have definitely improved driver morale and attrition, according to AT management.

Note that driver are still concerned with the routes and schedules, observing that the current schedule is not conducive to running on-time.

Drivers do a circle check at the beginning of each shift, and complete a driver log (which involves documenting the number of boardings by fare type at each stop) for each run. Fare types include cash, one-ride tickets, ten-ride tickets, monthly passes, and free fares. Drivers also handle fare and make change. (AT's current fleet is not equipped with fareboxes. According to AT management, pilferage has never been a problem.) They also sell ten-ride tickets and monthly passes on-board.

4.5 Facilities and Equipment

AT recently moved to a new facility in Wilder, Vermont. The new facility has many advantages over the previous facility. The principal advantage is that this facility allows all of AT to operate under a single roof with a single phone system. The new facility also provides much better office space than AT previously possessed, with much better lighting and ventilation, and sufficient space for all personnel to function effectively. The site of the facility is also large enough to provide room all aspects of the facility.

The new facility also has heated indoor parking for all vehicles. This will be especially appreciated during New England's winter months. The new facility also includes a wash bay, two maintenance bays with an airlift capable of supporting the largest vehicles in the fleet, a fueling station, engine room and parts room

AT has a new phone system which serves the entire facility, a new photocopy machine, and anticipates purchasing new PCs and a computer network during 1995. AT's current computers are mostly old and are used for word processing and accounting. AT anticipates using the new computers for these purposes and also for tracking maintenance.

AT has licenses for two radio channels. The first is their primary channel, which accesses a repeater station. The second accesses a shared repeater and is used as a back-up. Drivers use the radio mostly for transfers, i.e., to radio ahead to a driver on another route to tell them to wait at the transfer point because he/she is running late and has a rider wishing to transfer. The radio is

also used for emergencies such as breakdowns, accidents, and unexpected detours, and for delivering special instructions.

4.6 Fleet Characteristics and Maintenance

AT's fleet currently consists of six 1988 20-passenger Ford Chaparral buses (all between 150,000 and 200,000 miles), one 1988 15 passenger Ford Chaparral with room for one wheelchair (155,000 miles), three 1988 40-passenger Bluebirds (all between 150,000 and 200,000 miles), and one 1990 10 passenger lift-equipped Dodge van (89,950 miles).

With a peak pull-out of seven vehicles, the current fleet size produces a spare ratio that is higher than the standard 15%. However, the large number of spares has been needed because of the aging fleet. In fact, AT has cannibalized one of the 20-passenger buses to provide parts for other buses, and may soon have to do the same for to one of the other high-mileage buses.

In the meantime, AT has ordered six Supreme Startrans minibuses to replace most of its fleet. These vehicles, scheduled to be delivered near the end of October, will have room for 20 seated passengers plus one wheelchair, or 16 seated passengers plus two wheelchairs. Each minibus has been configured to allow for up to 7 wheelchairs (with no seated passengers). Each minibus cost $65,000. Three more minibuses are in the process of being ordered.

Preventive maintenance consists of an "A" PM every 3,000; a "B" PM every 6,000 miles, a "C" PM every 30,000 miles, and a "D" PM every 60,000 miles. The "A" PM includes a road test to test steering response, brakes, engine performance, and transmission shifting; an oil change and fluid level check; a chassis lube; and inspections of the engine, the electrical system, the chassis, wheel bearings, the brake system, tires and rims, the exterior body, and the interior body. The "B" PM is a more comprehensive version of the "A" PM. The "C" PM includes the "B" PM and focuses on the brake system (e.g., replacing pads and shoes, cleaning and lubing slides and pivots) and a more detailed inspection of tires. The primary difference between a "D" PM and the "C" PM is that more attention is paid to the electrical system in the "D" PM.

Note that AT does not have a computerized fleet maintenance system; fleet maintenance is tracked manually. However, as mentioned above, AT anticipates purchasing maintenance software after its new computer system is operating.

AT's maintenance staff currently consists of a Maintenance Manager, one full-time mechanic, and a Bus Cleaner, which is combined with facility maintenance responsibilities to make up another full-time position.

Drivers conduct pre-trip and post-trip inspections. The driver can "ground" a vehicle if s/he feels the vehicle is not safe for the road. Other (less serious) concerns are described in a Vehicle Inspection Report (VIN). Maintenance addresses comments described in the Vehicle Inspection Reports within a 24 hour period, and repairs defects according to priority.

The cost of maintaining this aging fleet has increased over the period from FY 1991 to FY 1993. Maintenance expense in FY 1991 was reported as $103,329, which increased to $150,393 in FY 1992 and $178,731 in FY 1993. The maintenance cost per mile in FY 1991 was $0.344, which increased to $0.362 in FY 1992, and $0.473 in FY 1993. Maintenance costs can be expected to decrease with the arrival of several new vehicles.

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Chapter 5: Performance

AT's service and cost performance is evaluated in this chapter.

5.1 Ridership

AT's month-by-month ridership for FY '91 through FY '94 is shown in Figure 5-1. During this period, AT's ridership increased from about 85,000 trips in FY '91 to over 152,000 trips in FY '92, and then fell over 22% to about 125,000 trips in FY '93. A further decrease of 10% to 112,000 trips was experienced over the past year.

A principal cause of these variation was the Hanover Shuttle, which was added in FY '92 and then suffered a dramatic reduction in ridership when the Dartmouth-Hitchcock Medical Center (DHMC) relocated from Hanover to Lebanon in FY '93. In Hanover, DHMC lacked adequate parking, so many employees had depended on the Hanover Shuttle; however, DHMC's new site has much more parking, reducing employees' reliance on AT. Furthermore, funds for the Hanover Shuttle were drastically reduced in FY '93, causing service cuts, which resulted in a further reduction in ridership. AT subsequently incorporated the Hanover Shuttle into its fixed route structure in August 1993. This has been judged a success, despite the decrease in ridership which was due to the 20% cutback in vehicle hours of service and vehicle miles of service.

Ridership counts on all three routes were conducted on October 1, 1993. This data indicates that most of AT's ridership is on the Blue Route (325 boardings). There were 94 boardings on the Red Route and 48 boardings on the Green Route. The busiest stop locations on the day sampled included the Lebanon Mall (65 boardings) followed by the Dartmouth-Hitchcock Medical Center (60 boardings), the Hanover Inn (47 boardings) and the Dartmouth Bookstore (44 boarding). Collectively, these three stop locations represent 37% of the total boardings that day. Nine of the ten busiest boarding locations occurred along the Blue Route, with the 10th along the Red Route. A detailed analysis of these boarding counts is found in Appendix A.

Route	*% of Service hours*	*% of total boardings*
Blue	58%	70%
Red	24%	20%
Green	18%	10%

The chart above indicates that while the Blue Route operates more hours than the other two routes combined, the Blue Route accounts for nearly 70 percent of systemwide ridership. The Red and Green Routes operate less hours, but have proportionally lower ridership levels.

Figure 5-1: Advance Transit Ridership (FY'91 through FY'94)

	Fixed Route Service				Hanover Shuttle			
	FY'91	FY'92	FY'93	FY'94	FY'91	FY'92	FY'93	FY'94
October	8,159	8,371	6,735	11,271	0	8,185	4,807	0
November	7,185	7,123	6,186	10,464	0	8,005	4,609	0
December	6,267	6,469	6,202	8,566	0	6,818	3,728	0
January	7,741	7,121	5,994	9,488	0	8,650	5,041	0
February	6,888	6,614	5,898	10,227	0	7,827	5,315	0
March	7,310	7,118	6,906	13,796	0	6,572	5,363	0
April	7,230	6,634	6,520	9,072	0	6,565	5,076	0
May	7,407	5,841	5,828	9,244	0	5,925	4,320	0
June	6,385	5,855	5,861	8,305	0	4,935	3,547	0
July	6,538	5,496	5,573	6,741	0	3,841	3,358	0
August	6,688	5,483	8,278	7,578	0	3,377	0	0
September	7,180	6,140	9,402	7,182	0	3,500	0	0
TOTAL	84,978	78,265	79,383	111,934	0	74,200	45,164	0

	Totals for Both Services			
	FY'91	FY'92	FY'93	FY'94
October	8,159	16,556	11,542	11,271
November	7,185	15,128	10,795	10,464
December	6,267	13,287	9,930	8,566
January	7,741	15,771	11,035	9,488
February	6,888	14,441	11,213	10,227
March	7,310	13,690	12,269	13,796
April	7,230	13,199	11,596	9,072
May	7,407	11,766	10,148	9,244
June	6,385	10,790	9,408	8,305
July	6,538	9,337	8,931	6,741
August	6,688	8,860	8,278	7,578
September	7,180	9,640	9,402	7,182
TOTAL	84,978	152,465	124,547	111,934

Schedule modifications should be made to the Red and Green Routes to bolster ridership levels, so that ridership levels are more in line with the allocation of system resources.

5.2 Vehicle Hours and Miles

Total vehicle miles and service hours for Advance Transit's Fixed Route and Hanover Shuttle services between FY '91 and FY '94 are shown in Figure 5-2. Vehicle miles and service hours have varied substantially over the last several years, mainly in response to AT's takeover and incorporation of the Hanover Shuttle into its fixed route structure. For example, vehicle miles increased dramatically from 300,202 in FY '91 to 417,289 in FY '92 and then dropped to 378,031 in FY '93. Vehicle miles dropped dramatically in FY '94 (to 309,169) from the level in FY '93. Service hours showed a similar pattern over the same time period, increasing from 16,030 in FY '91 to 24,942 hours in FY '92, then decreasing to 21,581 in FY '93 and 17,287 in FY '94.

5.3 Cost and Revenues

AT's expenses (except for capital expenses) and revenues between FY '91 and FY '94 are shown in Figure 5-3. As shown, total expenses increased from about $750,000 in FY '91 to almost $890,000 in FY '92. Expenses then decreased to $830,000 in FY '93 and to $748,000 in FY '94.

In FY '93, operations comprised 40% of the total (non-capital) expenses, with maintenance costs reflecting 21%. Administrative costs represented 31% of the total non-capital expenses. In FY '94, operations fell to 37%, maintenance fell to 19% and administrative increased to 40% of the total non-capital expenses.

In FY '93, AT's total cost per passenger trip was $6.68; its cost per hour was $38.57; and its cost per mile was $2.20. AT's maintenance cost per mile was $0.47 per mile. In FY '94, even though AT's costs decreased by over 10%, the decreases in ridership, service miles and service hours resulted in its per unit costs increasing. Total cost per passenger trip increased by $0.01 (0.1%), cost per hour increased by $0.50 (3%), and cost per mile increased by $0.21 (10%). AT's maintenance cost per mile fell slightly to $0.46 per mile.

Revenue sources, which totaled over $1.1 million in FY '93, include Federal funds (Section 18) that are distributed through the Vermont AOT and NHDOT; the State of Vermont, various municipalities (including the Town of Hanover), training grants (from NHTA), contributions from private sources (including Dartmouth College and DHMC), and farebox revenue. As shown in Figure 5-3, public funding increased annually from FY '91 to FY '93, followed by a sharp drop in State of Vermont funding (and a small drop in Section 18 funding) from FY '93 to FY '94. Fares increased dramatically from FY '91 to FY '92 representing contract payments associated with the Hanover Shuttle. The drop in fares from FY '92 to FY '93, and from FY '93 to FY '94, is primarily the result of lower contract payments as a result of the termination of the shuttle as an independent service and its incorporation into AT's regular service.

Figure 5-2: Advance Transit Service Provided (FY'91 through FY'94)

	Vehicle Miles of Service				Vehicle Hours of Service			
	FY'91	FY'92	FY'93	FY'94	FY'91	FY'92	FY'93	FY'94
October	26,457	36,518	32,814	28,122	1,419	2,327	1,897	1,594
November	24,349	34,290	30,510	28,122	1,289	2,092	1,734	1,548
December	23,244	35,222	33,253	24,758	1,243	2,148	1,885	1,513
January	25,522	36,952	30,111	27,025	1,348	2,254	1,730	1,376
February	23,295	33,749	30,402	23,794	1,234	2,054	1,717	1,461
March	24,543	35,575	34,411	26,912	1,321	2,080	2,005	1,469
April	25,711	35,572	32,928	22,692	1,362	2,111	1,865	1,338
May	25,790	33,759	30,500	24,276	1,369	1,947	1,715	1,393
June	24,059	36,422	32,909	23,850	1,291	2,160	1,827	1,389
July	27,023	34,834	32,673	21,475	1,455	2,063	1,900	1,365
August	26,659	33,050	30,154	29,536	1,432	1,906	1,694	1,435
September	23,550	31,346	27,366	28,607	1,267	1,800	1,612	1,406
TOTAL	300,202	417,289	378,031	309,169	16,030	24,942	21,581	17,287

Figure 5-3: Advance Transit Expenses (except Capital) and Revenue

	FY'91	FY'92	FY'93	FY'94
Expenses				
Operations	$321,329	$377,393	$332,331	$274,816
Maintenance	$103,329	$150,942	$178,731	$142,569
Administrative	$200,339	$272,742	$262,577	$298,660
Marketing	$7,763	$0	$0	$0
In-Kind Contributions	$5,524	$3,815	$5,582	$0
Depreciation	$83,782	$84,078	$53,211	$32,407
TOTAL	$722,066	$888,970	$832,432	$748,452
Passengers	84,978	152,465	124,547	111,934
Oper. Cost/Pass.	$3.78	$2.48	$2.67	$2.46
Total Cost/Pass.	$8.50	$5.83	$6.68	$6.69
Vehicle Hours	16,030	24,942	21,581	17,287
Oper. Cost/Hr.	$20.05	$15.13	$15.40	$15.90
Total Cost/Hr.	$45.04	$35.64	$38.57	$43.30
Vehicle Miles	300,202	417,289	378,031	309,169
Oper. Cost/Mi.	$1.07	$0.90	$0.88	$0.89
Total Cost/Mi.	$2.41	$2.13	$2.20	$2.42
Revenue				
Federal (Section 18)	$342,697	$356,930	$366,583	$340,006
State of Vermont	$46,380	$56,948	$73,273	$30,386
Municipal (1)	$84,071	$89,690	$94,056	$100,673
Training Grants	$1,870	$2,332	$5,076	$1,632
Contributions (2)	$5,524	$8,436	$11,762	$0
Fares (3)	$96,928	$341,019	$239,185	$204,971
Other	$3,488	$3,906	$2,869	$7,295
TOTAL	$580,958	$859,261	$792,804	$684,963
Passengers	84,978	152,465	124,547	111,934
Fare Rev./Pass.	$1.14	$2.24	$1.92	$1.83
Total Rev./Pass.	$6.84	$5.64	$6.37	$6.12

(1) Contributions from Hanover, Lebanon, Lyme, Canaan, and Enfield in New Hampshire, as well as Hartford and Norwich in Vermont.

(2) Contributions from private citizens.

(3) This includes passenger fares and contract payments by Dartmouth College, Dartmouth Medical School and Dartmouth-Hitchcock Medical Center.

From FY '91 to FY '93, AT operated at a small deficit -- less than AT's depreciation deduction, indicating that AT's revenues covered its normal expenses of operating (including maintenance and administrative expenses) but did not entirely cover its need for capital replacements. In FY '94, as a result of the sharp drop in public funds and the smaller drop in fares, AT experienced an operating deficit, with revenues unable to cover the normal expenses of operating. This sharp drop in funds led to the reduction in the amount of service provided, which is discussed above.

5.4 Safety Record

AT has not had a collision in the last three years. Given the number of annual miles of service provided (417,000), this is an extremely good record. The only accidents reported within the last few years have all involved side mirrors.

5.5 Customer Satisfaction

An effort to reach existing transit customers was made through administration of an on-board survey of riders on Thursday, May 12, 1994. One hundred and twenty-two (122) completed surveys were returned, representing approximately 26 percent of that day's ridership. Respondents were asked if they agreed or disagreed with the following statements:

Statement	Number who Agree	Number who Disagree	Number with No Opinion
The buses are clean	112	3	3
The buses are comfortable	103	13	2
It is easy to find a seat	112	6	0
Drivers are helpful and friendly	110	1	5
The buses generally run on time	80	30	5
It is easy to find a bus schedule	104	12	1
The schedules are easy to understand	89	25	4

Overall, this represents a relatively good "score" for Advance Transit. However, a significant number of respondents did indicate that they feel the buses do not run on time and the schedules are difficult to read. Indeed, project team members involved in the survey noted that the buses operated 5-10 minutes behind schedule for most of the morning and early afternoon.

Another question asked what improvements respondents would like so that they would use AT to travel to more locations. Suggested improvements included:

- Better or more runs on Saturday (4).
- More trips to Lyme (2).
- Reinstate early White River Junction to Norwich bus (1).
- Mid-day bus or more runs to Canaan (2).
- Expand service to Orford (2).
- More runs or more frequent service (7).

Riders were also asked what other improvements they would like to see. The following lists some of the responses received:

- Mid-day service to Enfield (2).
- More runs or more frequent service (4).
- More music (2).
- More Norwich-White River Junction runs on Saturdays (1).
- More runs Hanover-West Lebanon, 4 P.M.-7 P.M. (1).
- More runs Hanover to DHMC 12-2 PM (1).
- Add run departing Lebanon at 6:45 AM to Plazas (1).

Seventy two percent (72%) of the respondents indicated that they use Advance Transit for work related trips -- forty-six percent (46%) use AT four to five days a week, nineteen percent (19%) use AT one to three days a week and seven percent (7%) use AT one to three days per month. Twenty-eight percent (28%) indicated that they do not use AT for any work trips.

Nine percent (9%) indicated that they use Advance Transit one to three times a week for shopping and fifteen percent (15%) indicated that they use the service one to three times a month for shopping. Eleven percent (11%) indicated that they use Advance Transit one to three days a month for medical purposes. Eighty percent (80%) of the respondents indicated that the bus gets them to their destinations at convenient times.

The on-board survey indicated that ninety-three percent (93%) of riders felt the stop they used to board was convenient for them.

5.6 Comparison with AT Goals, Objectives, and Service Standards

The following compares AT's actual performance with the internal goals, objectives and service performance standards discussed in Chapter 2.

(1) Schedule Adherence - *To achieve a 95% or better on-time performance for fixed route service, and to achieve a 100% reliability for downtown transfers between routes.* Buses are frequently late. Advance Transit has a complex system of vehicle-to-route assignments where a certain vehicle may cover several routes in one shift. Also, the system's three routes are connected by three transfer points, where buses must meet. Furthermore, the system runs on a tight schedule. The combination of these three conditions creates a domino effect with systemwide difficulty adhering to published schedules.

The on-board passenger survey indicates that 30/115 (26%) of riders disagreed with the statement that the buses generally run on time. Riders have sent letters indicating a need for schedule changes. One rider indicated that "The buses at DHMC without fail are 5-20 minutes late in the afternoon." Field observers noted that buses at the VA Hospital in White River Junction operated 5-10 minutes behind schedule for most of the morning and early afternoon on the day of observation.

Clearly, the 95% on time performance goal is not being met with the current route structure. With the introduction of lift-equipped vehicles (and disabled passengers), without modifying the schedule to provide more time for loading/unloading wheelchairs, one can expect the schedule adherence to worsen.

(2) Reliability - *To keep the number of missed trips under 1 percent.* Breakdowns average one every two weeks; This high frequency of breakdowns is largely attributable to the age of AT's fleet. When a breakdown occurs on the road, a spare vehicle is dispatched, and the segment is frequently missed. Advance Transit is not currently able to keep the number of missed trips under one percent, but with the anticipated arrival of several new vehicles, reliability should be improved.

(3) Rider satisfaction - *To maintain a complaint ratio of less than two passenger complaints per month, and to respond with a letter and a complimentary ticket to all passenger complaints within a period on one week.* The total number of complaints (from passengers or non-passengers) averages about one per month. AT's Information Specialist usually receives the complaint, which is them passed on to the Supervisor of Drivers or to the Traffic Coordinator. Any complaint, no matter how minor, is addressed. Most persons who make complaints do not leave their name or number, but simply want AT to be aware of the situation.

(4) Accident ratio - *To achieve an accident ratio of less than ten accidents per 1,000,000 vehicle miles.* AT has not had a major accident within the last three years. Given the number of annual miles (417,000), this is an extremely good record, and exceeds the service standard.

(5) Cost Per Mile - *To maintain a fixed route transit cost per mile of $2.37 per mile or below.* AT's FY 94 cost per mile was reported to be $2.42; this represents only a 12% increase since FY 91 when AT's cost per mile was $2.16. AT has done a very credible job controlling its cost per mile over this three-year period.

(6) Cost Per Trip - *To achieve a fixed-route transit cost per trip of $4.50 per trip.* AT's FY 94 cost per passenger trip was reported to be $6.69, up from a reported $5.63 in FY 91.

5.7 Comparison with Peer Operations

In this section, Advance Transit's service and cost performance are compared with several "peer" systems. In searching for candidate peers, we attempted to find transit systems that had many of the same characteristics as Advance Transit. For example, we looked for transit systems with two to four fixed routes offering intra-city and inter-city service; and that served an area with similar populations; and that served a college or regional medical center as a dominant employer. Indeed, this proved to be quite a challenge because this set of characteristics is fairly unique.

Our search process involved looking at the demographic characteristics and service characteristics of several similarly-sized transit operations in Vermont and other New England states, as well as across the country. In addition to identifying candidate peers from our own

experiences, we looked through the Rural Transit Assistance Program's 1989 document entitled A Directory of UMTA-Funded Rural and Specialized Transit Systems and State DOT publications from Indiana, Iowa, Michigan, Minnesota, New York, Ohio, Oregon, Pennsylvania, Washington, Wisconsin and Virginia. In many cases, calls were placed to candidate peers to find out missing information (e.g., service area to calculate density; service type; and service area characteristics) that we viewed as critical in defining a system as a peer.

The result of this search process was the identification of the following six peers:

Transit System	Service Area Population	Pop. Density	No. of Routes Peak Vehicles Veh. Capacity	College	Medical Center
Advance Transit	**42,068**	**127**	**3 / 6 / 24**	Dartmouth	DHMC
Concord, NH	36,006	565	2 / 2 / 30	--	NH, Concord
Augusta, ME	39,240	564	4 / 4 / 14	Univ of ME	Kennebec V.
incl. Waterville				Colby	Mid ME
Biddeford, ME	42,182	555	3 / 3 / 32	U NE Med Col	S ME
Bangor, ME	66,520	453	4 /10 / 30	Univ of ME	E ME
Lewiston, ME	64,066	616	8 / 5 / 43	Bates	Centl ME
Willimantic, CT	43,142	589	3 / 3 / 29	UConn	Windham

All six of these systems serve populations that are reasonably similar to the population served by AT. Also the number of routes and/or peak vehicles each provides is fairly similar to that provided by AT. In addition, all six peers serve a college and/or regional medical center. On the negative side, none of the six peer systems have a service area comparable to AT's in terms of population density. This is a key factor since it is generally more difficult to provide efficient public transportation services in less densely populated areas. With that as an introduction, a brief description of each peer is presented below:

- Concord, NH - Transit service in Concord is provided by CAT, utilizing 3 vehicles, each with 30 seats (none have wheelchair lifts). Service operates Monday through Friday from 6:00 A.M. to 6:30 P.M. There are 2 fixed routes. The base fare is $.75, with a fare of $.50 for students and seniors.

- Augusta, ME - Transit service in Augusta and Waterville, Maine is provided by KVTA, utilizing 9 vehicles, 5 with 18 seats and 4 with 9 seats (all have wheelchair lifts). Service operates Monday through Friday from 6:45 A.M. to 7:00 P.M. There are 4 fixed routes.[1] The base fare is $.75.

[1] Note that eight rural routes were recently added to the system, each running one day per week to various parts of Somerset and Kennebunk Counties. Data for these 8 rural routes is not available, and is not included in any peer comparison statistics.

- Biddeford, ME - Transit service in Biddeford, Saco and Old Orchard Beach is provided by ShuttleBus, utilizing 5 vehicles, 4 with 31 seats and 1 with 35 seats (3 have wheelchair lifts). Service operates on weekdays from 6:30 A.M. to 5:30 P.M. Two of the three 3 fixed routes operate in Biddeford, Saco and Old Orchard Beach, with a fare of $.75. The third route makes 4 daily runs to South Portland, Maine with stops in Biddeford, Saco, Old Orchard Beach, (all with a fare of $1.00), Scarborough (with a fare of $2.00), Portland and South Portland (both with a fare of $3.00).

- Bangor, ME - Transit service in Bangor, Brewer, Hambden, Old Town, Orono and Veazie, Maine is provided by The Bus, utilizing 12 vehicles, 3 with 23 seats, 6 with 28 seats and 3 with 33 seats. All vehicles are lift equipped. Service operates Monday through Saturday from 6:15 A.M. to 5:45 P.M. There are 4 fixed routes. The Bangor bus routes have a base fare of $.75, the fares in the other communities range between $.50 and $1.25 and are based on zones.

- Lewiston, ME - Transit service in Lewiston and Auburn, Maine is privately operated, but managed by LATC, utilizing 10 vehicles each with 43 seats. All vehicles are lift equipped. Service operates Monday through Friday from 6:00 A.M. to 6:00 P.M. There are 8 routes. the base fare is $.80, with a reduced fare for students, elderly and disabled passengers.

- Willimantic, CT - Transit service in Willimantic and Storrs, Connecticut is contracted by the Windham Region Transit District. Of the 5 vehicles used for the fixed bus routes, 4 have 30 seats and 1 has 24 seats. Two out of the five buses are lift equipped. Service operates Monday through Friday from 6:49 A.M. to 6:40 P.M. There are 2 fixed routes operating in the City of Willimantic (at different times of day), and 1 fixed route operating between Willimantic and Storrs. The base fare ranges between $.50 and $1.20, with a reduced fare for elderly and disabled passengers.

Figure 5-4 shows the population, ridership, and annual vehicle miles of these six peers. Figure 5-4 also shows passenger trips per mile, as a measurement of productivity. AT's passenger trips per mile (0.36) falls below all six peers, and is well below the 0.84 average. Figure 5-4 also compares annual trips per capita. As shown, the annual ridership per capita for AT of 2.7 is equivalent to the six-peer average.

Figure 5-5 compares AT's cost performance with that of the six peer systems. As shown, AT's $6.69 cost per passenger trip is higher than any peer system, and more than twice the 6-peeer average. At the same time, AT's cost per vehicle mile is nearly equivalent to the 6-peer average.

One may conclude from these comparisons that Advance Transit is able to draw high patronage, but it does so at a cost that is higher than one might expect.

Figure 5-4: Service Statistics of Advance Transit and Six Peer Transit Systems

Transit System	Service Area Population	Passenger Trips Per Year	Passenger Trips Per Capita	Annual Miles	Passenger Trips Per Mile
Advance Transit	**42,068**	**111,934**	**2.7**	**309,169**	**.36**
Augusta, ME	39,240	45,042	1.1	68,486	.66
Concord, NH	36,006	55,521	1.5	81,616	.68
Biddeford, ME	42,182	100,000	2.4	162,005	.62
Bangor, ME	66,520	486,733	7.3	443,344	1.10
Lewiston, ME	64,066	156,783	2.4	129,344	1.21
Willimantic, CT	43,142	71,865	1.7	93,212	.77
Total of 6 Peers	291,156	915,944	16.4	978,007	5.04
Average of 6 Peers	48,526	152,657	2.7	163,001	.84

Figure 5-5: Cost Performance of Advance Transit and Six Peer Transit Systems

Cost per Trip

Transit System	Annual Cost	Annual Pass-Trips	Cost Per Pass-Trip
Advance Transit	**$748,452**	**111,934**	**$6.69**
Augusta, ME	$158,149	45,042	$3.51
Concord, NH	$199,249	55,521	$3.59
Biddeford, ME	$352,589	100,000	$3.53
Bangor, ME	$651,298	486,733	$1.34
Lewiston, ME	$420,724	156,783	$2.68
Willimantic, CT	$240,615	71,865	$3.35
Total of 6 Peers	$2,022,624	915,944	$18.00
Average of 6 Peers	$337,104	152,657	$3.00

Cost per Vehicle Mile

Transit System	Annual Cost	Annual Veh-Miles	Cost Per Veh-Mile
Advance Transit	**$748,452**	**309,169**	**$2.42**
Augusta, ME	$158,149	68,486	$2.31
Concord, NH	$199,249	81,616	$2.44
Biddeford, ME	$352,589	162,005	$2.18
Bangor, ME	$651,298	443,344	$1.47
Lewiston, ME	$420,724	129,344	$3.25
Willimantic, CT	$240,615	93,212	$2.58
Total of 6 Peers	$2,022,624	978,007	$14.23
Average of 6 Peers	$337,104	163,001	$2.37

5.8 Summary of Strengths

Advance Transit succeeds in providing public transportation options for commuters. The May 12, 1994 on-board survey found that seventy two percent (72%) of the respondents use Advance Transit for work related trips, of which forty-six percent (46%) indicated that they use Advance transit four to five days a week. Many transit systems in rural areas are used almost exclusively by those without any other transportation option (such as: elderly persons, disabled persons, youth, low income persons and persons without access to a vehicle). It is to AT's credit that commuters find public transportation options preferable to other commute options.

Compared to its peers, the annual ridership per capita for Advance Transit of 3.6 exceeds five of the six peer systems, indicating that Advance Transit draws patronage very favorably in comparison to most of its peers.

Now that AT has relocated to its new facility in Wilder, Vermont, the new maintenance facilities are a strength, particularly the pre-heated indoor parking for all vehicles, the new wash bay, maintenance bays, fueling station, engine room and parts room. AT's office space in this new facility is also a strength, with all staff now at a single location and connected with a single phone system.

With the anticipated arrival of six new minivans, all lift equipped, the quality of AT's fleet will become a strength.

5.9 Areas for Improvement

The on-board survey found that many respondents feel that the schedules are confusing and the buses run late, with the Saturday schedule seemingly particularly problematic.

AT's old fleet needs improvement. Maintenance costs continue to rise, and the vehicles are not inviting to the general public. AT's current fleet of 11 vehicles only includes 2 vehicles that are wheelchair accessible.

In certain cases, bus stop locations are less than ideal. For example:

- The Blue Route buses, while traveling along Hanover Street, could stop at more convenient location for residents of the high-rise senior citizens apartment building.
- A Green Route stop on Route 14 in Hartford should be sheltered.

Certain locations within the AT service area could be served better. For example:

- The Canaan-Enfield route could provide between service to a densely populated neighborhood that extends several blocks east of the downtown Lebanon transfer site.

- Advance Transit should be able to play a significant role in moving people across the bridge between Vermont and New Hampshire by developing a park and ride facility on the Vermont side of the Connecticut River.

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Chapter 6: Service Area Profile and Demand for Public Transit

This chapter serves to describe the profile of AT's service area. This will be done by reviewing:

- Data from the 1990 US Census
- Employer Data
- Human Service Agency Data
- Planned Development

In addition, this chapter presents an estimation of the demand (and unmet demand) for public transit, based on peer data from Chapter 5.

6.1 US Census Data

In addition to general population figures, the 1990 US Census yields data on: the number of persons in certain "user groups" who we have found are traditionally the most-likely users of public transit services. These user groups include (1) seniors, (2) persons living in households with lower incomes; (3) persons living in households without access to private motor vehicles; and (4) persons with mobility limitations. In addition, the US Census also provides data on the number of persons who indicated that they traveled to work by public transportation, although we believe that this latter set of data may not be as useful as data we have collected in the rider survey (see Chapter 7). This census data is illustrated by several maps produced using TransCAD GIS (Geographic Information Systems) using 1990 US Census data. Note that all maps show geography at the *census block group* level -- rather than at the *census tract* or *block level* -- because (1) the census tract level is too large and (2) many of the demographic characteristics considered for the profile are not reported at the census block level.

6.1.1 General Population and Population Density

AT's service area consists the Vermont Towns of Norwich and Hartford and the New Hampshire Towns of Lyme, Hanover, Lebanon, Canaan, and Enfield. The population and population density of each of these towns is shown in Figure 6-1.

Figure 6-1: Population and Population Density - By Town

Town	Population	Land Area (Sq. Miles)	Pop. Density
Vermont			
- Hartford	9,404	46.0	204.4
- Norwich	2,701	44.9	60.2
- Subtotal (VT)	12,105	90.9	133.2
New Hampshire			
- Lebanon	12,183	41.3	295.0
- Hanover	9,212	50.1	183.9
- Enfield	3,979	43.1	92.3
- Canaan	3,045	50.4	60.4
- Lyme	1,544	55.0	28.1
- Subtotal (NH)	29,963	239.9	124.9
Total Service Area	42,068	330.8	127.2

As shown, the Town of Hartford, which includes the Village of White River Junction, has the larger population and is the more dense of the two towns on the Vermont side. Across the river, the Towns of Lebanon and Hanover have the largest populations and greatest densities.

Figure 6-2 shows the population density by block group. Clearly, the most densely part of the service area is in the central portion of the Town of Lebanon, with a population density of over 1,000 persons per square mile in two block groups Other densely populated areas (i.e., where the population density exceeds 250 persons per square mile) include the southwestern portion of the Town of Hanover, the central portion of the Town of Hanover, and the eastern portion of the Town of Hartford. As one moves to the fringes of AT's service area in all four directions, the population density decreases.

6.1.2 Senior Population

Figures 6-3 and 6-4 illustrate respectively the number and percentage of seniors in each block group. Both of these figures show that the senior population is spread throughout AT's service area. Figure 6-3 shows, for example, that there are concentrations of seniors (i.e., of more than 300 persons age 60 or over) in the following three areas: (1) the central portion of the Town of Lebanon; (2) the southern/central portion of the Town of Hartford; and (3) the western portion of the Town of Hanover. The most number of seniors (495) is found in the northeastern section of the Town of Lebanon. As shown in Figure 6-4, the three areas with the largest percentages of seniors (over 20%) are found in (1) downtown Lebanon; (2) the southeastern portion of Hartford (outside of White River Junction); and (3) the Town of Norwich (in the residential areas closest to the river, which includes the senior housing on Hasen Drive).

6.1.3 Persons with Low Income

The extent and distribution of persons with low income can be measured in two ways: (1) median household income; (2) housing units without access to a vehicle. Figure 6-5 illustrates the median household income; note that persons living in households with lower income are represented in the *lighter* areas in Figure 6-5. As shown, these households tend to be concentrated at the fringes of AT's service area, especially in parts of Hartford, Lebanon, Enfield, and Canaan.

The households with the highest median incomes (where one would *not* typically expect a demand for public transportation) are located in sections of the Towns of Hanover and Norwich. We suspect that many of these residents are employees of Dartmouth College and DHMC.

Figure 6-2: Population Density

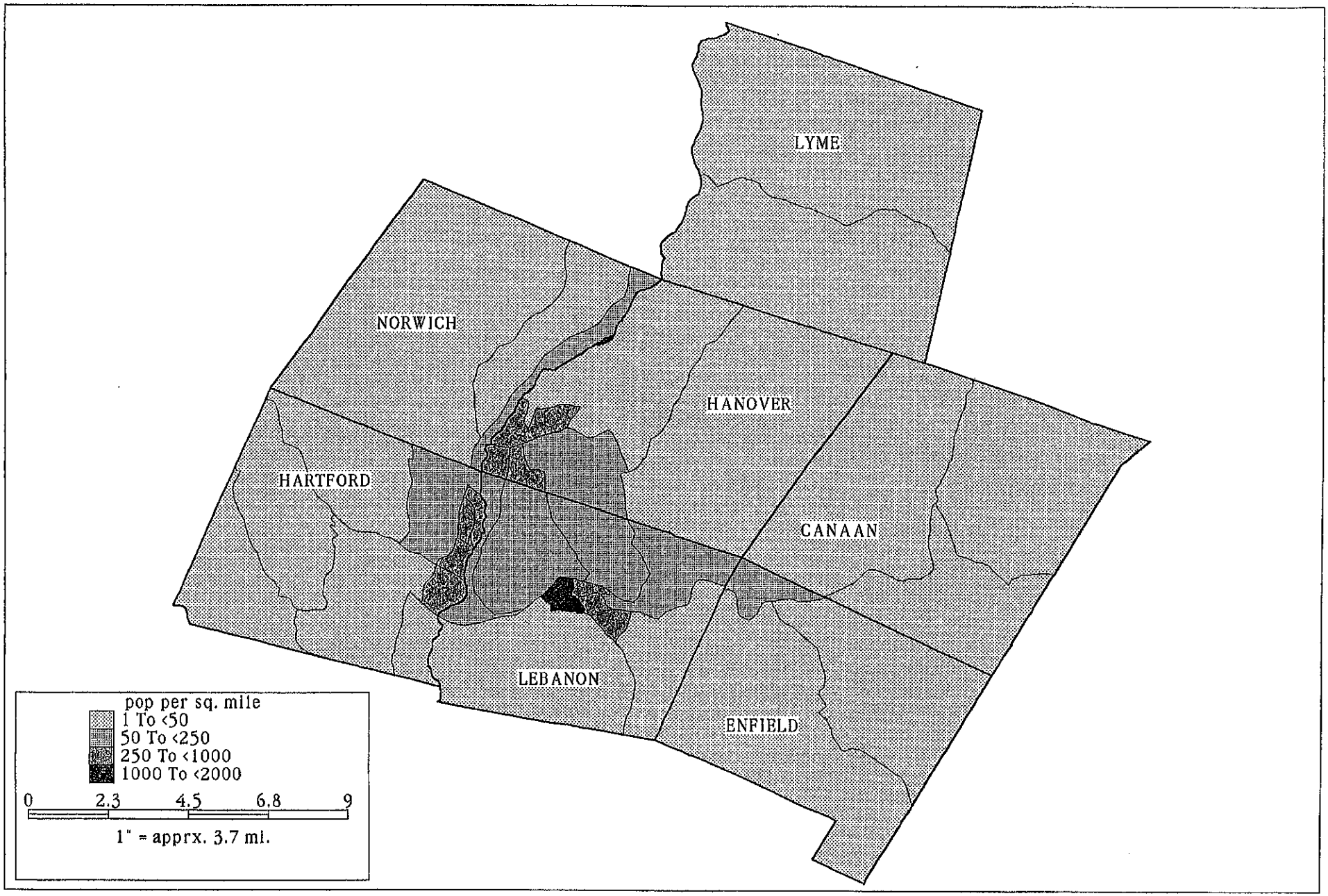


Figure 6-3: Number of Persons 60 Years of Age and Over

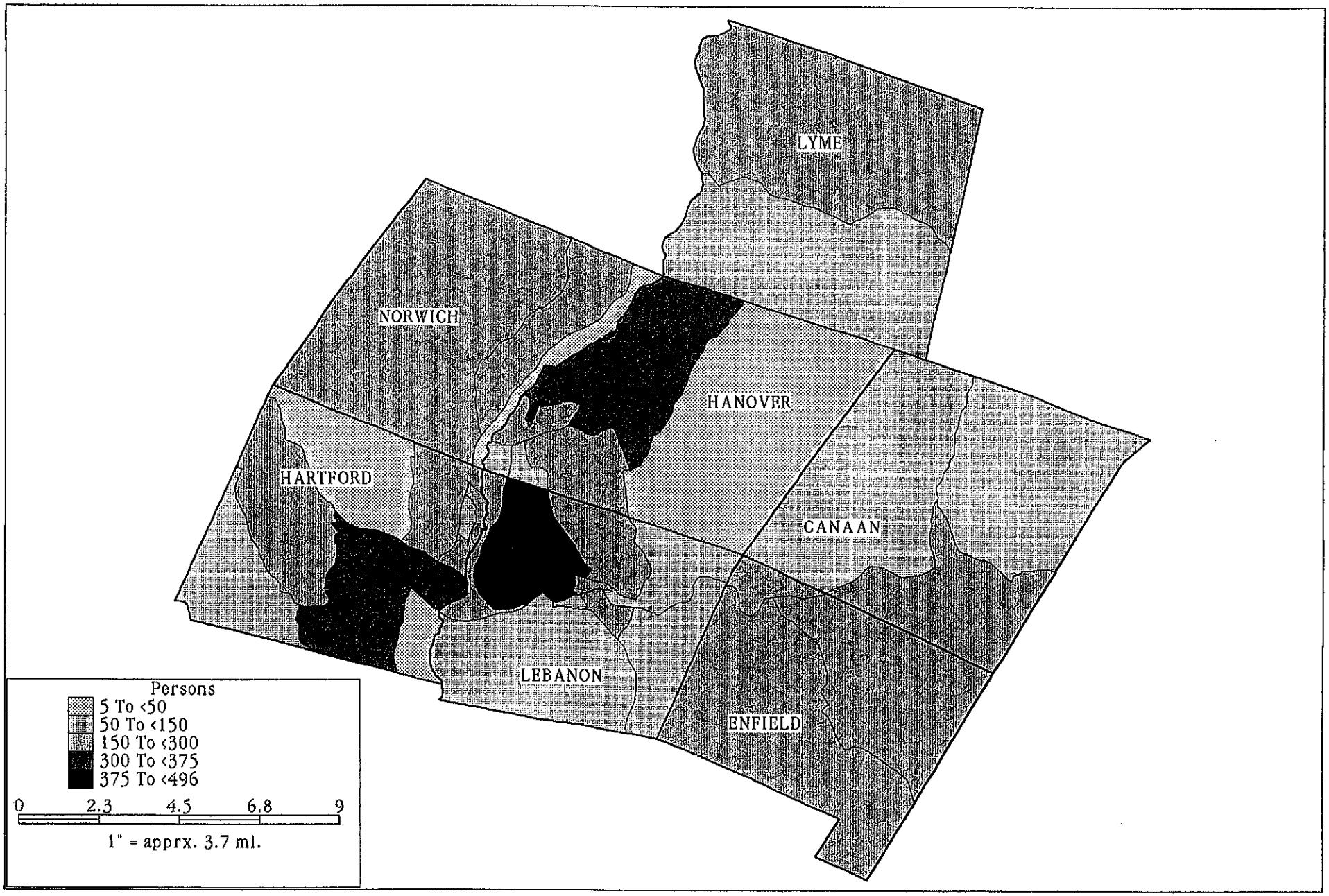


Figure 6-4: Percentage of Persons 60 Years of Age and Over

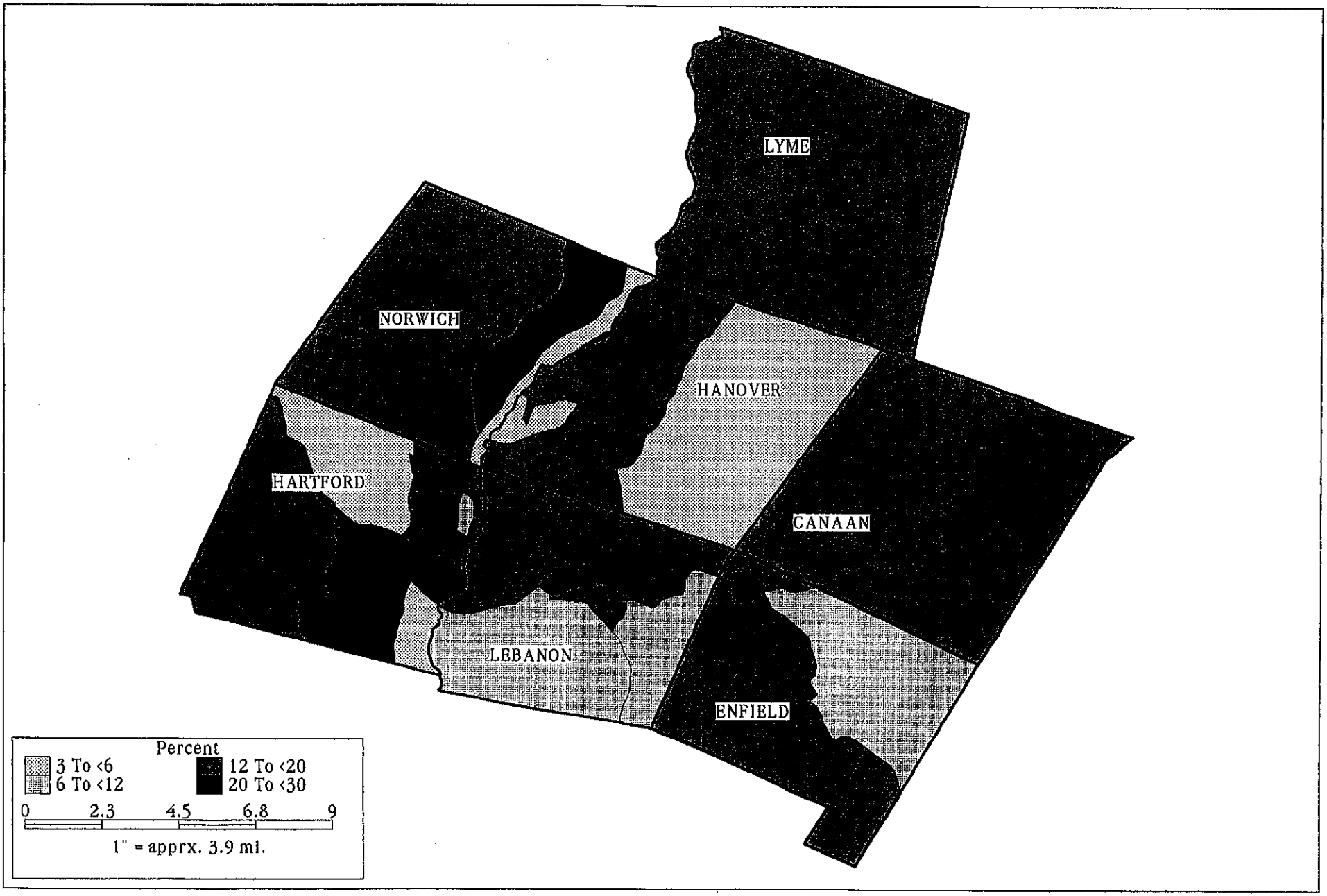
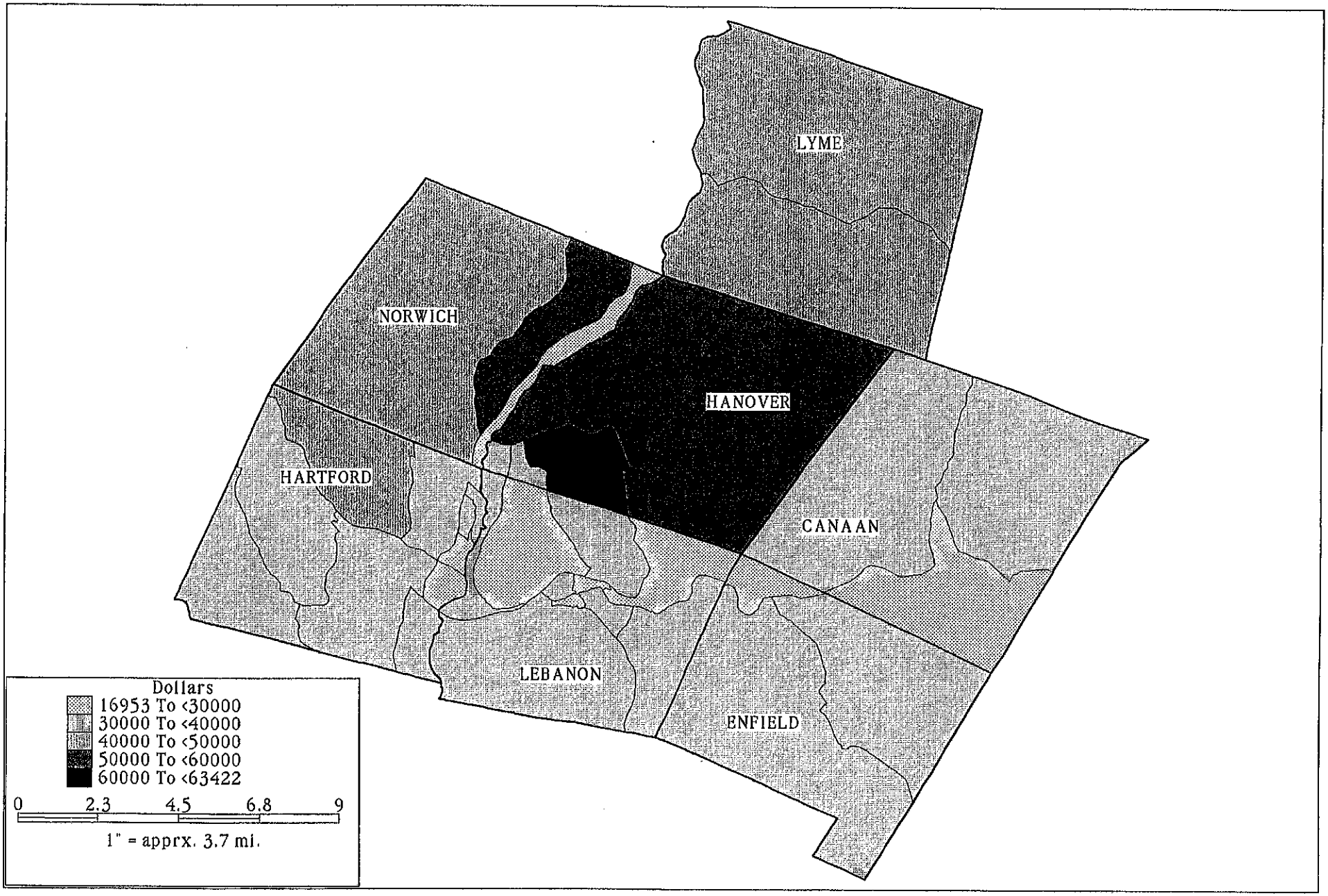


Figure 6-5: Median Income of Housing Units



Figures 6-6 and 6-7 illustrate the number of housing units and percentage of housing units, respectively, that have no vehicles available. Figure 6-6 shows that there is a concentration of such housing units in Lebanon's town center and in White River Junction. Figure 6-7 shows that the area with the highest percentage of households without a vehicle available (39%) is also in Lebanon's town center. Other areas with high (more than 10%) percentages of such housing units include: (1) the eastern portion of the Town of Hartford (White River Junction); (2) eastern Norwich; and (3) the southwestern section of the Town of Hanover.

6.1.4 Persons with Mobility Limitations

Figure 6-8 illustrates the number of persons with mobility limitations. As shown, the greatest number of such persons (127 persons) live in the northwestern section of the Town of Lebanon. There are also at least 50 persons with mobility limitations in every block group in Enfield, one block group in Lebanon, one block group in Hartford and one block group in Norwich.

6.1.5 Summary of Demographic Characteristics

In comparing the demographic characteristics above, certain areas are noteworthy because they have several demand indicators in common. These areas include White River Junction and the Lebanon Town Center. Additionally, Downtown Hanover and the Dartmouth College area as well as certain areas in Norwich (closer to the river) are areas that appear to potential areas of demand.

6.1.6 Use of Public Transportation for Work Travel

While we already know the areas served by AT, and recognize that AT is the only public transit service in the region, it is interesting to look at the US Census data on the number of persons who indicated on the census that they use public transportation to travel to work. This is illustrated in Figure 6-9. As shown, the greatest number of persons who use AT to get to work reside in one block group in Lebanon, and one block group in Hanover. In Lebanon, 22 persons in the area surrounded by Mascoma, School, College, South, Green, Wood and Slayton Hill take the bus to get to work. Since the AT bus stop in downtown Lebanon is easily accessible to this area, it is not surprising that a relatively large number of employees living here choose to ride the bus to work. In Hanover, 36 persons living in the area surrounded by the Hanover/Lyme town line, Two Mile, Hanover Center, Trescott, Grasse, Reservoir, Dartmouth College and the Connecticut River take the bus to get to work. Dartmouth Medical School students (who have a permanent address in the area, and hence would be responding to the census) riding to the medical school or between the medical school and DHMC may explain, in part, the large number of bus riders from this area.

Figure 6-6: Number of Housing Units Without Access to a Private Motor Vehicle

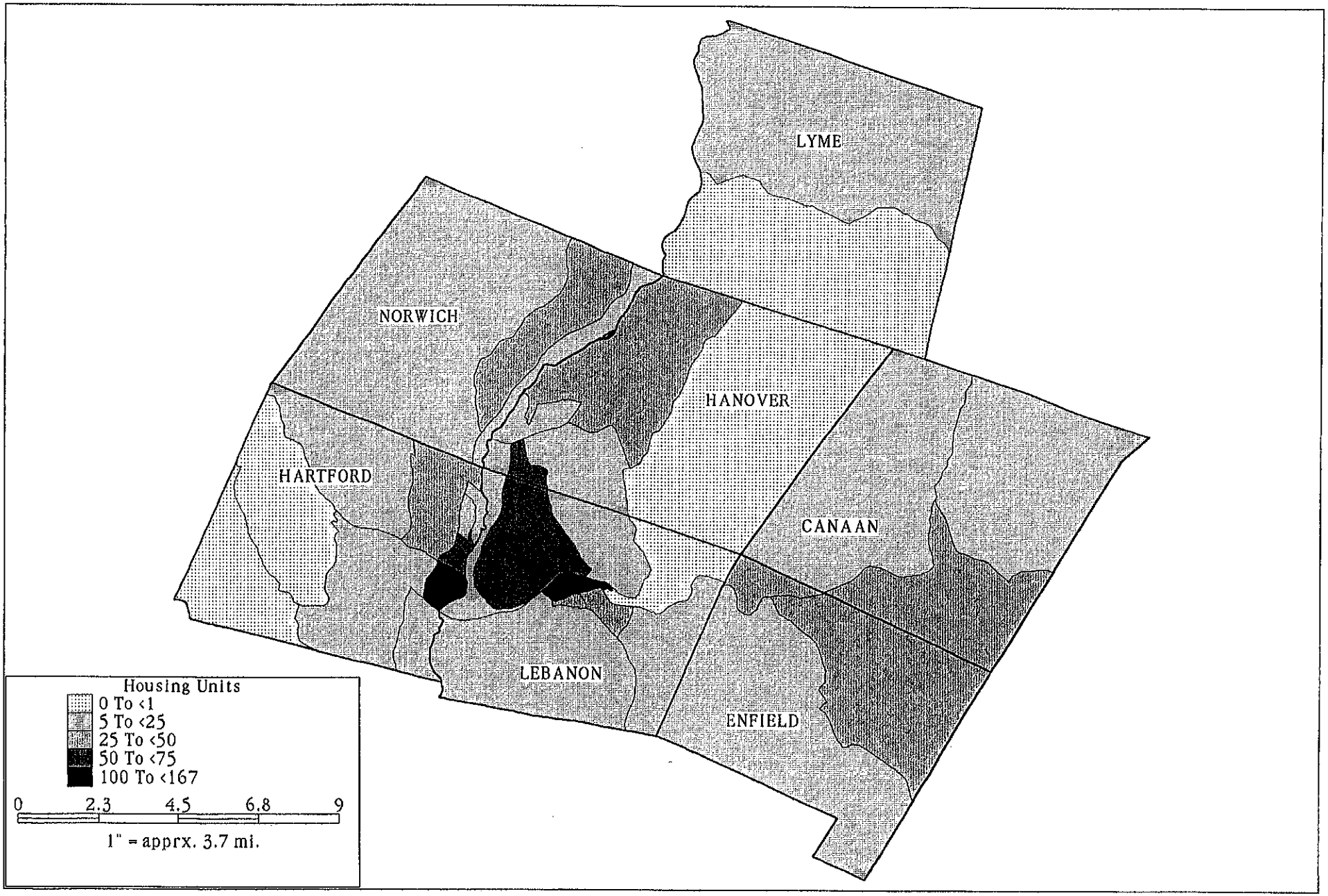


Figure 6-7: Percentage of Housing Units Without Access to a Private Motor Vehicle

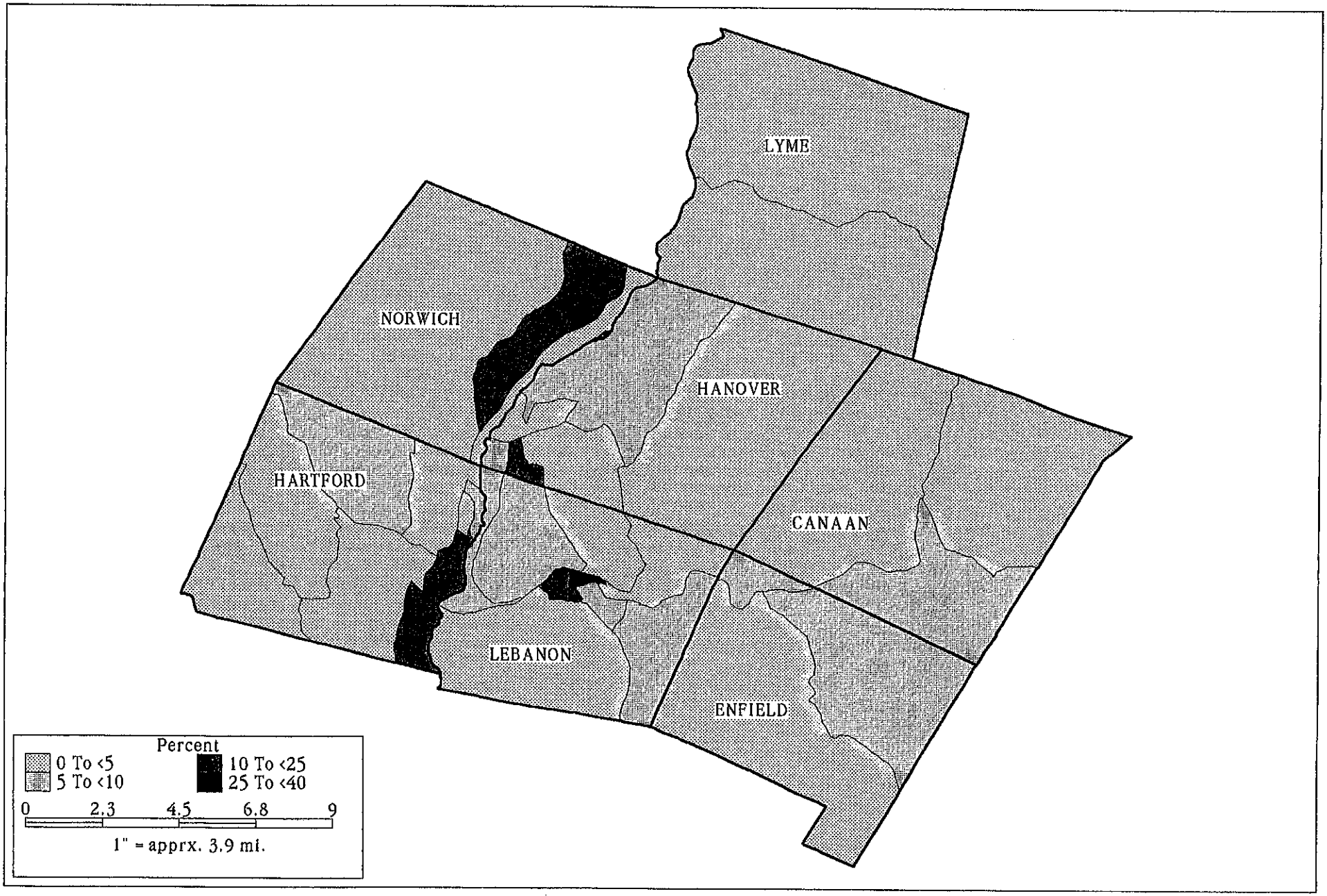


Figure 6-8: Number of Persons with Mobility Limitations

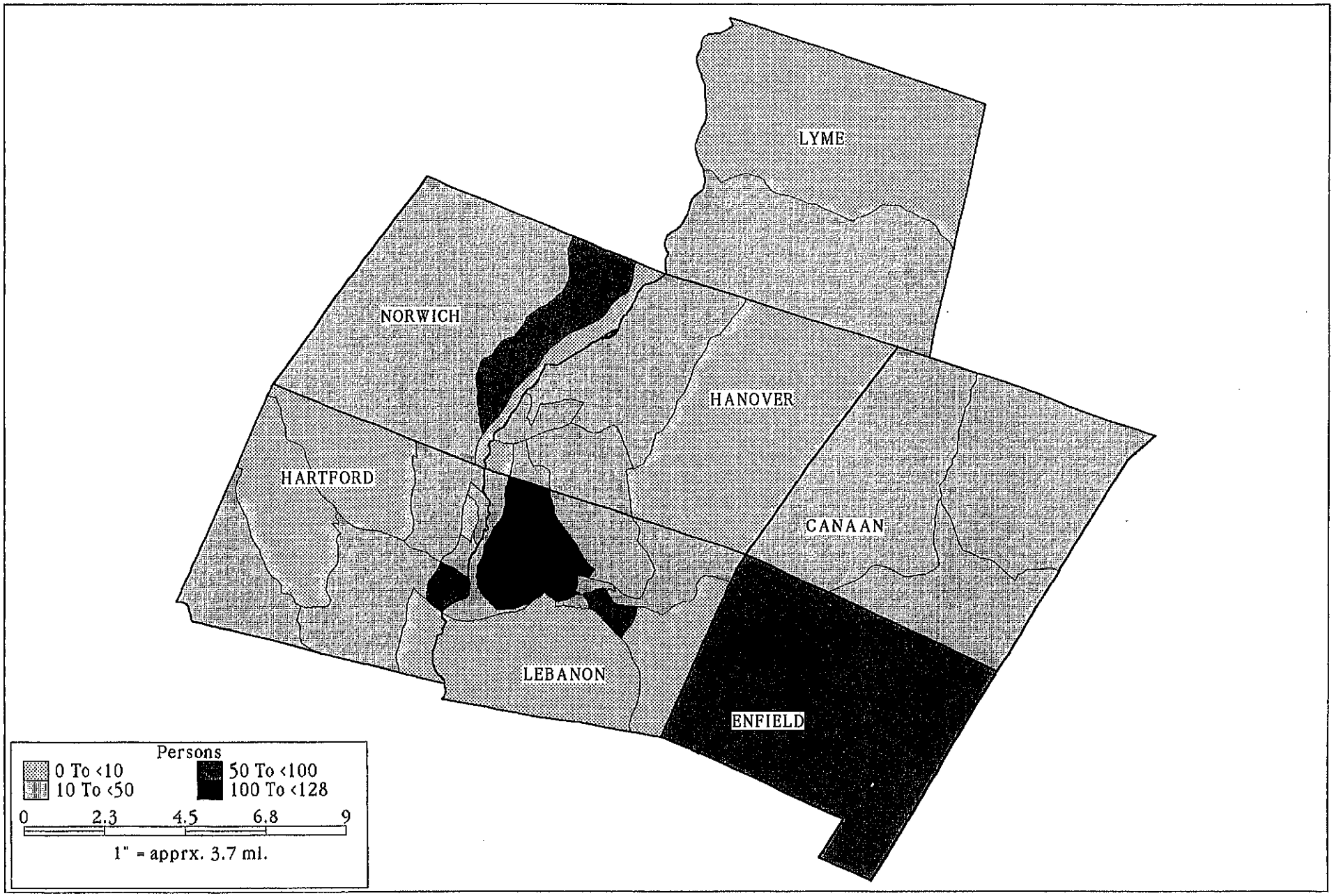
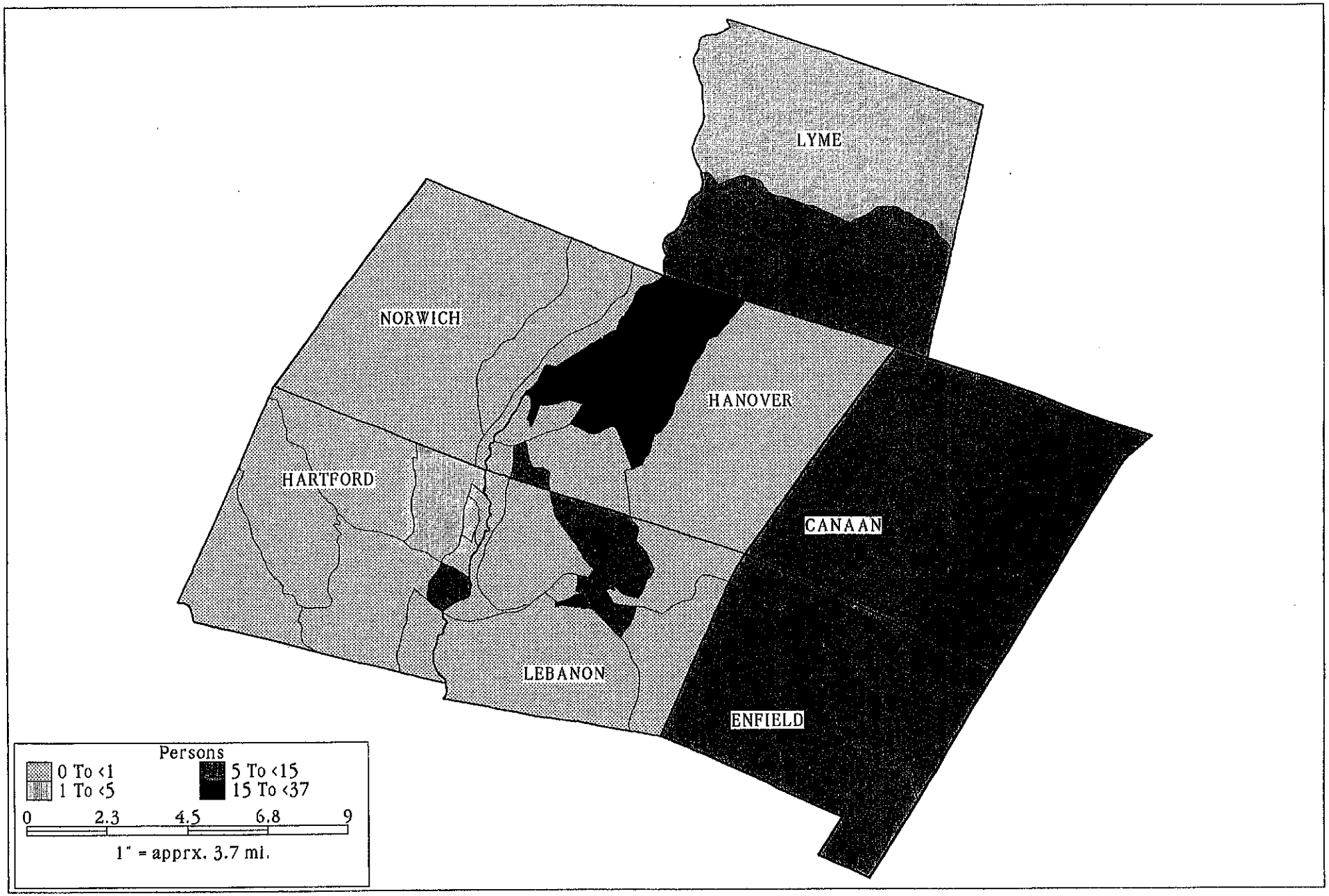


Figure 6-9: Number of Persons Who Travel To Work by Public Transportation



Note also in Figure 6-9 that there are also more than five persons living in every block group in Canaan and Enfield that take AT to get to work. In addition, there are more than five persons in one block group in Lyme, two block group in Hanover, four block groups in Lebanon and one block group in Hartford that take the bus to get to work. [Based on the ridership data in Chapter 5 and the rider survey data in Chapter 7, it is clear that there are many more people in the region who are using AT for work-related trips.]

6.2 Employer Interviews

In late May and early June 1994, 10 of the area's largest employers were surveyed to identify the reasons why their employees do or do not use AT for their work trips. Of these ten employers, two were from the manufacturing sector, four were health facilities; additionally, there was one printer, one college, one hotel, and one government laboratory. The paragraphs below discuss the major findings of the survey. The survey questionnaire used is found in Appendix B. Appendix C presents a complete breakdown of employers and their responses to the survey questions.

6.2.1 Number of Employees

The workforce size of each of the ten employers is found below. Note that the workforce sizes vary from 90 employees (Hanover Inn) to 3,500 (DHMC - Hospital).

	Employer	# of Employees		Employer	# of Employees
1.	DHMC - Hospital	3500	6.	CRREL	360
2.	Dartmouth College	2800	7.	Dartmouth Printing	240
3.	DHMC - Clinic	1000	8.	APD Memorial Hospital	200
4.	VA Hospital	1000	9.	New Jersey Machine	113
5.	Split Ball Bearing	550	10.	Hanover Inn	90

6.2.2 Travel Patterns

Not surprisingly, all ten employers reported that driving alone is the primary mode that most of their employees use to travel to work. DHMC (the Hospital and the Clinic) and Dartmouth College and CRREL reported that some of their employees used AT and carpool or vanpool. Two other employers (New Jersey Machine and Alice Peck Memorial Hospital) also reported that some of their employees carpooled. All but one employer (the VA Hospital) knew of AT.

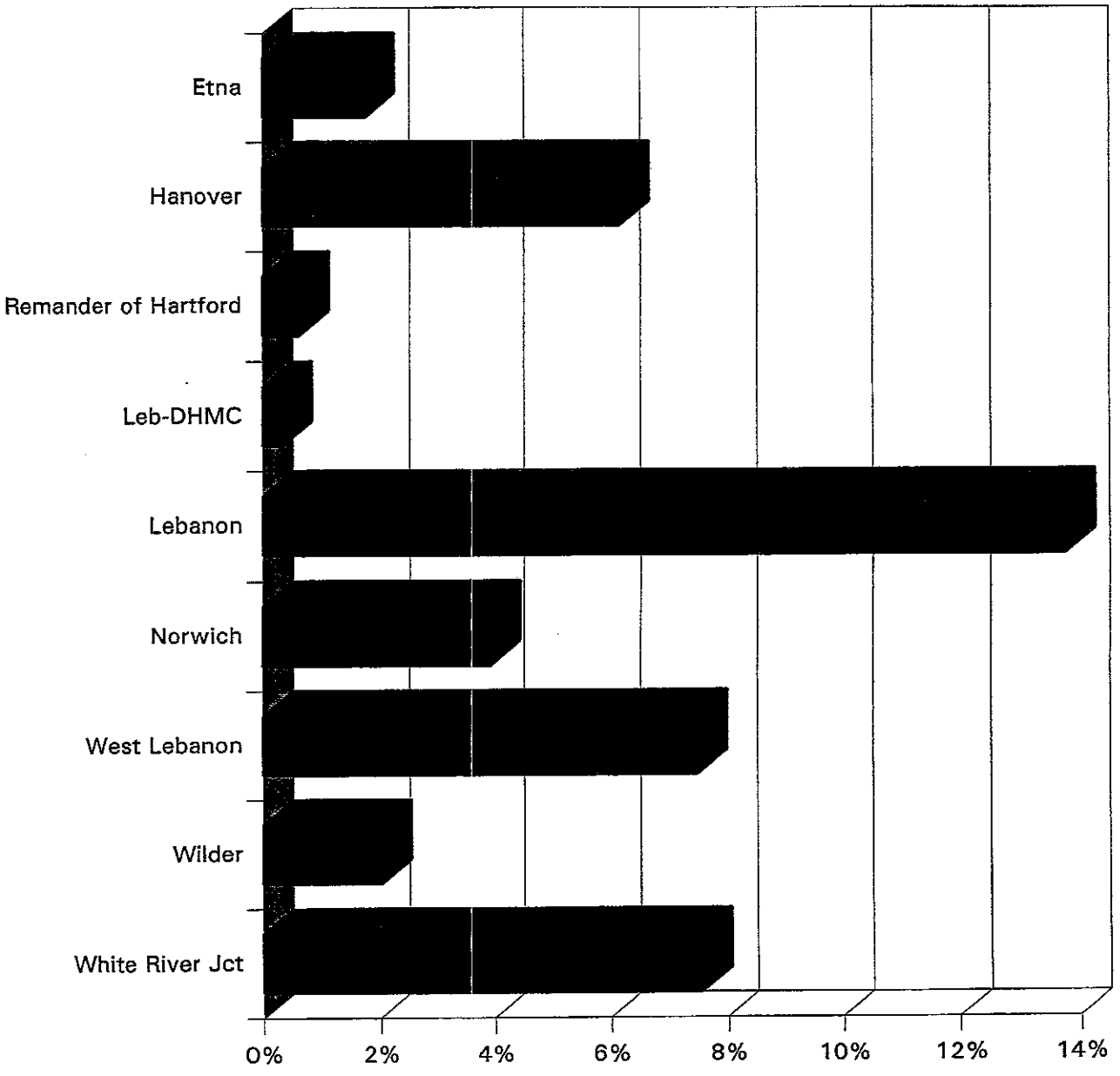
Most of the employers reported that their employees travel between 10 and 20 miles to get to work, while one employer (the VA Hospital) said that their employees travel more than 30 miles to work.

While it was not collected through the employer survey, the UVLSRPC provided the consulting team with data on DHMC employee residences. Those living in towns and villages located within AT's service area are shown below. The percentage of DHMC employees who live in each area is also shown below and is graphically portrayed in Figure 6-10.

Town	DHMC Employees	% of DHMC
Vermont		
- White River Junction	211	7.55%
- Norwich	110	3.94%
- Wilder	57	5.45%
- Quechee	28	1.00%
- Hartford	17	0.61%
- West Hartford	10	0.37%
- Subtotal (VT)	433	15.50%
New Hampshire		
- Lebanon	384	13.75%
- West Lebanon	209	7.48%
- Enfield	196	7.02%
- Hanover	172	6.16%
- Canaan	102	3.65%
- Lyme	75	2.69%
- Etna	49	1.76%
- Leb-DHMC	9	0.32%
- Subtotal (NH)	1,196	42.83%
Total Service Area	1,629	58.32%

This data, which shows that over 1,600 DHMC employees (and representing over 58% of the DHMC workforce) live in AT's service area, is quite significant.

Figure 6-10: Percentage of DHMC Employees Residing in AT's Service Area



6.2.3 Parking Problems

Five employers reported that they are not currently experiencing any parking problems, while four employers (VA Hospital, Hanover Inn, Dartmouth College, and DHMC-Clinic) said that they are experiencing parking some shortage problems. Bill Barr of Dartmouth College reported that there are shortages in the core area, whereas the outlying lots are not yet at capacity. Mr. Barr reported that the H-G Lot has approximately 250 empty spaces; the Thompson Arena Lot has about 100 empty spaces; and 1/3 of the J Lot is empty. Steve Marion at DHMC indicated that while there is not a parking problem today (10% of the 2,700 parking spaces are empty), they anticipate having a parking problem within 3 to 5 years. Solutions that DHMC is currently considering include a combination garage/surface lot with some alternative method of transportation.

Of the four employers who are experiencing parking problems, only the Hanover Inn and Dartmouth College charge for parking. The Hanover Inn charges its employees $1.50 per week, while Dartmouth College charges faculty $10.00 per month and clerical staff $6.00 per month. When asked if they were interested in a vanpool/carpool program that may alleviate the parking problems, Hanover Inn said that they would be interested in a vanpool/carpool program, while Dartmouth College said that a vanpool/carpool program would not work for their employees because their work stations are too dispersed throughout campus. The latter statement is somewhat misleading because there are several ridesharing arrangements involving Dartmouth College that have been orchestrated by AT. The VA Hospital said that they currently have a carpool program through the VPTA.

6.2.4 Conclusions

The most overriding comment expressed during the employer interviews was that most employees have access to an automobile and prefer to drive themselves to work, rather than use AT fixed route services or ridesharing services. However, in the case of the two largest employers, DHMC and Dartmouth College, it would appear that those responding to the survey may not realize the extent of their employees' use of AT.

6.3 Human Service Agency Interviews

During the same time frame as the employer survey, the consulting team interviewed several human service agencies in the Upper Valley region. The survey instrument itself is found in Appendix D. The purpose of these interviews was to identify the transportation needs of the clients they serve, and to a certain extent, the transportation needs of their employees as well. Figure 6-11 presents a list includes the human service agencies who responded to the telephone survey, and the number and type of clients they serve. A detailed look at the agency responses is found in Appendix E.

Figure 6-11: Human Service Agencies Who Responded to Survey

New Hampshire

1.	Grafton County Senior Center	Lebanon
	Client Type	Elderly, Disabled, Youth
	Number of Clients	5,000 per year
2.	United Developmental Services	Lebanon
	Client Type	Developmentally Disabled
	Number of Clients	146
3.	West Central Services	Lebanon
	Client Type	Mental Health
	Number of Clients	800
4.	Granite State Independent Living	Concord
	Client Type	Disabled, Mental Health
	Number of Clients	50 (local)

Vermont

5.	Bugbee Senior Center	White River Junction
	Client Type	Elderly, Disabled, Low-Income
	Number of Clients	3,000 per year
6.	Department of Emp & Training	White River Junction
	Client Type	Elderly, Disabled, Low-Income, Youth, Mental Health
	Number of Clients	N/A
7.	Voc Rehab	White River Junction
	Client Type	Elderly, Disabled, Low-Income, Youth, Mental Health
	Number of Clients	200
8.	SRS - Child Care Services	White River Junction
	Client Type	Low-Income Families
	Number of Clients	240

6.3.1 Hours of Operation

Typical hours of operation for these agencies are weekdays from 8:00 AM to 5:00 PM.

6.3.2 Client Transportation Services

Six of the agencies contacted provide transportation services to their clients, as discussed below:

- The Grafton Senior Center reported that they serve 42,500 trips per year (county-wide) with a fleet of 9 vans and 4 buses. The Center provides transportation -- with priority to seniors -- on weekdays from 1:00 to 9:00 PM and occasionally on weekends. Much of the service is provided on a demand-responsive basis; a week's advance notice for placing reservations is typically required. Staff reported that the annual budget for transportation is about $220,000. Note that Grafton Senior Center operates 2 to 3 vehicles in AT's service area.

- UDS provides 27,000 trips per year, mostly on a subscription basis, bringing clients to UDS. UDS operates a fleet of 5 vans to provide this service.

- West Central Services provides 4,000 to 5,000 client trips per year, both by operating 3 vans and by sponsoring trips on AT. Staff reports that 10 to 15 of their clients use AT daily.

- Voc Rehab provides about 150 trips per year for clients, which are taken via taxi. Staff also reported that a few clients use AT to get to the Gilman Center.

- The Department of Employment and Education contracts with Stagecoach for perhaps 10 to 20 trips per year. Staff also reported that some clients use AT to get to the Gilman Center, but were unsure about how many.

- The Bugbee Senior Center operates demand-responsive service with a senior van on weekdays from 8:00 AM to 5:00 PM and occasionally on weekends. A week advance notice is often required, while some days are consistently "booked-up" with standing orders. Staff reported that the annual budget for transportation was $18,000, but were not sure of the number of trips served. Staff also noted that five seniors regularly use AT to get to the center.

Issues expressed by the agencies during the interviews included: (1) transportation service to human service agency clients need to be flexible and convenient; (2) more service is need to outlying areas; and (3) lack of funding for transportation is a problem. SRS-Childcare reported

that there is a great need to transport children to/from daycare in Woodstock, Bridgewater, Thetford, Rochester, and Sharon.

There also seemed to be a consensus among the agencies that the current supply of transportation was not accommodating the client demand. This is especially the case with the two senior centers. The agencies also expressed that there was a need for some kind of coordination of paratransit services.

6.4 Planned Developments

There are currently three new developments under construction in the Upper Valley region that may impact the demand for AT's services. These developments include:

- Norris Cotton Cancer Center - Currently under construction, this will be a 100,000 square foot facility at the Dartmouth-Hitchcock Medical Center, and is expected to be a major attractor for new employees as well as patients and their families from all over New England.

- Route 12A Plaza retail expansion in West Lebanon - This expansion includes a 7,000 square foot addition to the Glen Road Plaza and possible construction of a Costco, a 150,000 square foot wholesale club.

- New residential construction in the Town of Hartford - This includes construction of 121 new housing units in the Mountain Avenue/Sykes Avenue area.

Figure 6-12 presents a complete list of planned developments in AT's service area.

6.5 Estimation of Demand and Unmet Demand

Figure 5-4 in Chapter 5, showing that AT's market penetration of 2.7 annual passenger-trips per capita is equivalent to the 6-peer average, suggests that there is not a significant unmet demand for *fixed-route transit service* in AT's service area. This is not to say that AT cannot draw more ridership by improving service, as is described in Chapter 8.

At the same time, there would appear to be a large unmet demand for *paratransit services* in AT's service area. A comparison with MVRTD in Rutland, VT is appropriate to illustrate this point. MVRTD provides about 70,000 demand-responsive trips per year, 62,000 of which MVRTD provides directly with the balance being served by taxi or volunteer drivers. Of these 70,000 demand-responsive trips, over half (36,000) are Medicaid trips, while another 28,500 are sponsored by various human service agencies. The remaining 5,500 are taken by the general public and are not affiliated with a sponsoring human service agency.

Figure 6-12: Planned Developments

Planned Development	Location	Size	Status	Served By Existing Bus Routes
Residential Units	Mountain Ave/Sykes Ave Hartford Vermont	121 Units	Under Construction	
Senior Housing	Hotel Coolidge White River Junction, VT	7-8 Units	Pending Funding	Yes Green Route
Elementary School	Route 5 Wilder, VT	N/A	Completed	Yes Green Route
Hemlock Ridge	Route 5	Single Family Homes, Condos	Completing last phase	
Subdivision	Off Grasse Road near Hanover Reservoir	30+ lots	First phase under Construction	
Jiffy Lube	Rt 12-A West Lebanon, NH	3,000-4,000 SF	Under Construction	Yes Red Route
Costco	Rt 12-A West Lebanon, NH	150,000 SF Retail	Waiting Approval	Yes Red Route
Glen Road Plaza Expansion	Rt 12-A West Lebanon, NH	+/- 7,000 SF Retail	Under Construction	Yes Red Route
Centerra Park New Building	Rt 120 Lebanon, NH	20,000 SF Office	Under Construction	No
Norris Cotton Cancer Center	DHMC Off Rt 120	100,000 SF	Under Construction	Yes Blue Route

Approximately 70% of the 70,000 paratransit trips are provided within the District, which has a population of 24,000 and a population density of 548 people per square mile. The other 30% are provided to areas within the Rutland County, outside the District. The area in Rutland County beyond the District has a population of about 38,500 and a density of about 43 people per square mile. A "weighted" population and population density figure is hence 28,350, which is very close to the 30,000 population of AT's service area in New Hampshire, and 281 persons per square mile, which is about twice the density of AT's service area, but very close to the population density of Lebanon (see Figure 6-1). Based on these similarities, it is reasonable to expect that the New Hampshire side of AT's service area would generate approximately 70,000 demand-response trips.

Between the Grafton Senior Center (which we estimate to serve about 14,200 trips per year), UDS (27,000 trips per year) and West Central Services (4,500 trips per year), it would seem that about 45,700 or about 65% of the estimated demand is being accommodated. Hence, the *unmet* demand for demand-responsive trips is estimated to be 24,300 trips per year, or about 100 per day. This would appear to confirm statements made by these human service agencies (see Section 6.3).

Note that the above estimate for paratransit demand and unmet demand is fro the New Hampshire side only. We would expect that the vermont side would generate about 40% of this volume (based on the differences in population and other demographic charcteristics. We therefore calculate that the demand for paratransit services on the Vermont side would be approximately 28,000 trips per year, or about 112 trips per day. The calculation of unmet demand is difficult to perform because the number of paratransit trips served by the Bugbee Senior Center was not reported.

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Chapter 7: Public Input

This chapter describes the efforts that were made to elicit public comment and to reach out to various segments of the public in AT's service area during the data collection phase of this short range transit study.

These public involvement efforts took several forms, as follows:

1. ***Customer Survey*** - An effort to reach existing transit riders was made through administration of an on-board survey of riders carried out on Thursday, May 12, 1994. 122 riders (approximately 26% of the ridership) completed surveys.

2. ***General Public Survey*** - An effort to obtain input from the "general public" was made through administration of an on street pedestrian survey on Wednesday, May 11, 1994. 126 surveys were collected through this effort.

3. ***Public Forums*** - Two public forums were held to obtain additional input from persons interested in transit service, whether or not they currently use AT. These two meetings were held on Monday evening, May 16, 1994 from 7:00 p.m. to 9:00 p.m. at the Dartmouth-Hitchcock Medical Center in Lebanon and on Tuesday afternoon, May 17, 1994 from 2:00 p.m. to 4:00 p.m. at the Bugbee Senior Center in White River Junction.

All three of these events were well-publicized to the general public through use of the media. The Upper Valley region has a wealth of newspapers, radio stations and television stations. Press releases and public service announcements were sent to the media to announce the short range transit study and the upcoming surveys and to invite and inform citizens of the two public forums. A media list is found in Appendix F. (WTSL radio in particular paid much interest in the short range transit study. They sent a reporter to the field on May 11 to interview project staff and taped and played excerpts from the interview on the radio the next day.) Press releases and public service announcements are found in Appendix G.

The following three sections present a more detailed description of the methodology and findings of these three aspects of the public outreach data collection effort. (In addition to these three data collection efforts, information was also collected from employers and social service agencies through surveys administered to selected employers and agencies. The information gained from that process is documented in Chapter 6.)

7.1 Customer Survey

On-board rider surveys are useful tools in assessing how Advance Transit is serving its customers. Such a survey provides the rider with a means to communicate their thoughts, concerns and suggestions in a private manner.

The rider survey was administered on Thursday, May 12, 1994. Project team staff and a volunteer from the Bugbee Senior Center rode buses throughout the day to distribute surveys. Surveys were conducted on the Red, Blue and Green routes. While all routes were not covered at all times, survey staff coverage roughly equated to the percentage of service hours among the three routes. Surveys were distributed to riders after they boarded the bus and were seated. The surveys were designed for passengers to fill out themselves as they rode the bus. Project team staff and the volunteer were available to assist and answer questions. While some individuals indicated that they did not want to participate, the general reaction was positive.

One hundred and twenty-two (122) surveys were collected. According to AT staff, the total ridership on this day was 477. This indicates that 26% of the riders on this day participated in the survey, which equates to approximately one out of every four riders. Respondents indicated routes as follows: Blue (64%), Red (17%) and Green (19%).

A one day count conducted on Friday, October 1, 1993 yielded 468 riders. Distribution among the routes on this day were: Blue (325 riders), Red (95 riders), and Green (48 riders). This correlate to the following percentages: Blue (70%), Red (20%) and Green (10%). [As mentioned in Chapter 5, the Blue route generally has higher ridership as it contains a free fare zone and shuttles individuals from the Thompson Arena parking lot to downtown Hanover. The Blue route is also used by all riders wishing to access the DHMC. Dartmouth College medical students use the blue route to travel to and from the college and DHMC.]

This would suggest that survey response roughly reflects route ridership distribution.

The riders survey included questions relating to use of AT, other transportation needs and personal information. A copy of the survey form showing the composite results is found in Appendix H.

7.1.1 Bus Stops

Respondents indicated that they boarded the bus at the following stops: Canaan, DHMC, Hanover Bookstore, Hanover Inn, Hanover Park, Hotel Coolidge, Lebanon Mall, Nichols Hardware (Lyme), Mascoma Bank (W. Lebanon), Norwich Inn, and Summer Street (Hanover). 93% indicated that the stop they boarded from was convenient for them.

7.1.2 Trip Purpose

The following paragraphs indicate the degree to which AT is being used for work trips, shopping trips, and medical trips (as the top three trip purposes).

Work Trips - Nearly three-quarters (72%) of the respondents indicated that they use AT for work related trips; of these, 46% indicated that they use AT four to five days a week for work trips, 19% indicated that they use it one to three days a week for work, and 7% indicated that they use it one to three days per month for work trips. The remaining survey respondents (28%) indicated that they do not use AT at all for work trips.

Shopping Trips - 9% of the survey respondents indicated that they use AT one to three times a week for shopping, while 15% indicated that they use the service one to three times a month for shopping.

Medical Trips - 11% of the survey respondents indicated that they use AT one to three days a month for medical purposes.

7.1.3 Convenience

80% of the respondents indicated that the bus gets them to their destinations at convenient times.

7.1.4 Service Component Ratings and Comments

Respondents were asked if they agree or disagree about several statements describing AT. These responses , shown in Figure 7-1, represent a relatively good "score" for AT. However, a significant number of the respondents did indicate that they don't feel the buses run on time and that the schedules are difficult to read. Indeed, survey staff observed that the buses operated 5-10 minutes behind schedule for most of the morning and early afternoon. A space was also provided for comments. Comments received included the following:

- AT should clean windows regularly.
- The big bluebird is not comfortable (2).
- It is not easy to find a seat when the van is used.
- The drivers are great.
- Some of the drivers are helpful and friendly and some aren't.
- The afternoon buses usually run late.
- The buses usually run 5-25 minutes late.
- The 12:20 & 2:20 Mall bus usually late.
- The 5:08 Hanover Park - Thompson run is usually late.
- Not sure where schedules are available.
- Schedules are not at all easy to understand.

7.1.5 Fare Media

About a third (32%) do not pay a cash fare because they ride in the free zone only. Another third (36%) of the respondents indicated that they pay cash for the bus fare. Of the remaining third; half use a 10-ride ticket, while the other half use a monthly pass. Figure 7-2 presents a breakdown of how commuters pay for AT.

Figure 7-1: Customer Ratings of AT Service Components

Statement	Number of Respondents		
	Agree	Disagree	No Opinion
The buses are clean.	112	3	3
The buses are comfortable.	103	13	2
It is easy to find a seat.	112	6	0
Drivers are helpful and friendly.	110	1	5
The buses generally run on time.	80	30	5
It is easy to find a bus schedule.	104	12	1
The schedules are easy to understand.	89	25	4

Figure 7-2: Fare Payment on Work Trips

Frequency of Work Trips	Method of Payment			
	Cash Fare	10 Ride Ticket	Monthly Pass	Free Zone
4-5 days a week	14	10	15	15
1-3 days a week	8	3	1	10
1-3 days a month	5	2	0	2

7.1.6 Needs and Suggested Improvements

Riders were also asked about their other transportation needs, such as where in the Upper Valley they travel by other means of transportation and how often? Responses included:

- Colonial Mall - 3 times a week
- Dartmouth Printing - 3 times a week
- Hanover - 4-5 times a week
- Lebanon - 3 times a week
- West Lebanon - 3-4 times a week
- Wilder - 5 times a week

A question asking what improvements they would like to see so that they would take AT to these places resulted in the following responses.

- Better or more runs on Saturday (4)
- More trips to Lyme (2)
- Re-instate early White River Junction to Norwich bus
- Mid-day bus or more runs to Canaan (2)
- Expand service to Orford (2)
- More runs or more frequent service (7).

Riders were also asked what other improvements they would like to see. The following lists some of the responses received.

- Mid-day service to Enfield (2)
- More runs or more frequent service (4)
- More music (2)
- More Norwich-WRJ on Saturdays.
- More runs Hanover-West Lebanon, 4-7 PM
- More runs Hanover to DHMC 12-2 PM.
- Add run departing Lebanon at 6:45 AM to Plazas.

7.1.7 Rider Characteristics

52% of the respondents were female. 55% were between the ages of 26-64, while only 6% were 65 or older. 62% indicated that they had a valid drivers license.

7.2 On-Street Pedestrian Survey

The on-street pedestrian survey was administered on Wednesday, May 11, 1994. 126 surveys were collected at the following locations:

- Dartmouth Hitchcock Medical Center
- Downtown Hanover
- Downtown White River Junction
- Veterans Administration Hospital in White River Junction
- Route 12-A Plazas in West Lebanon
- Downtown Lebanon.

The survey method involved project team staff approaching individuals at random and asking for their participation. Project team staff posed the questions to the individuals and wrote their responses on the survey form. While some individuals indicated they did not have time or desire to participate, general reaction was positive. Project team staff offered free AT ride tickets and schedules/route maps to individuals who participated.

The on-street pedestrian survey included questions relating to: personal information, trip purposes and times, AT usage and area traffic congestion and parking. A copy of the survey showing the composite results is found in Appendix I

7.2.1 Respondent Characteristics

60% of the respondents were female. 58% of the respondents were between the ages of 26 and 64. 12% of the respondents were 65 or older. 88% of the respondents indicated that they had a valid drivers license.

A wide range of municipalities both within and outside the Upper Valley region were indicated as places of residence. Municipalities which 10 or more respondents indicated as their place of residency include: Hanover, Lebanon, Norwich and White River Junction.

60% of the respondents indicated that they were employed outside their home, while 10% of the respondents indicated that they were retired. The most prevalent employment identified by the respondents included: Dartmouth Hitchcock Medical Center, Dartmouth College, and the VA Hospital. 12% of the respondents indicated that they were students.

7.2.2 Use of AT

41% of the respondents indicated that they have used AT. 11% indicated that they use AT one to three days a week or more.

7.2.3 Opinions on Traffic Congestion and Parking Shortages

Opinions on traffic congestion and parking problems in the Upper Valley region varied.

Traffic Congestion - 41% of the respondents indicated that traffic congestion in the region was severe; 24% indicated that traffic congestion was slight; and 35% indicated that there are no traffic congestion problems in the Upper Valley Region. The majority of those who indicated that traffic congestion was a problem identified Route 12-A.

Parking Shortages - 30% indicated that there was a severe problem with parking in the Upper Valley region. 17% indicated that parking problems were slight. 53% of the respondents indicated that there were no parking problems. The majority of those who indicated that parking was a problem identified Hanover as the primary problem area.

7.2.4 Suggestions

Respondents were also asked "What could Advance Transit do so that you would use its services (more)?" Responses included the following:

- Advertise (6)
- Make schedules easier to read/understand and more available (7)
- Service CREEL and Lyme more often (2)
- More frequent service (4)
- Bigger seats and seatbelts (2)
- Commuter lot in Norwich
- Extend service to Woodstock
- Extend service to Claremont (2)
- Stop on Seminary Hill
- Nothing or fine as is (8)

7.3 Public Forums

Two public forums to present study information and to obtain input from interested citizens were held on Monday evening, May 16, 1994 from 7:00 p.m. to 9:00 p.m. at the Dartmouth-Hitchcock Medical Center in Lebanon and on Tuesday afternoon, May 17, 1994 from 2:00 p.m. to 4:00 p.m. at the Bugbee Senior Center in White River Junction. Approximately 10 individuals were in attendance at each of the forums.

Attendees at Monday evening's meeting who were not connected with AT or the transit study project team were almost entirely comprised of individuals with disabilities who utilize motorized wheelchairs. None of these attendees were regular (or even occasional) users of AT, primarily because of the absence of functioning lifts on the current fleet. All were very interested in mobility issues and expressed a number of comments and concerns about AT, particularly with regard to making it more user-friendly to persons with disabilities.

The second meeting on Tuesday afternoon focused more on transportation for elders and youth. Participants also included representatives from the Town of Hartford. Again, none of the attendees who were not associated with AT or the transit study team were users of AT services.

The first meeting focused on service in New Hampshire and the second meeting focused on service in Vermont.

A summary of the comments made at both meetings is as follows:

- Disabled individuals noted the absence of lifts (or fully functioning lifts) on the present fleet. Someone noted that it is possible at present to be in a situation where a person could access a bus, but not be able to transfer to another lift equipped bus and therefore not be able to complete the trip. It was explained by AT personnel that a new fleet of buses is on order, all of which will be fully equipped with lifts in a flexible arrangement of seating. AT personnel expressed a particular desire to make the fixed route service accessible to persons with disabilities.

- Disabled attendees also pointed out that even if the buses are equipped with wheelchair lifts, some loading areas are inaccessible to wheelchair patrons. Either they are too difficult to access or there is no place to wait.

- A comment was made calling for greater integration of transit services, where possible, to maximize the resources that are devoted to transit. A question was raised concerning the level of coordination with Community Transit.

- Significantly, all of the disabled attendees at the Monday evening meeting expressed strong interest in being able to use Advance Transit's fixed route system (rather than having special demand-responsive service).

- In response to the presentation of the study process by the project team, a question was asked regarding clarification of the difference between a Transit District, Transit Authority and a private non-profit organization (AT's present structure).

- A number of general questions were asked about Advance Transit service, including:

  - What type of service does Advance Transit provide?
  - What are the operating hours?
  - What is Saturday ridership?

- A request was made for the reinstitution of **frequent** shuttle service to the Lyme Road lot from downtown Hanover.

- Since a suggestion had been previously made by staff at the Bugbee Senior Center, to incorporate the Bugbee Center's demand responsive van service into Advance Transit as a measure to reduce cost, a concern was raised by Bugbee Center staff about the possibility of losing the "personal touch" of demand van service, since AT's buses don't even turn into the Bugbee Center lot. Assurance was made that Advance Transit has no intention of "taking over" the Bugbee Center service against anyone's will. (The suggestion had apparently been made within the Bugbee Center administration as a potential cost-cutting measure). A clarification was made by the project team that different types of service address different needs. Not everyone can use fixed route service, and not everyone needs the door-to-door convenience of demand responsive service).

- A comment was made that it would be good to have service (even on the fixed route operation) right to the door of the Bugbee Center.

- It was suggested that buses should stop at low income housing, mobile home parks and senior housing (particularly the elderly housing behind Gilman Center).

- With regard to the provision of service to students, it was suggested by a representative of the Town of Hartford School Department that there may be a market for Advance Transit to serve students traveling from Cornish to attend school in Hartford (35 - 38 students per day). In addition, dense housing in the Templeton Avenue, Forest Hills and Hyde Park areas would probably yield a market for student travel also.

- A representative of the Town of Hartford Parks Department expressed several concerns/suggestions, as follows:

  - There is a strong need for student/young people transportation to after-school programs, events and other popular locations, including: lessons, libraries, CCB (gymnasium), programs at schools, bowling alley, etc. It was suggested that contact with the various PTA's or PTO's associated with the schools would be a good way to pursue this idea.

  - Service to summer day camps held at the High School on Taft Avenue would be beneficial and might represent a good opportunity for Advance Transit. The bus would need to come back to the school at approximately 4:00 p.m. to pick up kids who want to stay longer at the pool (supervised play is available in the afternoons).

  - It was also suggested that there is a need for transportation for young people from Hartford Village to the pool.

  - Another transportation need was expressed for travel to night classes at the vocational technical program at the high school.

- Specialized bus transportation for special events would be beneficial, including: Glory Days, (beginning of September) 4th of July, and the Quechee Balloon Festival (typically third weekend in June).

A letter was received from a rider who indicated that he enjoyed riding AT and is looking forward to seeing service improvements. He also offered the following:

- He feels it is important to get input from the general public who do not use AT to get insights on what AT could do to attract these riders.

- He indicated that there should be a major overhaul in the schedule. He indicated that the buses at DHMC without fail are 5 - 20 minutes late in the afternoon.

- He indicated that the service between DHMC and Hanover should be extended to Lebanon running every 30 minutes during the commuter hours.

- He also indicated that the Saturday service is totally inadequate. He suggested concentrating on one or two of the most traveled routes. (i.e. Hanover to DHMC to Lebanon, Lebanon to Plazas to Hanover for example).

7.4 ADA Meeting Survey

During the Monday evening meeting, during discussion of the on-board and downtown surveys, one of the attendees said that they would like to have had the opportunity to fill out a survey. In the ensuing discussion, mention was made of an upcoming meeting on ADA issues to be held that Thursday evening, May 19, 1994. In response, the project team revised one of the survey forms to be more appropriately administered to attendees at that meeting, then, through the cooperation of the New Hampshire Disabilities Rights Center, this survey was handed out at the ADA meeting. A total of seven responses were received. The survey form and tabulated responses are found in Appendix J.

7.5 Field Observations

The VA Hospital in White River Junction appeared to be a busy place. A large employee parking lot is located at the rear of the facility. This major employer appears to be a good place to target to attract more riders. Visitors come from a wide range of places for medical appointments that can last for several hours. One person interviewed indicated that she drove her husband for his monthly appointment which lasts approximately six hours. She indicated that she waits at the VA Hospital as she doesn't like to drive in traffic on roads she is not familiar with. When asked by project team staff if she considered taking the bus into town while she waited for her husband, she indicated that she did not know about the service. It is possible that there may be a number of people who have a similar situation and could make use of AT.

The buses were observed to operate 5-10 minutes behind schedule for most of the morning and early afternoon. Some passengers on board the bus indicated that the schedules were difficult to read. Some passengers indicated that they would like mid-day service to Enfield and Canaan. Two passengers said they used to ride the earliest bus from White River Junction to Norwich for work purposes and would like for this service to be reinstated. A handful of students use the bus to travel to/from school in Hanover to their home in Lyme.

Bus drivers place route signs in the windshield to designate route. This is difficult for passengers waiting at bus stops to see and read and can cause confusion to boarding passengers. Since a driver's assignment can cover more than one route, it is difficult for passengers to read the schedule and determine if they need to transfer buses to reach their destinations.

7.6 Summary

The public involvement data collection processes yielded some useful information for the project team. The following is a summary of some interesting results:

7.6.1 Rider Survey

65% of the respondents indicated that they use AT one to three times a week or more for work trips.

Only 6% of the respondents indicated that they were 65 or older. Seniors are typically a strong market for rural transportation providers.

Four riders indicated that they would like mid-day service to Enfield or Canaan.

32% indicated that they use a ten ride ticket or monthly pass.

32% of the respondents indicated that they ride in the free fare zone only.

7.6.2 On-Street Survey

41% of the respondents indicated that have used AT.

41% of the respondents indicated that traffic congestion was severe. The majority of the respondents identified Route 12-A as the problem area.

30% of the respondents indicated that parking problems in the area were severe. The majority of the respondents identified downtown Hanover as the problem area.

In response to "What could Advance Transit do so that you would use its services (more)?, six participants indicated that more advertising is needed. Seven of the respondents indicated that they would like to see the schedules be easier to read or more available.

7.6.3 General Observations

Attendees at two public forums made several useful observations about AT, albeit these observations represented general impressions, rather than fact-based analysis. The meetings themselves provided an excellent opportunity for Advance Transit to provide information to persons who did not have a good concept of the service AT currently provides. The meetings resulted in a good feeling among participants at the sincere effort that Advance Transit is making to meet mobility needs in the communities it serves.

It was interesting that no current AT riders attended either of the public forums. This was contrary to our experience in other Vermont communities. It was further interesting that a large proportion of the attendees at the public forums were persons with physical disabilities who would like to use AT's fixed route service but are presently unable to reliably do so. In addition, there was considerable lack of knowledge about the organization and service of Advance Transit, leading to some level of distrust on the part of those not presently served. A general conclusion that may be reached is that the people currently using AT are well served (i.e., they saw no reason to come to the meetings and complain). However, there is a large segment of population in the service area, notably the disability community, that needs to receive service and that also needs to receive more information about the service that AT provides.

AT operates under a disadvantage compared to some other local transit systems in that it has a multi-community and bi-state service area that is decentralized. (Most local transit systems are centered on a single community which provides employment, shopping, medical and personal business opportunities to residents). Advance Transit has at least four such "central" communities including White River Junction, West Lebanon, Lebanon and Hanover. Major employers are scattered throughout the area including Dartmouth Hitchcock Medical Center (Lebanon), Dartmouth College (Hanover), VA Hospital (White River Junction) and the Route 12-A plazas (West Lebanon). This undoubtedly leads to a difficulty in communication and in information dissemination that AT will have to work very hard to counter.

AT's designation of routes and bus runs also leads to passenger confusion. Since buses can serve several routes on a single run, there is a lack of clarity among passengers in route identification. It is clear that AT is trying to provide the most efficient coverage possible, but at some loss in the area of information clarity to the public. A need to make the system easier to use and understand has been identified during this public involvement process. Areas to improve upon include making headways more consistent, operating on time and reducing the number of transfers. There is also considerable room for a revised service plan and a strong marketing effort to smooth out this aspect of Advance Transit's operation to make AT an even stronger factor in the provision of mobility to many in the Upper Valley.

Chapter 8: Service Improvements

8.1 Overview

This chapter discusses possible service improvements for Advance Transit's fixed-route bus service. It presents a detailed, comprehensive reconfiguration of the existing route structure to address a number of problems with the existing service. This chapter also presents some general thoughts on AT's introduction of paratransit service.

The alternative fixed-route service plan continues service on Advance Transit's existing route segments, and it preserves key commuter origin and destination times. It calls for different headways, different vehicle assignments, and a restructuring of the current "Red" and "Green" routes. It introduces a new "Orange Route" that would operate as a "Plaza Shuttle" between West Lebanon and the Route 12A shopping plazas. The proposed service design offers a number of direct commuting and shopping options that are not available with the current system.

The alternative service plan for weekday fixed route is discussed in Sections 8.2 - 8.8. Section 8.2 presents an overview of the proposed new system. Section 8.3 identifies problems with the existing service and shows how these problems are addressed by the new service plan. Section 8.4 focuses on available commute times for key employment centers. Section 8.5 addresses travel options for shoppers. Section 6 addresses midday trips to area hospitals. Section 8.7 examines use of the bus for after-school trips. Section 8.8 looks at access via local transit to intercity bus service at the Vermont Transit depot in White River Junction. Note that this alternative service plan can be delivered by seven buses, which equates to the current peak pullout, with a 2.7% increase in service hours.

Section 8.9 discusses four additional fixed-route service improvements (i.e., in addition to the alternative service plan) that each requires an additional vehicle. Two of these improvements involve improving the frequency on the Blue Route and the Red Route, respectively. The third improvement involves expanding the service hours on the new Orange Route. A fourth improvement involves adding a possible local Lebanon feeder bus service.

Section 8.10 discusses possible improvements in Saturday service. Section 8.11 discusses fare-related issues. Section 8.12 describes the impact of proposed fixed-route service improvements on Advance Transit service hours, operating cost, capital needs, and ridership.

And finally, Section 8.13 discusses the prospect of AT's provision of paratransit services. A more detailed outline of this chapter is found in Figure 8-1.

Figure 8-1: Outline of Chapter 8

8.1 Overview

8.2 Description of Alternative Fixed-Route Service Plan

- 8.2.1 Blue Route
- 8.2.2 Red Route
- 8.2.3 Green Route
- 8.2.4 Orange Route
- 8.2.5 Vehicle Requirements

8.3 Problems with Existing Fixed-Route Services

- 8.3.1 Irregular headways between Lebanon and Hanover
- 8.3.2 No through service to DHMC from West Lebanon or Vermont
- 8.3.3 Too many tight interline connections
- 8.3.4 Lack of schedule time for wheelchair lift operations
- 8.3.5 Limited midday service between Lebanon and Hanover
- 8.3.6 Too many "dead-head" trips on Hanover-West Lebanon segment
- 8.3.7 Irregular headways through Route 12A Plazas
- 8.3.8 Slow travel times between Lebanon and West Lebanon
- 8.3.9 Slow travel times between Lebanon and Vermont towns
- 8.3.10 Poor commuter options for VA Hospital workers
- 8.3.11 Limited service to Seminary Hill in West Lebanon

8.4 Commuter Travel Options

- 8.4.1 DHMC and Dartmouth College commuters
- 8.4.2 VA Hospital and Gilman Center commuters
- 8.4.3 Downtown Lebanon commuters
- 8.4.4 Split Ball Bearing commuters
- 8.4.5 Plaza commuters from Canaan and Enfield

8.5 Shopper Travel Options

- 8.5.1 Lebanon to Plazas
- 8.5.2 White River Junction and Hartford Village to Plazas
- 8.5.3 Hanover to Plazas
- 8.5.4 Wilder and Norwich to Plazas
- 8.5.5 Canaan and Enfield to Plazas

Figure 8-1: Outline of Chapter 8 (Continued)

8.6 Midday Trips to and from Area Hospitals

- 8.6.1 Midday service to DHMC
- 8.6.2 Midday service to the VA Hospital

8.7 After-School Trips

- 8.7.1 Lebanon and Canaan students
- 8.7.2 Hanover and Lyme students
- 8.7.3 Hartford students

8.8 Intercity Bus Connections

8.9 Additional Service Improvements

- 8.9.1 Add a vehicle - Blue Route peak period
- 8.9.2 Add a vehicle - Orange Route peak period
- 8.9.3 Add a vehicle - Red Route all day
- 8.9.4 Add a local Lebanon feeder route

8.10 Saturday Service

8.11 Fare Issues

8.12 Impact on Service Hours, Operating Cost, Capital Cost, and Ridership

- 8.12.1 Impact on Service Hours
- 8.12.2 Impact on Operating Cost
- 8.12.3 Impact on Capital Cost
- 8.12.4 Impact on Ridership

8.13 Paratransit Services

8.2 Description of Alternative Service Plan

The proposed reconfiguration of Advance Transit's fixed-route bus service is illustrated in Figure 8-2. includes the following:

8.2.1 Blue Route

Buses between downtown Lebanon and Hanover operate every half hour throughout the day. All buses from Lebanon operate to the CRREL research center, with the exception of one afternoon commuter run which turns at the Parking Garage. Schedules include two minutes of slack time at CRREL and ten minutes of slack time in downtown Lebanon.

Headways between Hanover and DHMC are fifteen minutes during peak service hours (7:30 - 9:30 a.m. and 3:00 - 5:00 p.m.). These additional peak-hour buses operate between DHMC and the Dartmouth Parking Garage. (A thirty minute headway remains between 3:30 p.m. and 4:00 p.m. to allow for an after school trip from Hanover to Lyme.) Current service to Canaan and Enfield and Lyme is preserved, with minor time adjustments.

The revised Blue Route calls for two vehicles throughout the day, and four peak-hour buses. This is illustrated in Figure 8-3.

The revised Blue Route Schedule is found in Figure 8-4.

8.2.2 Red Route

The revised Red Route runs from downtown Lebanon to West Lebanon via Seminary Hill. With the exception of two morning and two afternoon runs, the Red Route bus does not operate through the Route 12A Plazas. (The Route 12A Plazas are served by a new and separate Orange Route.)

Instead of continuing north from West Lebanon to Hanover, the new Red Route bus travels west to White River Junction, the VA Hospital and Hartford Village. It returns to West Lebanon, and then continues via Seminary Hill to downtown Lebanon.

One vehicle would operate on the Red Route throughout the day. (In addition, a Blue Route bus would run between West Lebanon and Lebanon via the Plazas at the end of its morning shift and at the start of its afternoon shift. Also, the "clockwise" Green Route bus would offer a trip from West Lebanon to Lebanon via the plazas as its last run of the day.)

The revised schedule for the Red Route is found in Figure 8-5.

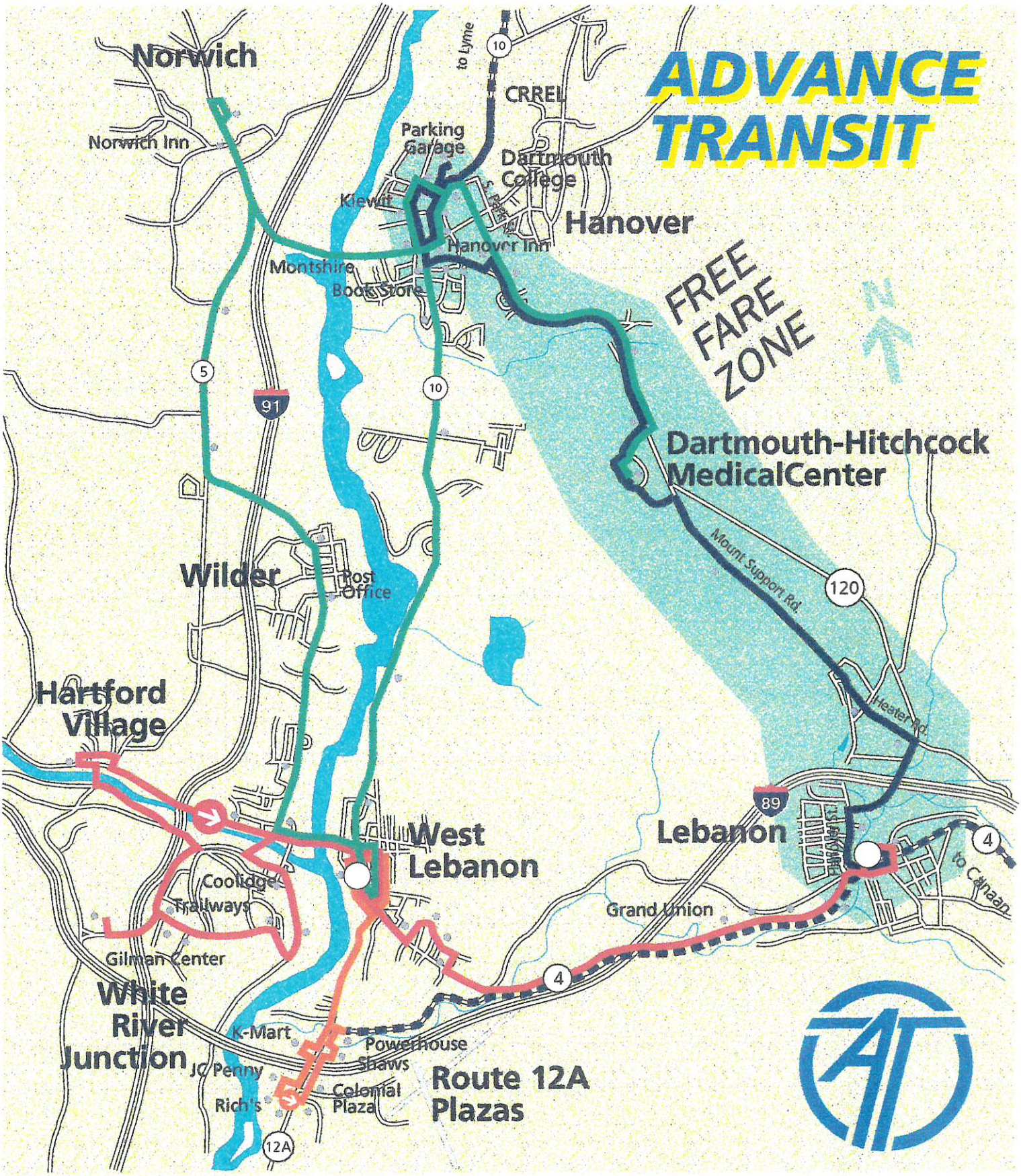
ADVANCE TRANSIT
Norwich
Norwich Inn
to Lyme
CRREL
Parking Garage
Dartmouth College
Kiewit
Hanover
Hanover Inn
Montshire
Book Store
FREE FARE ZONE
Dartmouth-Hitchcock MedicalCenter
Mount Support Rd.
Heaters Rd.
Wilder
Post Office
Hartford Village
West Lebanon
Lebanon
Coolidge Trailways
Gilman Center
White River Junction
Grand Union
to Canaan
K-Mart
JC Penny
Rich's
Powerhouse
Shaws
Colonial Plaza
Route 12A Plazas
5
10
91
89
120
4
12A

Figure 8-3: Vehicle Assignment on the Revised Blue Route

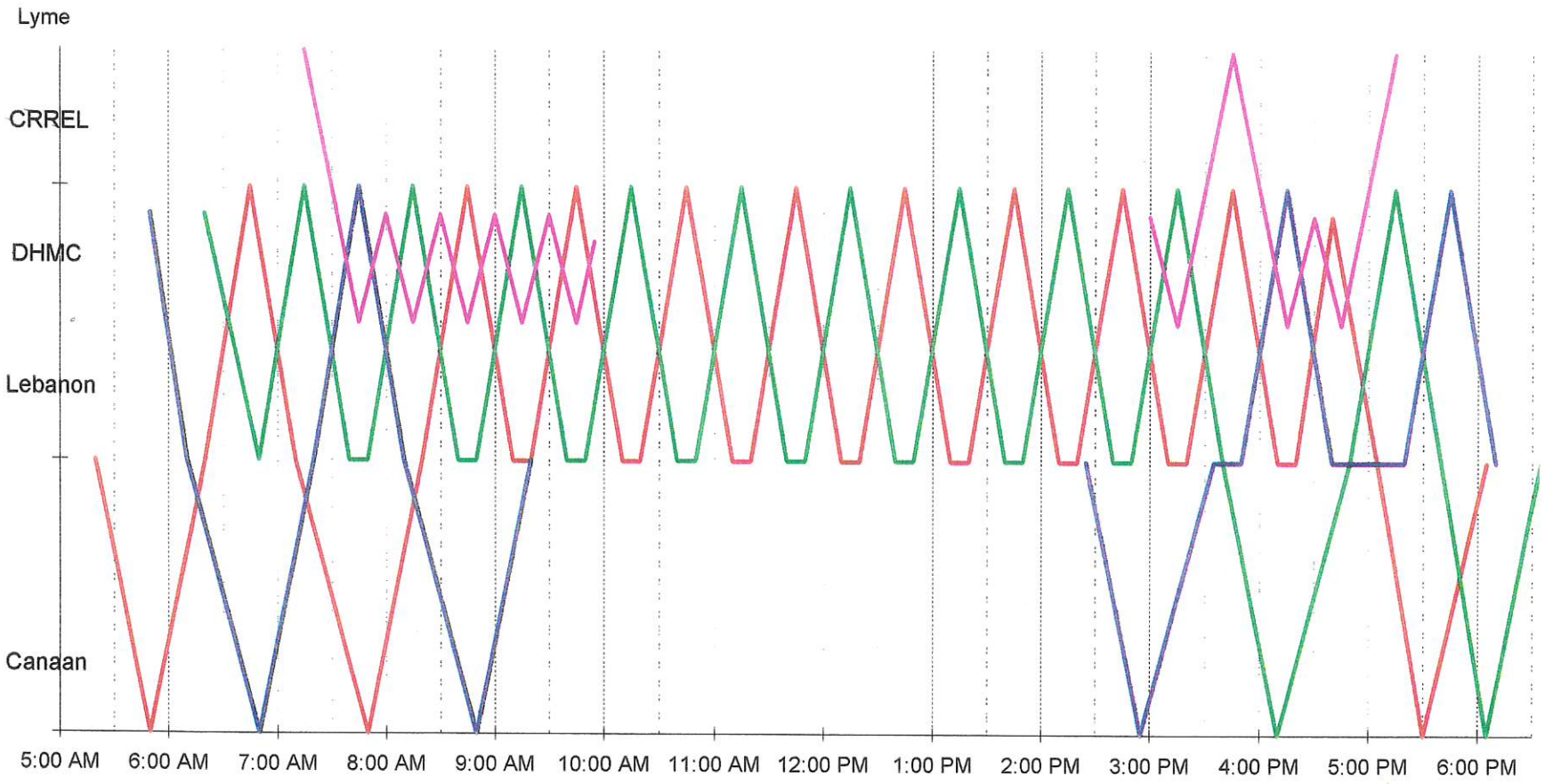

Figure 8-4: Revised Blue Route Schedule

Canaan - Lebanon - DHMC - Hanover - Dartmouth - Lyme

Canaan	Lebanon	DHMC	Garage	CRREL	Lyme	CRREL	Garage	DHMC	Lebanon	Canaan	
									5:20	5:50	1
							5:50	6:00	6:10	6:50	3
5:50	6:20	6:30	6:40	6:45		6:45	6:50	7:00	7:10	7:50	1
	6:50	7:00	7:10	7:15		7:15	7:20	7:30	7:40		2
					7:15	7:30	7:35	7:45			4
6:50	7:20	7:30	7:40	7:45		7:45	7:50	8:00	8:10	8:50	3
		7:45	7:55				8:00	8:15			4
	7:50	8:00	8:10	8:15		8:15	8:20	8:30	8:40		2
		8:15	8:25				8:30	8:45			4
7:50	8:20	8:30	8:40	8:45		8:45	8:50	9:00	9:10		1
		8:45	8:55				9:00	9:15			4
	8:50	9:00	9:10	9:15		9:15	9:20	9:30	9:40		2
8:50	9:20	to Plazas									3
	9:20	9:30	9:40	9:45		9:45	9:50	10:00	10:10		1
	9:50	10:00	10:10	10:15		10:15	10:20	10:30	10:40		2
	10:20	10:30	10:40	10:45		10:45	10:50	11:00	11:10		1
	10:50	11:00	11:10	11:15		11:15	11:20	11:30	11:40		2
	11:20	11:30	11:40	11:45		11:45	11:50	**12:00**	**12:10**		1
	11:50	**12:00**	**12:10**	**12:15**		**12:15**	**12:20**	**12:30**	**12:40**		2
	12:20	**12:30**	**12:40**	**12:45**		**12:45**	**12:50**	**1:00**	**1:10**		1
	12:50	**1:00**	**1:10**	**1:15**		**1:15**	**1:20**	**1:30**	**1:40**		2
	1:20	**1:30**	**1:40**	**1:45**		**1:45**	**1:50**	**2:00**	**2:10**		1
								from Plazas	**2:25**	**2:55**	3
	1:50	**2:00**	**2:10**	**2:15**		**2:15**	**2:20**	**2:30**	**2:40**		2
	2:20	**2:30**	**2:40**	**2:45**		**2:45**	**2:50**	**3:00**	**3:10**		1
							3:00	**3:15**			4
	2:50	**3:00**	**3:10**	**3:15**		**3:15**	**3:20**	**3:30**	**3:40**	**4:10**	2
		3:15	**3:25**	**3:30**	**3:45**						4
	3:20	**3:30**	**3:40**	**3:45**		**3:45**	**3:50**	**4:00**	**4:10**		1
2:55	**3:35**										3
					3:45	**4:00**	**4:05**	**4:15**			4
	3:50	**4:00**	**4:10**	**4:15**		**4:15**	**4:20**	**4:30**	**4:40**		3
		4:15	**4:25**				**4:30**	**4:45**			4
	4:20	**4:30**	**4:40**				**4:40**	**4:50**	**5:05**	**5:30**	1
		4:45	**4:55**	**5:00**	**5:15**						4
4:10	**4:50**	**5:00**	**5:10**	**5:15**		**5:15**	**5:20**	**5:30**	**5:40**	**6:05**	2
	5:20	**5:30**	**5:40**	**5:45**		**5:45**	**5:50**	**6:00**	**6:10**		3
5:30	**6:05**	**6:15**	**6:25**								1
6:05	**6:35**										2

8.2.3 Green Route

The new Green Route consists of a loop serving both sides of the Connecticut River between West Lebanon and Hanover. The loop would start and end in West Lebanon, and would include service to Hartford Village, Wilder, Norwich, and Hanover. This revised Green route would also offer direct service to the Dartmouth College campus and to the Dartmouth-Hitchcock Medical Center. The revised schedule for the Green Route is found in Figure 8-5.

One bus would travel the route throughout the day, making seven clockwise trips and two counter-clockwise trips. A second vehicle would add five additional counter-clockwise trips during peak commuter hours. The clockwise bus would leave West Lebanon and travel directly to Wilder and Norwich. After leaving Norwich, it would stop at the Hanover Inn, and then travel to DHMC via North College and Park Streets. After leaving the Medical Center, it would travel via Park and North College Streets to Maynard Street. It would travel around the west side of the Dartmouth Green on Maynard and North Main Streets, and then head south to West Lebanon.

The counter-clockwise bus would travel directly from West Lebanon to Hanover via Route 10. After arriving in Hanover, it would run via South Main and Wheelock Streets to the Hanover Inn, and then via North College and Park Streets to DHMC. After leaving the Medical Center, it would return to Hanover via Park, North College, Maynard, and North Main Streets, and then head west to Norwich via Wheelock Street.

8.2.4 Orange Route

A new Orange Route would offer midday shuttle service between West Lebanon and the Route 12A Shopping Plazas. This bus would also serve as a shuttle service within the Plaza area to benefit bus riders who would like to shop in more than one location. This service would operate every half hour between 9:00 a.m. and 3:00 p.m. Connections with the Orange Route will be available in West Lebanon for passengers on the Red Route from Lebanon and White River Junction and for passengers on the Green Route from Wilder, Norwich, and Hanover. Note that the bus used for the service is the same bus that provides peak service on the Green Route. The schedule for the proposed new Orange Route is found in Figure 8-5.

8.2.5 Vehicle Requirements

Vehicle requirements for this alternative service plan are summarized in the following table:

Vehicle	Morning Peak	Midday	Evening Peak
1	Blue Route	Blue Route	Blue Route
2	Blue Route	Blue Route	Blue Route
3	Blue Route		Blue Route
4	Blue Route		Blue Route
5	Red Route	Red Route	Red Route
6	Green Route	Green Route	Green/Red Route
7	Green Route	Orange Route	Green Route

Figure 8-5: Revised Schedule for Red Route, Green Route, and Orange Route

Lebanon - West Lebanon - Hartford

Lebanon	Gr Union	West Leb	WRJ	VA Hosp	Hrtfd	W Leb	Gr Union	Lebanon
		6:35	6:40	6:50	6:55	7:05	7:10	7:15
7:20	7:25	7:35	7:40	7:50	7:55	8:05	8:10	8:15
8:20	via plazas	9:05	9:10	9:20	9:25	9:35	9:40	9:45
9:20	via plazas	9:45	9:50	10:00				
9:50	9:55	10:05	10:10	10:20	10:25	10:35	10:40	10:45
10:50	10:55	11:05	11:10	11:20	11:25	11:35	11:40	11:45
11:50	11:55	12:05	12:10	12:20	12:25	**12:35**	**12:40**	**12:45**
12:50	**12:55**	**1:05**	**1:10**	**1:20**	**1:25**	**1:35**	**1:40**	**1:45**
						1:55	**via plazas**	**2:25**
1:50	**1:55**	**2:05**	**2:10**	**2:20**	**2:25**	**2:35**	**2:40**	**2:45**
2:50	**2:55**	**3:05**	**3:10**	**3:20**	**3:25**	**3:35**	**3:40**	**3:45**
4:10	**4:15**	**4:25**	**4:30**	**4:40**	**4:45**	**4:55**	**5:00**	**5:05**
						5:05	**via plazas**	**5:30**
5:10	**5:15**	**5:25**	**5:30**	**5:40**	**5:45**	**5:55**	**6:00**	**6:05**
6:10	**6:15**	**6:25**						

Connecticut River - Clockwise Loop

West Leb	Wilder	Norwich	Han Inn	Wheeler	DHMC	Kiewit	West Leb
7:05	7:10	7:20	7:30	7:31	7:40	7:50	8:00
8:05	8:10	8:20	8:25	8:26	8:35	8:45	8:55
9:05	9:10	9:20	9:25	9:26	9:35	9:45	9:55
11:05	11:10	11:20	11:25	11:26	11:35	11:45	11:55
2:05	**2:10**	**2:20**	**2:25**	**2:26**	**2:35**	**2:45**	**2:55**
3:05	**3:10**	**3:20**	**3:25**	**3:26**	**3:35**	**3:45**	**3:55**
4:05	**4:10**	**4:20**	**4:25**	**4:26**	**4:35**	**4:45**	**4:55**

At 5:05 this bus runs via the plazas to Lebanon.

Connecticut River - Counter-Clockwise Loop

West Leb	Han Inn	Wheeler	DHMC	Kiewit	Norwich	Wilder	West Leb
7:05	7:14	7:15	7:25	7:35	7:40	7:50	7:55
8:05	8:14	8:15	8:25	8:35	8:40	8:50	8:55
10:05	10:14	10:15	10:25	10:35	10:40	10:50	10:55
1:05	**1:14**	**1:15**	**1:25**	**1:35**	**1:40**	**1:50**	**1:55**
3:05	**3:14**	**3:15**	**3:25**	**3:35**	**3:40**	**3:50**	**3:55**
4:05	**4:14**	**4:15**	**4:25**	**4:35**	**4:40**	**4:50**	**4:55**
5:05	**5:14**	**5:15**	**5:25**	**5:35**	**5:40**	**5:50**	**5:55**

Plaza Shuttle

West Leb	K-Mart	Rich's	Shaws	Powhr Hs	West Leb
9:05	9:10	9:15	9:23	9:25	9:30
9:35	9:40	9:45	9:53	9:55	10:00
10:05	10:10	10:15	10:23	10:25	10:30
10:35	10:40	10:45	10:53	10:55	11:00
11:05	11:10	11:15	11:23	11:25	11:30
11:35	11:40	11:45	11:53	11:55	**12:00**
12:05	**12:10**	**12:15**	**12:23**	**12:25**	**12:30**
12:35	**12:40**	**12:45**	**12:53**	**12:55**	**1:00**
1:05	**1:10**	**1:15**	**1:23**	**1:25**	**1:30**
1:35	**1:40**	**1:45**	**1:53**	**1:55**	**2:00**
2:05	**2:10**	**2:15**	**2:23**	**2:25**	**2:30**
2:35	**2:40**	**2:45**	**2:53**	**2:55**	**3:00**

8.3 Problems with Existing Service

8.3.1 Irregular Commuter Headways on the Blue Route

Current schedule times are irregular, and can be difficult to explain to new bus riders. For example, afternoon northbound departures from the Medical Center are offered at 4:35 p.m., 4:45 p.m., 5:06 p.m., 5:21 p.m., 5:36 p.m., 5:40 p.m., and 6:00 p.m. Afternoon northbound departures from Lebanon are offered at 4:20 p.m., 4:35 p.m., 5:11 p.m., 5:30 p.m., 5:50 p.m., and 6:05 p.m.

During peak commuter hours, the average headway between Lebanon and Hanover is now 27 minutes. The amount of time between buses varies, however, from as little as 15 minutes to as much as 55 minutes. On the Hanover-DHMC route segment, the average time between buses is 20 minutes. Actual headways vary, however, from as little as two minutes, to as much as 34 minutes.

The redesigned service plan calls for half-hour headways between downtown Lebanon and the CRREL research facility. Morning buses would depart downtown Lebanon for Hanover at 6:20 a.m., 6:50 a.m., 7:20 a.m., 7:50 a.m., 8:20 a.m., etc. The same schedule would continue throughout the day until 5:20 p.m. (A final northbound trip would be offered at 6:05 p.m.).

Buses would depart DHMC throughout the day on the hour and on the half hour in both north and southbound directions. Additional service between DHMC and the Dartmouth Parking Garage would be available during peak commuter hours, with northbound buses leaving the Medical Center 15 minutes after the hour and fifteen minutes before the hour.

This revised schedule should be easier to explain to new riders, and more convenient for existing riders. The schedule should be easier for passengers to remember. With this new service plan, the level of service to the CRREL research facility would more than double, increasing from eleven irregularly spaced trips per day to twenty-five trips on a regular half-hour schedule.

8.3.2 No Through Service to DHMC from West Lebanon or Vermont

With AT's current route structure, passengers traveling to the Dartmouth-Hitchcock Medical Center from West Lebanon or from towns in Vermont must transfer between buses in downtown Hanover. For Vermont commuters, this can mean getting off the bus at the Hanover Inn, and then walking a block and a half to the Dartmouth Bookstore, or staying on the bus as it travels through the Dartmouth College campus, and then transferring at the Dartmouth Bookstore.

Because buses cannot pull over and wait at the Bookstore, passengers must get off and wait on the sidewalk for their connecting bus to arrive. Moreover, because service headways are irregular, it can be difficult for riders to determine what connecting trips are available.

The proposed service plan calls for direct service to DHMC from West Lebanon and Vermont towns throughout the day. Direct service to the Medical Center should benefit commuters, Medical Center visitors, and individuals traveling to DHMC for medical appointments.

8.3.3 Too Many Tight Interline Connections

Bus schedules in the Upper Valley region have changed significantly in recent years. The most important changes took place after the move of the Dartmouth-Hitchcock Medical Center from downtown Hanover to its current location south of town. Following the move, funding and trip frequencies for the "Hanover Shuttle" were significantly reduced. Advance Transit has attempted to continue providing frequent service between Hanover and DHMC with fewer vehicles, by combining inter-town service with "Hanover Shuttle" trips.

As schedules have evolved, AT has placed increasing demands on its drivers and on its available vehicle fleet. Drivers often move between routes. One driver, for example, might travel a portion of the Red Route, then move to the Green Route, and then return via the Blue Route. Schedule times are tight, with little slack time to allow for delays.

Because routes and schedules are interwoven, a delay on one route can cause a ripple effect throughout the system. This is compounded by the fact that buses are often forced to wait at transfer points for connecting passengers to arrive.

The revised service plan calls for vehicles to operate in a simple and consistent service pattern throughout the day. For example, a driver on the Blue Route would remain on that route throughout the day. Also, each route includes slack time at end points and at transfer locations, to allow for delays that may be experienced along the route.

8.3.4 Lack of Schedule Time for Wheelchair Lift Operations

The lack of slack time in existing schedules will present a significant problem for Advance Transit once handicapped-accessible vehicles are placed in service. Depending on the type of wheelchair and the type of tie-downs used, it can take between four and seven minutes to load or unload a wheelchair rider. Current schedules do not allow enough time for drivers to get back on schedule after making wheelchair stops.

Wheelchair delays could result in a serious disruption of service throughout the AT system. They could also result in strained, hurried, unpleasant, and potentially unsafe experiences for passengers in wheelchairs and for AT drivers.

Proposed schedules include built-in slack time to allow for possible delays on each route. This should permit Advance Transit to offer friendly, relaxed, and safe service to individuals waiting in wheelchairs along regular AT routes.

8.3.5 Limited Midday Service between Lebanon and Hanover

As shown below, Advance Transit's current schedule offers only one northbound trip from Lebanon to DHMC and Hanover between 9:30 a.m. and 2:10 p.m. Only one southbound trip is available between 9:30 a.m. and 2:00 p.m.

Current Midday Service Between DHMC and Lebanon

read down					*read up*			
9:50	11:42	2:06	3:22	DHMC	9:40	12:20	2:20	2:50
10:00	11:53	2:20	3:39	Lebanon	9:30	12:10	2:10	2:40

The proposed service plan calls for continued half-hour headways throughout the day between Lebanon and Hanover. This should increase the usefulness of the bus for people who work at the Medical Center and for area residents traveling to the Medical Center for visits or for medical appointments.

It would also permit individuals who work at DHMC to make midday lunch trips to downtown Lebanon. (With the existing schedule, an individual traveling to Lebanon for lunch can remain in town for either 17 minutes or 2 hours and 17 minutes. The new schedule allows a hospital worker to leave the hospital at 12:00 noon, spend 40 minutes in downtown Lebanon, and return to work by 1:00 p.m.)

8.3.6 Too Many Trips on the Hanover-West Lebanon Segment

The current schedule includes ten northbound trips from West Lebanon to Hanover, and thirteen southbound trips from Hanover to West Lebanon. There does not appear to be a sufficient amount of demand to justify these trip frequencies. Many of the trips on this route segment appear to be "dead-head" runs used to move vehicles between routes.

The new schedule calls for seven northbound trips from West Lebanon to Hanover, and seven southbound trips from Hanover to West Lebanon.

8.3.7 Irregular Headways through the Route 12A Plazas

The current schedule includes sixteen trips each day through the Route 12A shopping plazas. Eight of these trips are made by the "Northbound" Red Route bus. Eight are made by the "Southbound" Red Route bus. Travel times are irregular. Connections with some Green and Blue Route buses are available, but connecting times can be difficult to identify.

The proposed service plan offers twelve trips through the Plaza area between 9:00 a.m. and 3:00 p.m. These trips are scheduled to start and end in West Lebanon and to operate every half hour. In addition, two morning trips would be offered from downtown Lebanon to the Plazas, with two return runs from the Plazas to downtown Lebanon in the afternoon.

The proposed "Plaza Shuttle" service would be designed to offer timed connections in West Lebanon with Red and Green routes. Passengers from points east, north, and west would be able to transfer to the "Plaza Shuttle" in West Lebanon. The new Plaza route would also offer

regularly scheduled service for bus riders who wish to move between shopping locations in the Plaza area.

8.3.8 Slow Travel Times Between Lebanon and West Lebanon

At the present time, most buses operating between Lebanon and West Lebanon travel via the Route 12A shopping plaza area. Because of the route taken, most trips between Lebanon and West Lebanon take 30 or 35 minutes.

The new service plan offers direct trips between Lebanon and West Lebanon via Route 4 and Seminary Hill throughout the day. Schedules allow fifteen minutes, including slack time at arrival points. Actual travel time should be eleven or twelve minutes.

8.3.9 Slow Travel Times Between Lebanon and Vermont Towns

With the existing system, an individual traveling from Lebanon to White River Junction must first travel through the Plaza area, and then transfer between buses in West Lebanon. When a direct connection is available, the trip from Lebanon to White River Junction takes a minimum of 35 minutes. With a direct connection, the return trip from White River Junction to Lebanon takes 62 minutes.

The new schedule offers direct 20 minute trips between downtown Lebanon and White River Junction, with no need to transfer between buses. Return trips from White River Junction to Lebanon take 35 minutes, with no transfer needed.

With the current route structure, trips from downtown Lebanon to Wilder take a minimum of 55 minutes. This extended travel time results because passengers must travel through the Plazas and around the White River Junction-VA-Hartford loop on their way to Wilder.

The new schedule offers a limited number of direct connections for individuals traveling between Wilder and Lebanon. Transfers between Red and Green Routes are required in West Lebanon. Westbound trips from downtown Lebanon to Wilder take 20 minutes, and are available at 10:50 a.m., 1:50 p.m., and 2:50 p.m. Eastbound trips from Wilder to Lebanon take 25 minutes, and are available at 7:50 a.m., 4:50 p.m., and 5:50 p.m.

8.3.10 Poor Commuter Options for VA Hospital Workers

Day-shift employees at the VA Hospital work from 8:00 a.m. until 4:30 p.m. With the current schedule, an individual who lives in downtown Lebanon and works at the VA Hospital would need to leave the Lebanon Green at 6:30 a.m., transfer in West Lebanon at 6:55 a.m., and arrive at the VA Hospital at 7:10 a.m.

The next bus after 7:10 a.m. arrives at the VA Hospital at 8:10, ten minutes after the start of the morning shift. Moreover, this bus from West Lebanon does not connect with a bus from downtown Lebanon.

(The current afternoon schedule is quite good for VA employees departing for downtown Lebanon. An individual can board the bus at the VA in the afternoon at 4:45 p.m., transfer in West Lebanon at 5:00 p.m., and arrive in downtown Lebanon at 5:11 p.m.)

The new schedule offers a direct bus from downtown Lebanon to the VA Hospital, leaving the Lebanon Green at 7:20 a.m. and arriving at the VA Hospital at 7:50 a.m. In the afternoon, a Hospital employee could leave the VA at 4:40 p.m. and arrive in downtown Lebanon at 5:05 p.m.

8.3.11 Limited Service to Seminary Hill in West Lebanon

The current schedule offers only three trips each day from West Lebanon to downtown Lebanon via Seminary Hill. These eastbound buses leave West Lebanon at 7:05 a.m., 5:00 p.m., and 5:30 p.m. Advance Transit operates no westbound buses from downtown Lebanon to West Lebanon via Seminary Hill.

The proposed system calls for buses to operate via Seminary Hill on hourly headways in both directions throughout the day. At the top of Seminary Hill, buses in both directions would operate via Carlton Drive, Eastabrook Avenue, and Floyd Avenue. This will allow safe stops to be in the Seminary Hill residential neighborhood. This bus would also offer a front-door stop at the Grand Union on Mechanic Street in Lebanon.

Seminary Hill residents would be offered direct commuter access to Lebanon, West Lebanon, and White River Junction, and to DHMC and Hanover via connections in downtown Lebanon or West Lebanon. Midday transportation to shopping plazas, hospitals, and downtown commercial centers would also be available for Seminary Hill residents.

8.4 Commuter Travel Options

8.4.1 DHMC and Dartmouth College Commuters

The proposed service plan addresses the needs of a variety of DHMC and Dartmouth commuters:

- Travel options for Canaan and Enfield commuters are preserved.
- Thirty-minute headways are available for residents of downtown Lebanon.
- Wilder and Norwich residents can arrive in Hanover at 7:30 a.m. or 8:25 a.m. They can depart at 3:35, 4:35, or 5:35 p.m.
- Wilder and Norwich residents can arrive at DHMC at 7:40 a.m. or 8:35 a.m.. They can leave the Medical Center at 3:25 , 4:25, or 5:25 p.m.

- West Lebanon residents can arrive in Hanover at 7:15 or 8:15 a.m. and depart at 2:45, 3:45, or 4:45 p.m. A final 5:35 p.m. departure will also be available, but will travel to West Lebanon via Norwich and Wilder.

- West Lebanon residents can arrive at DHMC at 7:25 or 8:25 a.m. and depart at 2:35, 3:35, or 4:35 p.m. A final 5:25 p.m. departure will also be available, but will travel to West Lebanon via Norwich and Wilder.

- Commuters from White River Junction and Hartford will be required to transfer in West Lebanon or in downtown Lebanon. The morning commute from White River Junction to Hanover (with a transfer in West Lebanon) takes 35 minutes, with arrivals at 7:15 or 8:15 a.m. DHMC commuters can continue on to the Medical Center with no transfer in downtown Hanover. (With the existing schedule, the commute from White River Junction to Hanover takes 40 minutes with no transfer. A transfer is currently required in Hanover for individuals traveling to DHMC.)

- The afternoon commute from Hanover to White River Junction takes 45 minutes via the Green and Red Routes (with a 30 minute layover in West Lebanon), or 40 minutes via the Blue and Red Routes. The afternoon trip from DHMC to White River Junction takes 30 minutes via the Blue and Red Routes.

Commute times from Canaan to Lebanon, DHMC, and Hanover are illustrated in Figure 8-6.

The proposed schedule also includes adjustments in travel times for commuters who us the park-and-ride shuttle service from the Thompson Arena park and ride lot. Morning departure times from Thompson Arena and afternoon departure times from the Dartmouth Book Sore are shown in Figure 8-7.

In the morning, the new schedule offers 6:36 a.m. as the first morning stop at Thompson Arena, instead of 6:28 a.m. In addition, riders who currently leave the Thompson Arena at 8:42 a.m. would be required to depart earlier at 8:36 a.m. or later at 8:56 a.m. The remaining morning times for the new schedule closely parallel the existing times, with the following two exceptions:

The most significant change for morning northbound commuters appears to be the loss of a Thompson Arena departures at the following times: (1) between 6:36 and 7:06 a.m. and (2) between 7:06 a.m. and 7:36 a.m. These trips are missing in the proposed new service design because the vehicle that could make these runs has been diverted to Lyme for a morning pick up.

In the afternoon, the new schedule calls for the last southbound bus to depart the Dartmouth Book Store at 5:53 p.m. The current schedule includes 6:05 and 6:18 p.m. departures. If the fourth Blue Route bus is not sent to Lyme at 5:00 p.m., it could offer a 6:03 p.m. Book Store departure, along with 5:03 and 5:33 p.m. trips. A final 6:28 p.m. southbound evening trip could be added to the new system by turning the bus that is scheduled to go out of service at the Parking Garage at 6:25 p.m.

Figure 8-6: Commute Service to DHMC and Hanover

Commute to DHMC and Hanover from Lebanon and Canaan

NEW

Canaan	Lebanon	DHMC	Garage	Garage	DHMC	Lebanon	Canaan
5:50	6:20	6:30	6:40			14:25	14:55
6:50	7:20	7:30	7:40	15:20	15:30	15:40	16:10
7:50	8:20	8:30	8:40	16:40	16:50	17:05	17:30
8:50	9:20			17:20	17:30	17:40	18:05

OLD

Canaan	Lebanon	DHMC	Garage	Garage	DHMC	Lebanon	Canaan
5:55	6:25	6:35	-	-	2:06	2:25	2:50
6:50	7:20	7:30	-	3:11	3:22	3:39	4:05
7:50	8:20	8:30	8:42	4:34	4:45	5:00	5:20
9:00	9:30	9:40	-	5:04	5:15	5:35	6:00

Commute to Hanover and DHMC from Wilder and Norwich

Wilder	Norwich	Wheeler	DHMC	DHMC	Kiewit	Norwich	Wilder
7:10	7:20	7:31	7:40	3:25	3:35	3:40	3:50
8:10	8:20	8:26	8:35	4:25	4:35	4:40	4:50
9:10	9:20	9:26	9:35	5:25	5:35	5:40	5:50

Commute to Hanover and DHMC from West Lebanon

W Leb	Wheeler	DHMC	DHMC	Kiewit	W Leb
7:05	7:15	7:25	2:35	2:45	2:55
8:05	8:15	8:25	3:35	3:45	3:55
			4:35	4:45	4:55
			5:25	5:35	5:55

Commute to Hanover and DHMC from WRJ & Hartford Village

WRJ	Hrtfd	W Leb	W Leb	Wheeler	DHMC
6:40	6:55	7:05	7:05	7:15	7:25
7:40	7:55	8:05	8:05	8:15	8:25

DHMC	Kiewit	W Leb	W Leb	WRJ	Hrtfd
2:35	2:45	2:55	3:05	3:10	3:25
3:35	3:45	3:55	4:25	4:30	4:45
4:35	4:45	4:55	5:25	5:30	5:45

Garage	DHMC	Leb	Leb	WRJ	Hrtfd
14:20	14:30	14:40	2:50	3:10	3:25
15:50	16:00	16:10	4:10	4:30	4:45
16:40	16:50	17:05	5:10	5:30	5:45

Otherwise, the most significant changes in the afternoon appear to be the loss of Dartmouth Book Store departures at the following times: (1) between 3:23 and 3:53 p.m.; (2) between 4:43 and 5:23 p.m.; and (3) between 5:23 and 5:53 p.m. As was the case in the morning, these afternoon trips are missing in the proposed new service design because the vehicle that could make these runs has been diverted to Lyme.

8.4.2 VA Hospital (and Gilman Center) Commuters

Lebanon, West Lebanon, Canaan, Enfield - VA Hospital employees from Lebanon and West Lebanon can arrive at 7:40 a.m. for the 8:00 a.m. workshift. The work day ends at 4:30 p.m. and the bus to West Lebanon and Lebanon leaves at 4:40 p.m. Morning and afternoon connections are available in downtown Lebanon for residents of Canaan and Enfield. A 5:40 p.m. departure from the VA would also be available, but without connecting service to Canaan and Enfield. These commute times are shown in Figure 8-7.

Hanover - Hanover commuters can travel to the VA Hospital via a transfer in downtown Lebanon. The trip takes roughly one hour in both directions, with a 10-minute layover in downtown Lebanon. These commute times are also shown in Figure 7. Medical students can travel from Hanover to the VA Hospital during the day via the Green and Red Routes. Trips take 35 or 45 minutes, depending on whether the clockwise or counter-clockwise bus is used. To return to Hanover, individuals would need to travel via the Red and Blue Routes, transferring in downtown Lebanon. This return trip takes 50 minutes. These midday travel times are shown in Figure 8-8.

Norwich and Wilder - No morning commuter service to the VA Hospital would be available from Norwich and Wilder. The earliest morning bus from these towns would arrive in West Lebanon at 7:55 a.m. The connecting bus will have already left at 7:35 a.m. (An afternoon bus ride from the VA to Norwich and Wilder would be possible only for someone willing to transfer in West Lebanon and ride via Hanover and DHMC.)

8.4.3 Downtown Lebanon Commuters

Hanover residents who work in downtown Lebanon can arrive at the Lebanon Green at 6:10, 7:10, 7:40, 8:10, 8:40, or 9:10 a.m. They can leave Lebanon for Hanover at 3:20, 3:50, 4:20, 4:50, 5:20, or 6:05 p.m.

Commuters from White River Junction, Hartford Village, or West Lebanon can arrive in downtown Lebanon at 7:15, 8:15, or 9:45 a.m. They can depart at 4:10 p.m. or 5:10 p.m. A 6:10 p.m. departure will also be available for individuals traveling as far as West Lebanon.

One good morning connection is available for Norwich and Wilder residents who work in downtown Lebanon. But convenient connections are not available in the afternoon. Norwich and Wilder riders can arrive at the Lebanon Green at 8:15 a.m. via the Green and Red Routes. But the latest bus offering connecting service in West Lebanon leaves Lebanon at 2:50 p.m. This is shown in Figure 8-9.

Figure 8-7: Shuttle Service Between Thompson Arena and Dartmouth Book Store

Morning Northbound Departures From Thompson Arena

Old	*New*	*Missing Due to Lyme*
6:28	6:36	
6:41		6:51
7:01		
7:07	7:06	
7:16		7:21
7:36	7:36	
7:50	7:51	
8:07	8:06	
8:27	8:21	
8:36	8:36	
8:42	8:51	
8:56	9:06	
9:26	9:36	

Afternoon Southbound Departures From The Dartmouth Book Store

Old	*New*	*Missing Due to Lyme*
2:27	3:03	
3:15	3:23	
3:34		3:33
3:52	3:53	
	4:08	
4:17	4:23	
4:37	4:33	
4:53	4:43	
5:07		5:03
5:22	5:23	
5:26		5:33
5:41	5:53	
6:05		6:03
6:18		

Figure 8-8: Commute and Midday Service to the VA Hospital

Commute to VA Hospital from Canaan and Lebanon

Canaan	Leb	Leb	VA	VA	Leb	Leb	Canaan
6:50	7:20	7:20	7:50	4:40	5:05	17:05	17:30
7:50	8:20	8:20	9:20	5:40	6:05		

Peak Hour Commute to VA Hospital from Hanover

Garage	Leb	Leb	VA	VA	Leb	Leb	Garage
6:50	7:10	7:20	7:50	4:40	5:05	17:20	17:40
7:50	8:10	8:20	9:20	5:40	6:05	18:05	18:25

Midday Travel to VA Hospital from Hanover

Kiewit	W Leb	W Leb	VA	VA	Leb	Leb	Garage
9:45	9:55	10:05	10:20	11:20	11:45	11:50	12:10
10:35	10:55	11:05	11:20	12:20	12:45	12:50	13:10
11:45	11:55	12:05	12:20	1:20	1:45	13:50	14:10
		1:05	1:20	2:20	2:45	14:50	15:10
1:35	1:55	2:05	2:20	3:20	3:45	15:50	16:10
2:45	2:55	3:05	3:20	4:40	5:05	17:20	17:40

Figure 8-9: Commute and Midday Service from Norwich and Wilder to Lebanon

From Norwich & Wilder to Downtown Lebanon

Norwich	Wilder	W Leb	W Leb	Leb	Leb	W Leb	W Leb	Wilder	Norwich
7:40	7:50	7:55	8:05	8:15	8:20	9:05	9:05	9:10	9:20
4:40	4:50	4:55	4:55	5:05	10:50	11:05	11:05	11:10	11:20
5:40	5:50	5:55	5:55	6:05	1:50	2:05	2:05	2:10	2:20
					2:50	3:05	3:05	3:10	3:20

The alternative is to travel from Lebanon to DHMC or Hanover via the Blue Route, and then to wait for a counter-clockwise Green Route bus. For example, a commuter could depart Lebanon at 4:50 p.m., get off at the Medical Center at 5:00 p.m., and then wait for the 5:25 p.m. bus to Norwich and Wilder.

(The bus that leaves Lebanon at 4:20 p.m. arrives at DHMC at 4:30 p.m., five minutes after the 4:25 p.m. departure of an earlier bus to Norwich and Wilder. It might be possible to schedule the last two counter-clockwise Green Route buses to leave five minutes later. This would permit Norwich and Wilder residents to depart downtown Lebanon at 4:20 or 5:20 p.m., and transfer to the Green Route at the Medical Center at 4:30 or 5:30 p.m.)

8.4.4 Split Ball Bearing Commuters

The proposed schedule does not offer convenient commuter trips for 7:00 a.m. to 3:00 p.m. workers at the Split Ball Bearing factory on Route 4 in Lebanon.

The first bus from Hartford and West Lebanon passes the Split Ball Bearing facility at 7:10 a.m. The first bus from downtown Lebanon passes the factory at 7:25 a.m. Westbound buses pass the factory in the afternoon at 2:55 p.m. and 4:15 p.m. Eastbound buses heading to downtown Lebanon pass Split Ball Bearing at 2:40 p.m. and 3:40 p.m.

It would be possible to offer a 6:20 a.m. departure from downtown Lebanon to offer at least some bus service for Split Ball Bearing workers. But this would require AT to operate a dead-head bus from Wilder and West Lebanon for this purpose.

8.4.5 Plaza Commuters from Canaan and Enfield

Individuals from Canaan, Enfield, and Lebanon who work in the Route 12A shopping plaza area could arrive in the Plaza area at 8:35 a.m. or 9:35 a.m. Canaan and Enfield riders on the first morning bus would be required to transfer between buses in downtown Lebanon at 8:20 a.m. The second bus would run directly from Canaan and Enfield to the Plaza area, after offering a stop at the Lebanon Green.

Two afternoon departures would be available from the Plazas to Enfield and Canaan. The first would depart the Plazas beginning at 2:00 p.m. This bus would travel via downtown Lebanon to Enfield and Canaan. A later bus would begin picking up in the Plazas at 5:10 p.m. Passengers would be required to transfer in downtown Lebanon to a bus that leaves Lebanon at 5:40 p.m. and arrives in Canaan at 6:05 p.m.

These commute times to the Plazas are shown in Figure 8-10.

Figure 8-10: Service to the Plazas for Shopping

Commute to Plazas from Lebanon & Canaan

Canaan	Leb	Leb	Plazas	Plazas	Leb	Leb	Canaan
7:50	8:20	8:20	8:35	2:10	2:25		14:55
8:50	9:20		9:35	5:15	5:30	17:40	18:05

From Lebanon to Plazas for Shopping

Leb	W Leb	W Leb	K-Mart	Shaws
9:50	10:05	10:05	10:10	10:23
10:50	11:05	11:05	11:10	11:23
11:50	12:05	12:05	12:10	12:23
12:50	1:05	1:05	1:10	1:23
1:50	2:05	2:05	2:10	2:23

K-Mart	Shaws	W Leb	W Leb	Leb
11:10	11:23	11:30	11:35	11:45
12:10	12:23	12:30	12:35	12:45
1:10	1:23	1:30	1:35	1:45
2:10	2:23	2:30	2:35	2:45

From Hanover to Plazas for Shopping

Kiewit	W Leb	W Leb	K-Mart	Shaws
9:45	9:55	10:05	10:10	10:23
11:45	11:55	12:05	12:10	12:23

K-Mart	Shaws	W Leb	W Leb	Wheeler
12:40	12:53	1:00	1:05	1:15
2:40	2:53	3:00	3:05	3:15

From Norwich & Wilder to Plazas for Shopping

Norwich	Wilder	W Leb	W Leb	K-Mart	Shaws
8:40	8:50	8:55	9:05	9:10	9:23
10:40	10:50	10:55	11:05	11:10	11:23

K-Mart	Shaws	W Leb	W Leb	Wilder	Norwich
10:40	10:53	11:00	11:05	11:10	11:20
1:40	1:53	2:00	2:05	2:10	2:20
2:40	2:53	3:00	3:05	3:10	3:20

From WRJ & Hartford to Plazas for Shopping

WRJ	Hrtfd	W Leb	W Leb	K-Mart	Shaws
9:10	9:25	9:35	9:35	9:40	9:53
10:10	10:25	10:35	10:35	10:40	10:53
11:10	11:25	11:35	11:35	11:40	11:53
12:10	12:25	12:35	12:35	12:40	12:53
1:10	1:25	1:35	1:35	1:40	1:53
2:10	2:25	2:35	2:35	2:40	2:53

K-Mart	Shaws	W Leb	W Leb	WRJ	Hrtfd
10:40	10:53	11:00	11:05	11:10	11:25
11:40	11:53	12:00	12:05	12:10	12:25
12:40	12:53	1:00	1:05	1:10	1:25
1:40	1:53	2:00	2:05	2:10	2:25
2:40	2:53	3:00	3:05	3:10	3:25

8.5 Shopper Travel Options

8.5.1 Lebanon and White River Junction to Plazas

A schedule for shoppers traveling from Lebanon to the Plazas is also found in Figure 9. As shown, hourly arrivals and departures between 10:00 a.m. until 2:30 p.m. are offered. For example, Lebanon riders could depart downtown at 9:50 a.m., 10:50 a.m., 11:50 a.m., 12:50 p.m., or 1:50 p.m. They would arrive at the K-Mart Department Store 20 minutes later, at 10:10 a.m., 11:10 a.m., 12:10 p.m., 1:10 p.m., or 2:10 p.m. The proposed schedule is geared toward one-hour, two-hour, and three-hour stays. (While the Orange Route is designed to operate on half-hour headways, the base alternative service plan has only one vehicle on the Red Route. So, Lebanon shoppers, for example, who leaving the Plazas at 10 minutes after the hour will transfer to the Red Route with the Red Route bus heading eastbound. If however, they leave the Plazas at 40 minutes after the hour, they would find that the Red Route bus is at the West Lebanon transfer point, but it is heading westbound. Hence, they would then have to wait 30 minutes at the transfer point. If AT opts to operate a second bus on the Red Route, this shortcoming disappears, i.e., Red Route shoppers could leave at 10 minutes or 40 minutes after the hour regardless of whether they live in White River Junction or Lebanon.)

Additional departures from downtown Lebanon to the Plazas would be available at 8:20 a.m. and 9:20 a.m. Additional afternoon departures would be available at 2:00 p.m. and 5:10 p.m. (K-Mart times).

Shoppers from White River Junction and Hartford Village would have hourly arrivals and departures at the Route 12A Plaza area between 9:40 a.m. until 2:55 p.m. White River Junction riders could depart from the Coolidge Hotel at 9:10 a.m., 10:10 a.m., 11:10 a.m., 12:10 p.m., 1:10 p.m. or 2:10 p.m. They would arrive at the K-Mart Department Store 30 minutes later, at 9:40 a.m. 10:40 a.m., 11:40 a.m., 12:40 p.m., 1:40 p.m., or 2:40 p.m. Departure times, as discussed above, would be based on hourly stays.

8.5.2 Hanover to Plazas

As shown in Figure 8-10, buses would depart from Kiewit on the Dartmouth College Green at 9:45 a.m. and 11:45 a.m. Shoppers from Hanover would transfer in West Lebanon, and arrive in the Plaza area at 10:10 a.m. or 12:10 p.m. Return buses would begin picking up in the Plaza area at 12:40 p.m. and 2:40 p.m. This means that Hanover shoppers could remain in the Plaza area for one and one-half hours in the late morning (10:10 a.m. - 12:40 p.m.), for one and one-half hours in the early afternoon (12:10 p.m. - 2:40 p.m.), or for four and one-half hours (10:10 a.m. - 2:40 p.m.)

8.5.3 Wilder and Norwich to Plazas

The counter-clockwise Green Route bus would offer connections with the Plaza Shuttle in West Lebanon at 9:00 a.m. and 11:00 a.m., as illustrated in Figure 9. For passengers returning to Vermont via the clockwise bus, connections in West Lebanon would be available at 11:00 a.m.,

2:00 p.m. and 3:00 p.m. A bus ride from Norwich to K-Mart would take 30 minutes. The return ride would take 40 minutes from K-Mart, or 27 minutes from Shaw's.

Shoppers from Wilder and Norwich could arrive in the Plaza area at 9:10 a.m. or 11:10 a.m. They could depart at 10:40 a.m., 1:40 p.m., or 2:40 p.m. This means that they could remain in the Plaza area for one and one-half hours (9:10 a.m. - 10:40 a.m.), for two and one-half hours (11:10 a.m. - 1:40 p.m.), for three and one-half hours (11:10 a.m. - 2:40 p.m.), for four and one-half hours (9:10 a.m. - 1:40 p.m.), or for five and one-half hours (9:10 a.m. - 2:40 p.m.).

8.5.4 Canaan and Enfield to Plazas

Shoppers from Canaan and Enfield could arrive at the Plazas at 9:35 a.m. and depart at 2:05 p.m. No transfers would be required. Buses would run directly to and from the Plaza area via Mascoma Street and Glen Road.

This would mean that shoppers from Canaan and Enfield would be required to remain in the Plaza area for four and one-half hours. (Passengers could also divide their time between the Plazas and downtown Lebanon by taking an earlier bus to Lebanon from the Plaza area.) Four and a half hours may be a bit long for midday bus riders, especially for senior citizens.

It would be possible to schedule an additional mid-morning bus to Canaan and Enfield to bring midday shoppers to downtown Lebanon and the Plazas. However, this would require an extra vehicle and an additional driver. Such service may only be needed on a one or two-day-a-week basis. A mid-morning run to Canaan might make more sense in the future if Advance Transit is assigned greater responsibility for senior citizen transportation services in the region.

8.6 Midday Trips to and from Area Hospitals

8.6.1 Midday Service to DHMC

As shown in Figure 8-11, individuals from Lebanon and Hanover would have service to DHMC every half hour throughout the day. Individuals from Wilder, Norwich, and West Lebanon would have a variety of direct Medical Center trips available. Residents of White River Junction and Hartford Village would be able to travel to DHMC by transferring to the Green Route in West Lebanon or to the Blue Route in downtown Lebanon.

8.6.2 Midday Service to the VA Hospital

Direct service to the VA Hospital would be available from Lebanon and West Lebanon throughout the day. Hanover residents traveling to the VA Hospital would be able to transfer from the Green Route to the Red Route in West Lebanon or from the Blue Route to the Red Route in downtown Lebanon. Residents of Norwich and Wilder traveling to the VA Hospital during the day can transfer between the Green Route and the Red Route in West Lebanon, but most connections require a 30-minute wait. The only direct connections are at 11:00 a.m. heading toward the VA Hospital and at 2:00 p.m. heading toward the VA Hospital.

Figure 8-11: Service to DHMC for Medical Appointments

From Wilder and Norwich to DHMC for Medical Appointments

Wilder	Norwich	DHMC
8:10	8:20	8:35
9:10	9:20	9:35
11:10	11:20	11:35
2:10	2:20	2:35

DHMC	Norwich	Wilder
10:25	10:40	10:50
1:25	1:40	1:50
3:25	3:40	3:50

From West Lebanon to DHMC for Medical Appointments

W Leb	DHMC
8:05	8:25
10:05	10:25
1:05	1:25
3:05	3:25

DHMC	W Leb
9:35	9:55
11:35	11:55
2:35	2:55
3:35	3:55
4:35	4:55

8.7 After-School Trips

8.7.1 Lebanon and Canaan Students

Students from Canaan would continue to be able to ride to downtown Lebanon after school. The bus would continue offer a 2:55 p.m. departure from Canaan to Lebanon.

The Blue Route would continue to provide a bus stop adjacent to the location of the Lebanon high school. Students could use this bus to travel to the Carter Community Building in downtown Lebanon.

The existing schedule offers southbound stops near the high school at roughly 2:15 p.m., 3:30 p.m., 4:50 p.m., and 5:30 p.m. The proposed new schedule would offer southbound stops near the high school at approximately 2:35 p.m., 3:05 p.m., 3:35 p.m., 4:05 p.m., 4:35 p.m., 5:05 p.m., and 5:35 p.m.

8.7.2 Hanover and Lyme Students

The proposed service plan calls for Advance Transit to continue providing one morning and two afternoon trips between Hanover and Lyme. These runs are utilized primarily by high school students from Lyme who go to school in Hanover.

To avoid bringing in an extra vehicle and driver, the service plan calls for combining service to Lyme with the fifteen-minute headways offered during peak hours between Hanover and DHMC. One vehicle would be used for both services.

There are some trade-offs for combining services in this way:

- In the morning, fifteen-minute headways would not be available between 6:45 a.m. and 7:15 p.m., because the extra bus would be routed to Lyme at this time.

- A gap of 30 minutes between buses would occur in the afternoon between 3:15 and 3:45 p.m., as the extra bus runs instead to Lyme.

- A similar 30-minute gap would occur between 4:40 p.m. and 5:15. There would be no 5:00 p.m. departure from CRREL, because the extra bus will once again be routed to Lyme.

The gap in service at CRREL is even greater, due to the decision to turn the 4:40 p.m. bus at the Parking Garage. This was done in an effort to preserve existing schedule times for the 4:40 p.m. bus as it heads to Lebanon and Canaan. CRREL ends up with a one-hour window between buses, with southbound departures at 4:15 p.m. and 5:15 p.m.

One way to narrow this gap would be to have the 4:25 bus turn at CRREL instead of the Parking Garage. This would leave CRREL with 4:15 p.m., 4:30 p.m., and 5:15 p.m. southbound departures. This change should have little, if any, impact on the remainder of the schedule, because of slack time built into the 4:30 - 4:45 p.m. run from the Parking Garage to the Medical Center.

Other alternatives would be (1) to discontinue service to Lyme entirely, keeping 15-minute headways throughout the peak period, or (2) to bring in an additional vehicle and driver to provide the afternoon service to Lyme. Adding an extra vehicle would add roughly three service hours per day, including dead-head time.

8.7.3 Hartford Students

A northbound Green Route bus would pass the high school in Hartford traveling toward Wilder and Norwich at roughly 3:08 p.m. and 4:08 p.m. A southbound bus heading toward West Lebanon would pass the high school at about 3:52 p.m., 4:52 p.m., and 5:52 p.m. This trips may likely be of limited value to Hartford high school students.

8.8 Intercity Bus Connections

Improved connections for Lebanon residents traveling via Vermont Transit are provided by (1) operating direct service from Lebanon to the Vermont Transit terminal in White River Junction, and (2) providing service on regular hourly headways throughout the day. This is shown in Figure 8-12.

The following connections would be available for Lebanon residents leaving the area:

- An AT bus from Lebanon arrives at VT at 9:50 a.m. VT offers three departures at 10:40 a.m. - to Boston, Springfield, and Rutland.

- An AT bus arrives at VT at 12:20 p.m. for passengers departing at 1:00 p.m. on the VT bus to Burlington.

- An AT bus arrives at VT at 1:20 p.m. for passengers departing at 2:00 p.m. on VT buses to Boston and Springfield.

- An AT bus from Lebanon arrives at VT at 4:40 p.m., offering connections with VT departures to Boston (5:00 P.m.), Springfield (5:00 p.m.), Newport (5:00 p.m.), and Burlington (5:10 p.m.).

Figure 8-12: Intercity Bus Connections

Vermont Transit Departures from Lebanon & Canaan

Canaan	Leb	Leb	VA	Vt Tst	
8:50	9:20	9:20	10:00	10:40	to Boston
		9:50	10:20	10:40	to Springfield
				10:40	to Rutland

Canaan	Leb	Leb	VA	Vt Tst	
		11:50	12:20	1:00	to Burlington

Canaan	Leb	Leb	VA	Vt Tst	
		12:50	1:20	2:00	to Boston
				2:00	to Springfield

Canaan	Leb	Leb	VA	Vt Tst	
14:55	15:35	4:10	4:40	5:00	to Boston
				5:00	to Springfield
				5:00	to Newport
				5:10	to Burlington

Vermont Transit Arrivals with Connections to Lebanon & Canaan

	Vt Tst	WRJ	Leb	Leb	Canaan
from Burlington	10:25	11:10	11:45		
from Newport	10:25				

	Vt Tst	WRJ	Leb	Leb	Canaan
from Boston	12:30	1:10	1:45	14:25	14:55
from Springfield	12:45				

	Vt Tst	WRJ	Leb
from Rutland	1:30	2:10	2:45
from Burlington	1:45		

	Vt Tst	WRJ	Leb	Leb	Canaan
from Springfield	4:05	4:30	5:05	17:05	17:30
from Burlington	4:40	5:30	6:05		
from Boston	4:40				

The following connections are available for passengers arriving on Vermont Transit buses and continuing via AT to Lebanon:

- VT buses from Burlington and Newport arrive at 10:25 a.m. AT departs the VT terminal at approximately 11:10 a.m.

- VT buses from Boston and Springfield arrive at 12:30 p.m. and 12:45 p.m. AT leaves VT for Lebanon at 1:10 p.m.

- VT buses from Rutland and Burlington arrive at 1:30 p.m. and 1:45 p.m. AT leaves for Lebanon at 2:10 p.m.

- VT has a bus from Springfield that arrives at 4:05 p.m. AT departs at 4:30 p.m.

- VT buses from Burlington and Boston arrive at 4:40 p.m. AT departs for Lebanon at approximately 5:30 p.m.

8.9 Additional Service Improvements

8.9.1 Add a Fifth Vehicle to the Blue Route during Peak Periods

Base Alternative - This service improvement involves adding a fifth Blue Route vehicle dedicated to the Lyme tripper route. This would allow one bus to be used exclusively for the Hanover Shuttle portion of the Blue Route during the peak periods, permitting uninterrupted 15-minute headways on the Blue Route throughout morning and afternoon peaks. (With the base alternative service plan, 15-minute headways are generated by the fourth peak-hour bus, except when it makes the runs to Lyme.)

Afternoon Peak Only - A variation of this alternative would be to add the fifth bus during the afternoon peak period only. This would leave gaps in morning departures from the Thompson Arena between 6:36 and 7:06 a.m. and between 7:06 and 7:36 a.m. These may prove to be less significant than afternoon service interruptions.

Eliminate One Lyme Trip in Afternoon - An additional variation would be to limit the Blue Route to four peak-hour buses, while eliminating the trip to Lyme between 5:00 and 5:15 p.m. This would leave Lyme riders with one afternoon bus that arrives in Lyme at 3:45 p.m. In place of a 5:15 trip to Lyme, the fourth bus would offer southbound departures from the Parking Garage at 5:00, 5:30, and 6:00 p.m.

Eliminate All Lyme Service - A final variation would be to eliminate all service to Lyme. While this would allow AT to provide uninterrupted 15-minute headways during peak periods on the Blue Route, it would mean the loss of the 7 to 8 school students from Lyme who utilize the bus on a regular basis.

8.9.2 Add a Vehicle on the Orange Route during the Peak Periods

The base alternative service plan includes operation of the Orange Route during the midday period only. During the peak periods, that bus runs counter-clockwise service on the Green Route. A second service improvement involves expanding service on the Orange Route to the peak periods to permit shopping during the late afternoon, and to augment commuter service to the Plazas. This would require the operation of an additional bus during peak periods.

If one bus remains on the Orange Route throughout the day, the bus which was due to serve both the Orange (midday) and Green (peak) Routes could (1) remain on the Green Route throughout the midday period; or (2) add additional service to the Red Route during the midday.

8.9.3 Add a Vehicle on the Red Route

Adding a second bus on the Red Route would decrease the headways from 60 minutes to 30 minutes, and provide an important connection to the Orange Route: no longer would Orange Riders returning home have to be careful about which trip they take. All connections on the Red Route would go both eastbound and westbound. This service improvement would also improve connections from White River Junction to DHMC.

8.9.4 Add a Local Lebanon Feeder Bus

As it considers possible service expansion in the future, Advance Transit may want to consider introducing a local feeder bus route within the City of Lebanon. A feeder bus route would be designed to offer transportation between local Lebanon neighborhoods and the Lebanon Green bus stop. Such a service would give many area commuters, senior citizens, midday shoppers, and others more convenient access to Advance Transit's existing services.

Two loop segments could be operated:

1. One loop could serve the low-income apartments located below High Street, the residential neighborhood to the east of Hanover Street (via Summer and Granite Streets), and the Alice Peck Day Hospital. This should take about twelve minutes.

2. The other could serve the residential neighborhood located east of the Lebanon Green. The bus could operate via School, Kimball, and Bank Streets. It could also serve Allen and Parkhurst Streets, which would allow it to offer a stop in front of the Senior Center. This loop should take about ten minutes.

For morning commuters, loop number one would be served first, followed by loop two. In the afternoon, loop two would be served first, followed by loop one. Morning buses should be scheduled to arrive at the Green approximately five minutes before the departure of regular buses to Hanover, West Lebanon, and White River Junction. In the afternoon, the local bus should depart shortly after the arrival of regular commuter buses.

Such a route would probably make the most sense if it were combined with a regional transportation service for senior citizens. A vehicle that serves elderly riders during the middle hours of the day could be operated to benefit commuters early in the morning and late in the afternoon.

8.10 Saturday Service

AT operates one bus on Saturdays providing limited service throughout most of the weekday service area. The current Saturday schedule is shown in Figure 8-13. Identifiable market segments served include the following

- DHMC commuters from Lebanon can arrive at 6:55 and depart at 4:50 p.m. (via Plazas).
- Hanover commuters from Lebanon can arrive at 7:05 a.m. (via DHMC) or 8:55 a.m. (via Plazas) and depart at 4:00 p.m. or 5:00 p.m. (both via Plazas).
- Plaza commuters from Canaan can arrive at 8:30 a.m. and depart at 1:20 p.m. or 5:20 p.m.
- Plaza shoppers from Vermont towns can arrive at 9:50 a.m. and depart at 3:00 p.m.
- Plaza shoppers from Canaan can arrive at 8:30 a.m. or 3:00 p.m. They can depart at 1:20 p.m. or 5:20 p.m.
- Plaza shoppers from Lebanon can arrive at 8:30 a.m., 11:30 a.m., or 3:00 p.m. They can depart at 9:50 a.m., 10:50 a.m., 1:20 p.m., 4:20 p.m., and 5:20 p.m.
- Plaza shoppers from Hanover can arrive at 9:50 a.m. (via Vermont), 10:50 a.m., and 1:20 p.m. They can depart at 11:30 a.m. (via West Lebanon), 3:00 p.m. (via Vermont), or 4:20 p.m. (via Lebanon and DHMC).

An alternative Saturday schedule, found in Figure 8-14, was developed that includes the following adjustments:

- DHMC commuters from Lebanon would continue to arrive at 6:55 a.m. They could depart at 4:05 p.m. or at 4:35 p.m. (via the Plazas). The 4:05 departure is new. The 4:35 p.m. departure is 20 minutes earlier than the current schedule.
- Hanover commuters from Lebanon would continue to arrive at 7:05 a.m. (via DHMC) or 8:55 a.m. (via Plazas). They would depart at 4:00 p.m. (via DHMC) or 4:40 p.m. (via Plazas). This would mean a faster afternoon commute for passengers leaving Hanover for Lebanon at 4:00 p.m. They would arrive in Lebanon at 4:15 p.m. instead of 4:40 p.m.

Figure 8-13: Current Saturday Service

ADVANCE TRANSIT: EXISTING SATURDAY SERVICE

7:05						Hanover	7:05		10:30			5:00
7:15		10:20			4:50	DHMC	6:55		10:20			4:50
	9:00	10:30	1:00	4:00	5:00	**Hanover**		9:00		12:00	4:00	
	9:05					Norwich					3:45	
	9:15					Wilder					3:40	
	9:20					WRJ					-	
	9:35					Hartford					3:35	
	-					WRJ					3:20	
	9:45	10:45	1:15	4:15	5:15	**W. Lebanon**		8:45		11:45	3:15	
	9:50	10:50	1:20	4:20	5:20	Plazas		8:30		11:30	3:00	
	9:55	10:55	1:25	4:25	5:25	Power House		8:25		11:25	2:55	
7:25	10:10	11:15	1:45	4:40	5:45	**Lebanon**	6:45	8:15	10:10	11:15	2:45	4:40
7:35			2:00		6:00	Enfield		8:00			2:30	
7:50			2:15		6:15	Canaan		7:50			2:15	

Figure 8-14: Revised Saturday Service

ADVANCE TRANSIT: ALTERNATIVE SATURDAY SERVICE

		10:35	**2:25**			Montshire			10:35					
7:05	9:00	10:40	**2:30**	**4:00**	**4:40**	**Hanover**	7:05	8:55	10:30		**2:30**	**3:55**	**4:40**	
7:15	-	-	-	**4:05**	-	DHMC	6:55	-	10:25		-	-	**4:35**	
	9:05					Norwich					**2:20**			
	9:15					Wilder					**2:10**			
	9:20					WRJ					-			
	9:35					Hartford					**2:05**			
	-					WRJ					**1:50**			
	9:45	10:50	**2:45**		**4:55**	**W. Lebanon**		8:45		**12:40**	**1:45**	**3:45**		
	9:50	10:55	**2:50**		**5:00**	K-Mart		-		-	-	-		
	10:03	11:08	**3:03**		**5:13**	Shaws		8:40		**12:35**	**1:40**	**3:40**		
	-	-	-		-	K-Mart		8:28		**12:23**	**1:28**	**3:28**		
	10:05	11:10	**3:05**		**5:15**	Power House		8:25		**12:20**	**1:25**	**3:25**		
7:25	10:15	11:20	**3:15**	**4:15**	**5:25**	**Lebanon**	6:45	8:15	10:15	**12:10**		**3:15**	**4:25**	**6:20**
7:35		11:30			**5:40**	Enfield		8:00		11:55				**6:05**
7:50		11:45			**5:55**	Canaan		7:50		11:45				**5:55**

- Plaza commuters from Canaan would continue to arrive at 8:30 a.m. They could depart at 11:00 a.m. or at 5:00 p.m. Canaan commuters who work a half day on Saturdays would lose their 1:20 p.m. departure. The 5:00 p.m. departure is 20 minutes earlier than the current schedule.

- Plaza shoppers from Vermont towns would continue to arrive at the Plazas at 9:50 a.m. They would depart at 1:40 p.m. instead of 3:00 p.m. This would mean a four-hour stay in the Plaza area in place of the current five hour time period.

- Plaza shoppers from Canaan would be able to arrive at 8:30 a.m. or 12:30 p.m. They would be able to depart at 11:00 a.m. or 5:00 p.m. Canaan shoppers could remain in the Plaza area for two and one-half hours in the morning, or four and one-half hours in the afternoon. The current schedule allows them to stay for either five hours in the morning, or two and one-half hours in the afternoon.

- Plaza shoppers from Lebanon would be able to arrive at 8:40 a.m., 12:35 p.m., 1:40 p.m., or 3:40 p.m. They would be able to depart at 9:50 a.m., 10:55 a.m., 2:50 p.m., or 5:00 p.m.

- Plaza shoppers from Hanover would be able to arrive at 9:50 a.m. (via Vermont), 10:55 a.m., and 2:50 p.m., They would be able to depart at 1:25 p.m. (via Vermont) or 3:40 p.m.

The alternative schedule would allow Advance Transit to offer a Saturday trip to the Montshire Museum in Norwich. Residents of Lebanon and Hanover could arrive at the museum at 10:35 and depart at 2:25 p.m. The afternoon bus would operate between Hanover and Lebanon via the Route 12A Plazas.

Regardless of the alternative chosen, Advance Transit needs to do a better job of presenting its Saturday service in its printed schedule. Passengers need to be able to have a better picture of the round-trip options that are available.

8.11 Fare Issues

AT's current fare policy is as follows:

- *Free Fare Zone* - All travel on the Blue Route between the Norris Cotton Center in Hanover and the Downtown Lebanon Mall (via Route 120) is free; no fare is charged.

- The fares for all one-way rides originating or ending outside the Free Fare Zone is $1.25.

- Ten-ride tickets are available for $11.50, which is equivalent to the cost of 9.2 trips.

- Monthly passes are available for $35.00, which is equivalent to 28 trips; hence, a monthly pass would be cost-effective for someone who takes more than three round trips a week. Otherwise, a 10-ride ticket would be more appropriate.

- Children 5 years of age and younger ride free when accompanied by a fare-paying adult.

- Transfers are free.

One issue that warrants discussion is the fare collection policy, i.e., paying as you get on the bus, with respect to the free fare zone riders versus riders who get on in the Free Fare Zone with destinations outside the Free Fare Zone. Currently, drivers have to ask each rider where their destination is in determining whether or not the rider is to pay a fare. Some drivers do this; others do not. Moreover, a rider could conceivably "beat the system" by telling the driver that he/she is getting off within the Free Fare Zone, but actually gets off beyond the free fare zone.

The solution to this shortcoming is to collect fares for "outbound" trips as the rider gets off the bus. This is a policy followed by many transit properties that are faced with this situation. It has three primary benefits: (1) drivers are no longer required to ask the rider about his/her destination; this puts less responsibility on the driver, and reduces boarding time; (2) boarding time is further reduced because fare paying passengers would not hold up the boardings; (3) it is likely that fare revenue will increase, i.e., the additional fare from riders currently "beating the system" will likely be more than the lost fare of riders who get to their destination and announce to the driver that they do not have a fare.

We understand that AT is in negotiation with the Vermont AOT for New Start funding to demonstrate a free-fare zone on the Vermont side. If this implemented, the above policy should also be implemented for Red Route and Green Route riders picked up in Vermont and dropped off in New Hampshire (outside the Free Fare Zone). Alternatively, a simpler solution might be to make the Green Route a free-fare route.

AT should also consider making the Orange Route a free-fare route. Many of the riders will be transfers, and hence will be free anyway. The others riders will be using the Orange Route to circulate within the Plaza area. A fare will likely reduce their desire to use the service; a free fare shuttle on the other hand will encourage people who came to the Plazas by car to use the Orange Route to get from store to store. As AT seeks funding from the private entities who will benefit from this service, it will be important to point out the benefits a free-fare service, and the corresponding loss of farebox revenue.

Lastly, as more and more of the system becomes free, AT should analyze whether or not to make the entire system free. The analysis will be relatively straight-forward: AT is gaining good data on the ridership impact of implementing free fare zones. Hence, it will be able to use this increased trip making rate in predicting the increases in ridership of making the entire system fare free. If the additional performance-based funding from the States of New Hampshire and

Vermont that results from the increased ridership is equal to or more than the lost farebox revenue, then it makes sense to implement a free-fare system; if it's less, implementing a free fare zone system-wide does not make sense. Note that we cannot undertake this analysis at the moment because the performance allocation funding methodologies for Vermont are in the process of being changed; furthermore, the current amount of funding that is allocated by the AOT based on performance is insignificant because of hold harmless policies, the 90% rule, and the number of recipients. As this total increases from year-to-year, AT should be cognizant of the increasing likelihood that the performance based funding may exceed the lost farebox revenue. In the meantime, we would recommend that the current free fare zone not be expanded unless AT can obtain sufficient funding from the Vermont AOT and/or from the New Hampshire DOT (and/or other local sources) to demonstrate expansion of the free fare zone.

8.12 Impact on Service Hours, Operating Service Cost, Capital Cost, and Ridership

8.12.1 Impact on Service Hours

The proposed service delivery plan (without any local Lebanon feeder bus service) calls for seven vehicles to be in service during peak commute hours. This is the same number of vehicles required for the existing Advance Transit service design.

With its existing system, Advance Transit operates approximately 75 vehicle hours per day. This 75 hour total includes dead-head miles to and from the new AT office in Wilder. The proposed service design calls for approximately 77 vehicle hours per day. This figure includes estimated dead-head time for the new Advance Transit headquarters in Wilder. The new system would thus result in an increase of two vehicle hours per day.

Vehicle and route assignments with service hours for the proposed service design are shown in Figure 8-15.

Based on 250 week days of service per year, the proposed service design would thus result in an increase of approximately 500 hours per year.

Adding a bus to provide peak hour service to Lyme (as described in Section 8.9.1) would require about 4 hours per day. Adding a bus to provide peak hour service on the Orange Line (as described in Section 8.9.2) would require 4.5 hours of service each day. Adding a bus to halve the headways on the Red Route (as described in Section 8.9.3) would require approximately 12 hours of service per day. The vehicle would be used solely for this purpose.

Figure 8-16 summarizes the above-described impacts of the basic additional service proposals on service hours, as well as illustrating possible impacts on costs and ridership. This figure also illustrates one possible combination of additional services that could be performed with a single additional bus.

Figure 8-15: Service Hours for the Alternative Service Plan

Vehicle	*Route*	*Vehicle Hours*
1	Blue	13:40
2	Blue	12:50
3	Blue	4:40
	Blue	4:45
4	Blue	3:30
	Blue	3:05
5	Red	12:10
6	Green/Red	10:45
7	Green/Orange	11:20
	Total	76:45

Figure 8-16: Impacts of Service Improvements on Service Hours, Operating Service Cost, and Capital Needs

	Addt'l Hrs/Day	Addt'l Hrs/Yr	Operating Cost/Year	Full-Alloc. Cost/Year	Capital Cost
Base Alternative	2.0	500	$7,700	$17,925	$0
Alternative 1: Separate Lyme Peak Service	4.0	1,000	$15,399	$35,848	$65,000
Alternative 2: Orange Route Peak Service	4.5	1,125	$15,399	$35,848	$65,000
Alternative 3: Additional Bus on Red Route	12.0	3,000	$46,198	$107,544	$65,000
Alternative 4: Local Lebanon Feeder Route	5.0	1,250	$19,249	$44,810	$65,000

8.12.2 Impact on Operating Costs

Figure 8-16 also illustrates a range of possible operating cost impacts of these service proposals. The unit costs per hour that are used to derive these estimates are based on AT's FY 93 operating cost and hours of service. The minimum increase in costs assumes that the only change would be the actual cost of operating the vehicle for the period in question. This uses a unit cost of $15.40 per hour. The maximum increase in costs assumes a fully-allocated cost (i.e., that includes maintenance and administrative costs) of $35.85 per hour.

8.12.3 Impact on Capital Cost

As shown in Figure 8-16, the basic alternative would not involve any increase in capital costs while each of the additional service alternative would require one additional bus. A combination of service alternatives 1 and 4, requiring one additional bus -- not two, is also shown.

8.12.4 Impact on Ridership

Figure 8-17 presents the estimates of the increased level of ridership based on the increased service hours. Figure 8-18 presents the estimates of the ridership based on the *additional* service improvements detailed in Section 8.9.

In order to estimate total ridership based on increased service hours, first ridership was forecast by route for all of FY 1994 based on an extrapolation of ridership figures available from October to February of FY 1994 and a survey which was conducted on October 1, 1993. The survey indicated that 70% of the total daily ridership was on the current Blue Route, while approximately 10% of ridership was on the current Green Route and 20% on the Red Route. Under the recommended system, system ridership will be divided into four routes instead of three. The new Blue Route would carry less than 70% of system ridership since many passengers riding between Hanover and DHMC could choose to use the new Green Route. The percentage of system riders on the new Green Route would probably increase, since it would be less circuitous and would serve DHMC. Percentage of system ridership on the new Red Route is estimated to decrease. A new route, the Orange Route, is estimated to serve approximately 10% of system ridership. Figure 8-17 shows, first of all, the estimated breakdown of FY 1994 system ridership by percentage by route before adjusting for a change in service hours.

The expected change in ridership with the additional service hours is also shown in Figure 8-17. This change is calculated based on an elasticity factor. The model used for estimating changes in ridership is based on current ridership, the proposed service hours, the current service hours, as well as the elasticity. The elasticity (E in the equation below) figure used is taken from previous research and analysis, and is based on changes in service miles.[1] The ridership response to changes in service miles is assumed to generally equate to the response to changes in service hours. The elasticity for changes in ridership based on changes in service miles for rural areas ranges from .39 to .87.

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[1] Partonage Impacts of Changes in Transit Fares and Services, Ecosometrics, Incorporated, (1982). Table 3-5, Fare Level of Service Elasticities Bus Only.

Figure 8-17: Estimated Increases in Ridership Based on Increased Service Hours

Assumptions:					
Assume a headway elasticity of :			-0.48		
current ridership: 50016 oct-feb FY 94					
FY 94 estimate	120038				
elasticity of ridership to total service miles (lo):			0.39		
elasticity of ridership to total service miles (mid):			0.63		
elasticity of ridership to total service miles (hi):			0.87		
Current annual service hours			17875	(250 service days at 71.5 hours per day)	
Proposed annual service hours			19250	(250 service days at 77 hours per day)	
Estimation of Current Ridership by Route					
current route	est. %	est 94 ridership			
blue	70%	84027			
red	20%	24008			
green	5%	6002	(note: The Green Route has been divided to allow		
green	5%	6002	comparison with the porposed new Green Route)		
total		**120038**			
Estimation of Ridership with Increase in Service Hours					
Low Growth					
		Est Ridership	Est Ridership	Additional Ridership	
proposed route	est. %	w/o serv hr inc	w service hr Inc	w service hr inc	
blue	60%	72023	74134	2111	
red	10%	12004	12356	352	
green-clockwise	10%	12004	12356	352	
green-c'clockwise	10%	12004	12356	352	
orange	10%	12004	12356	352	
total	**100%**	**120038**	**123557**	**3519**	
Middle Growth					
		Est Ridership	Est Ridership	Additional Ridership	
proposed route	est. %	w/o serv hr inc	w service hr Inc	w service hr inc	
blue	60%	72023	75464	3441	
red	10%	12004	12577	574	
green-clockwise	10%	12004	12577	574	
green-c'clockwise	10%	12004	12577	574	
orange	10%	12004	12577	574	
total	**100%**	**120038**	**125774**	**5736**	
High Growth					
		Est Ridership	Est Ridership	Additional Ridership	
proposed route	est. %	w/o serv hr inc	w service hr Inc	w service hr inc	
blue	60%	72023	76819	4796	
red	10%	12004	12803	799	
green-clockwise	10%	12004	12803	799	
green-c'clockwise	10%	12004	12803	799	
orange	10%	12004	12803	799	
total	**100%**	**120038**	**128032**	**7993**	

Figure 8-18: Estimated Increases in Ridership Based on Additional Improvements

Estimation of Ridership with Additional Service Improvements								
	Est Ridership	proposed	point headway	headway with	service hours w/o	service hours with	est ridership w	add'l ridership w
proposed route	w service hr inc (mid)	avg headway	is measured	add'l improvements	add'l improvements	add'l improvements	add'l improvements	add'l improvements
blue	75464	23	DHMC, NB	19			82029	6564
red	12577	59	W Lebanon, NB	30			17253	4675
green-clockwise	12577	59	Norwich-clockw					
green-c'clockwise	12577	60	Norwich-c'clock					
orange	12577	30	K-mart		6	11	18299	5721
Lebanon Feeder								7500
	passengers per hour	hours per day	days per year	passengers per year				
Lebanon Feeder	6	5	250	7500				

Figure 8-17 shows the estimates of additional ridership based on three elasticity scenarios: .39, .63 and .87. In this case, we have chosen to use the middle elasticity (.63) to estimate ridership for *additional* service improvements. The model used is as follows:

$$R_2 = R_1 * (((s_1+s_2)+E*(s_2-s_1))/((s_1+s_2)-E*(s_2-s_1))) \quad \textit{Model 1}$$

where R_2 = new ridership and R_1 = old ridership
s_1 = old service hours and s_2 = new service hours
and E = Elasticity

Using the above model, the additional demand for fixed route transit generated by improvements in service hours is estimated to be between 3,500 and 8,000 passengers per year. This represents an increase of between 3 and 6.7 percent.

Figure 8-18 delineates an estimation of ridership resulting from *additional* service improvements, as described in Section 8.9 (and beyond the increase in service hours). *Model 1* has been used to estimate the impact of additional service hours on the Orange Route. If additional service hours (peak service) are provided on the Orange Route, so that service hours increase from 6 hours each day to 11 hours each day (83%), an increase of roughly 5,700 (45%) passengers is estimated.

Reduced headways (via an additional vehicle) are suggested for the Blue and Red Routes. Ridership increases based on changes in headways can be estimated by using *Model 1* by simply replacing s_1 and s_2 so that s_1 is old average headway and s_2 is new average headway. The decreased average headways (from 23 to 19 minutes on the Blue Route and from 59 to 30 on the Red Route) are estimated to add on the order of 6,500 (about an 8% increase) passengers on the new Blue Route and roughly 4,700 (about a 37% increase) passengers on the new Red Route each year. For a change in headway, the elasticity is estimated at -.48. This has been derived from data from numerous transit systems across the United States, including small towns.

Finally, we expect a productivity of the new Lebanon feeder bus to be about 6 passengers per day. The feeder system would operate 5 hours per day, 250 days per year. Therefore, we estimate the number of yearly passenger trips on the Lebanon feeder system to be roughly 7,500 per year.

8.13. Paratransit Services

Given (1) the estimate of unmet demand for demand-response service and agency statements that they cannot currently accommodate the demand (see Chapter 6), (2) the general observation that there is no coordination of paratransit services -- except for the distribution of 16(b)(2) vehicles - in the Upper Valley region, and (3) the introduction of a need for AT-operated paratransit service to back-up its accessible fixed-route vehicles, AT should strongly consider establishing itself as the regional coordinator of paratransit services in the area, and an operator of paratransit services. This section presents discussion points for several aspects of a prospective demand-responsive, advance-reservation paratransit service to be operated by Advance Transit.

While AT explores this venture further, it should be noted that AT is currently not mandated to provide ADA complementary paratransit service, as is discussed in Chapter 4. While there are references to ADA requirements below, they are discussed as points of reference only; at the same time, AT must recognize that these ADA mandates could affect AT if the PNP "loophole" is closed in the future.

In the meantime, recognizing that AT will have limited resources at is disposal (i.e., two lift-equipped vans and approximately $70,000 in NHDOT operating assistance), AT should concentrate on alleviating the unmet need for accessible demand-responsive transportation.

8.13.1 Service Area

What communities will be served? This question relates to several other considerations. For example, is the intent of the service to limit it to a service area that is congruent with the ADA complementary paratransit service area, i.e., the 3/4 mile fixed-route corridors. This thought is not inconsistent with UVLSRPC's thoughts about the provision of paratransit as a means of replacing unproductive midday fixed-route service. Alternatively, AT may adopt a policy of serving entire towns that are currently served. While this could be done, we do not advise it because it is a large area and AT will not have the resources -- at least initially -- to serve this area adequately. Consequently, there are some creative ways that service can initially be structured to limit the service area. In addition to the "ADA service area", these include:

- Only serving the New Hampshire side until more resources -- especially from Vermont -- become available; as a side note, AT may want to give this consideration since it is New Hampshire funding that is enabling the provision of paratransit.

- Limiting pick-up areas by day of week, e.g., Lebanon on Monday, Wednesday, and Friday, and Hanover on Tuesdays, Thursdays, and Saturdays.

- Limiting service to certain purpose and/or destinations e.g., shopping shuttles to the 12A Plazas, by time of day, or by day of week.

Basically, the idea behind constraining the area where the van will be dispatched will add structure to a young system with limited resources which otherwise will have difficulty trying to accommodate a potentially widespread demand.

8.13.2 Service Area

When will the paratransit service be provided? Several of the points raised above apply to this question as well. For example, the answer may lie with whether the paratransit service is being contemplated as a replacement for certain midday routes, or as a service which is complementary to AT's fixed-route service. A related question to ponder is whether or not AT wishes to provide work-trip transportation to persons who cannot use the fixed-route

service. (The CCTA in Burlington, for example, which last year provided 6,000 ADA paratransit trips, has seen the most growth in work trips.)

The establishment of service hours (and the number of vehicles and drivers needed to cover this period) also relates to the amount of available operating funding. Assuming for the moment that service would initially be provided by one vehicle (with the second van available as a back-up), 8 hours of service per day would require either one full-time driver or two part-time drivers. More than 8 hours of service would require more than one driver. (Currently, this distinction may not be significant because full-time and part-time drivers receive the same wage rate; however, this may become more relevant in the future if this changes.)

Costs are estimated in Section 8.13.11 based on (1) weekday service only; weekend service should be explored in the future; (2) 255 days of operation; and (3) driver labor consisting of a full-time driver shift (8 hours) plus a half-time shift (4 hours); this translate into no more than 11 hours of service, taking into account driver preparation and reporting and deadheading to and from the garage. Therefore, weekday service hours might equate to 7:00 AM to 6:00 PM, for example, which would cover most work trips.

8.13.3 Service Level

The basic three types (levels) of service are (1) curb-to-curb; (2) door-to-door; and (3) door-through-door. For the basic (unsubsidized) paratransit service, we would advise provision of curb-to-curb service because of risk management issues, and because there are currently other paratransit services in the area which provide higher levels of service. For more tailored services such as a agency-sponsored trips or a shopping shuttle, AT may wish to provide door-to-door service.

Another consideration is how much of the service provision is to be devoted to subscription service. On one hand, subscription trips that are fully-funded (by agencies) do not enter into this equation; if they are fully-funded, AT can afford to provide more service than is initially being contemplated (assuming that these funds can be used to secure another vehicle or if AT receives a vehicle or vehicles from the sponsoring agency -- see below). On the other hand, AT must be careful about accommodating too many unsubsidized subscription trips if it means that other riders will have trouble accessing the service for demand-responsive trips. As a point of reference only, the ADA requires that no more than 50% of the service capacity be taken up with subscription service, if a pattern of denials with demand-responsive service would otherwise result. At the same time, AT might wish (as a service objective) to ensure that commuters who require paratransit service to get to work can do so.

8.13.4 Rider Eligibility

Who is going to be eligible for the paratransit service? Rider eligibility could be tied in with the ADA requirements, in which case AT would provide paratransit service to: (1) persons with physical impairments; (2) persons with visual impairments; or (3) persons with

cognitive disabilities that preclude their use of AT's fixed-route system. Alternatively, AT may wish to establish its own eligibility criteria. Possibilities include: (1) persons who use a mobility device (e.g., wheelchair, walker, Amigo); (2) seniors; (3) clients of sponsoring agencies (e.g., DHHS, UDS/DMR); and even (4) the general public, especially if AT is viewing the paratransit service as a replacement for unproductive midday fixed-route service.

If the eligibility criteria adopted requires an eligibility screening process, who is going to determine an applicant's eligibility and what is going to be the process for determining eligibility? Options include: (1) self-certification; (2) self-certification with an accompanying confirmation from an applicant-selected professional; (3) self-certification with an accompanying confirmation from an AT-selected professional; and (4) in-person interview/functional testing by AT or a contractor. Options 1 and 2 are certainly cost-effective from an administration perspective, however, it is also true that several applicants who should not be eligible for the service will slip through the cracks, and AT will be responsible for subsidizing their trips. Option 4 is more costly from an administrative perspective unless AT can get an organization like UDS to do the screening at no charge or for a nominal amount. Option 3 presents a compromise between the two poles, especially if confirmation is performed only on a selective basis (e.g., in borderline cases).

8.13.5 Fare

What should the fare for the paratransit service be? For contract trips, agencies should pay AT the fully-allocated cost of the trip. For non-contract trips, we would recommend establishing a fare that is no more than twice the regular adult fare of the fixed-route system (an ADA requirement). This ceiling would be $2.50, which is twice the fare for all bus trips originating or ending outside the free fare zone. AT may want to consider a flat fare of $2.00 or even $1.00; this would eliminate riders having to handle change. We would also advise a PCA policy consistent in part with the ADA, i.e., that a person who is escorting the rider for the purpose of assisting that person ride free. The ADA further prescribes that AT could charge any other person accompanying that person a full fare. In addition, we would advise that any additional rider who is a family or household member and that is making the identical trip not be charged a fare since no additional cost (to AT) is incurred.

8.13.6 Trip Reservations/Scheduling/Dispatching

Does AT initially need a computerized paratransit MIS? No. Should AT acquire a computerized paratransit MIS? Yes. The purchase of a computerized paratransit MIS would significantly simplify and facilitate the client registration, reservations, scheduling, and dispatching functions, as well as recordkeeping, reporting, and invoicing. It would likely cost AT in the vicinity of $20,000 to get a relatively simple paratransit system (including the initial hardware and training) that would accommodate AT's computer needs for the paratransit service for years to come. We would advise that AT seriously consider such a purchase.

What forms will be needed? If AT elects to acquire a computerized system, most of the forms needed for office administration and driver manifests will be generated by the computer. Otherwise, if AT opts to use a manual system, forms will need to be developed for client registration, trip reservations and change orders, trip scheduling, driver manifests, reporting needs, and invoices. Regardless of whether a manual system or computerized system is used, forms will also need to be developed for the eligibility determination (unless paratransit service is available to the general public). Current forms that AT uses for pre-trip inspections and maintenance functions will probably be satisfactory (although they may need to be modified to incorporate the lift component).

Should AT get a separate phone line for paratransit calls? Yes.

What time of day may riders call to reserve a trip? AT should probably start out with a reservation period that extends from 8:00 am to 2:00 pm. This would leave time at the end of the day for final scheduling and other administrative tasks. Additionally, it is very important that AT provide a means for riders to call AT at all hours when a vehicle is on the road. AT should also connect an answering machine on the paratransit line to receive "non-request" calls after office hours.

How far in advance can a rider call to reserve a demand-responsive trip? The ADA prescribes that a service must accommodate calls the day before the trip, and up to 14 days in advance. Otherwise, there are two prominent schools of thought. One school says that you ought to accommodate trip reservations -- however far in advance they are -- so that the riders can make definitive plans for doctor's appointments, holiday events, etc. The other school argues that allowing riders to place reservations far in advance results in a high number of cancellations and no-shows. The other complicating factor is that capacity will be limited initially; allowing riders to call far in advance will fill-up the capacity well in advance of the trip date. Also, it is harder to track far-in-advance trips with a manual system as compared to a computerized system. A reasonable compromise might be 7 days in advance since the ADA rule does not currently need to be met.

How should trips be scheduled? We would advise limiting subscription trips to 50% of the capacity (see discussion above) to allow for the add-on of demand-responsive trips. Construction of the schedule should begin with the subscription trips as the core of the tour, and then working demand-responsive trips in where they can fit. (Note that this can be an interactive negotiation between the reservationist/scheduler and the caller.) Toward this end, we would advise that scheduling be performed while the caller is in the phone immediately after the trip reservation is booked. A pick-up window of 20 minutes (10 minutes before and 10 minutes after) is advised to give the scheduler (and driver) flexibility.

Should AT prioritize trips by trip purpose? Under the ADA, this cannot be done; however, the ADA does not currently affect AT with respect to complementary paratransit. AT may wish to give priority certainly to contract trips, since they are fully-funded by the sponsoring agencies. Otherwise, AT may wish to give priority to life-sustaining-trips (e.g., dialysis),

medical and other life-enhancing trips (e.g., nutrition meals); and employment trips over other purposes. (See also discussion above regarding subscription trips.)

How should office staff communicate with drivers? Via AT's radio system.

Assuming for the moment that service will initially consist of one vehicle, no more than one staff person will be required to perform reservations and scheduling. AT can use its current dispatcher for radio communications.

8.13.7 Inclement Weather

How should AT notify riders in the event of inclement weather? AT probably has a mechanism to cancel service now. If not, AT should contact local radio stations to get on their cancellation lists for that day. AT may also wish to place personal calls to riders. It is very important that riders not be stranded away from home.

8.13.8 Procedures Manual / Ride Guide / Marketing Brochure

Should AT prepare an operations/policy manual? Yes. Note too that there are a number of policies of which riders should be aware, including the basics of how to access the system. These should be developed into a user manual, often referred to as a Ride Guide. In addition, a marketing brochure should be developed, sized so that it will fit in AT's existing schedule displays, and be distributed to human service agencies, employers, etc.

8.13.9 Driver Qualifications and Training

What type of driver should AT hire to provide this service? Minimum requirements should include 5 years' driving experience with no serious violations, familiarity with the area, CDL license (depending on the size of the vehicle), the ability to work independently, and the ability to maneuver passengers who use wheelchairs. The New Hampshire DOT may have other requirements. Familiarity with various disabilities would be a plus, bearing in mind that driver training programs will consist of defensive driving and passenger assistance training (in addition to training in completing paperwork). Note too that prospective drivers will have to complete a DOT physical and drug test.

8.13.10 Fleet

What vehicles should AT use for this service? Currently, AT has two accessible 15-passenger vans that it can be made available for this service, especially with the introduction of the new fixed-route fleet. AT currently does not have the operating funding available to operate more that one vehicle; therefore, there will be a sufficient spare ratio until sufficient funding is acquired to support the operation of a second vehicle (and the purchase of a third vehicle).

What formal or informal relationship should the new paratransit service have with the Grafton County Senior Center Van? There are two opposing views here. On one hand, AT could utilize their van (and driver, perhaps) when it is otherwise not occupied, as an inexpensive means of providing service. This could be done via a formal contract, or could be merely an informal referral. This would give the senior center a continuing mission, would presumably argue for the replacement of their 16(b)(2) when that time comes; and probably lead to improved relations between AT and the Grafton Senior Center, which are currently strained. On the other hand, the senior center has directly violated regional coordination mandates that they agreed to and that represented conditions upon which the vehicle was originally given to them. In concert with this, AT could have nothing to do with the senior center, wait until the 16(b)(2) is due for replacement, and keep the replacement vehicle for the new service.

What formal or informal relationship should the new paratransit service have with UDS? It is very important that AT circumvent agency shedding (of trips without concomitant funding). Fortunately, because the ADA currently does not apply to AT's proposed paratransit service, AT is in a position of not having to take on trips that are currently being subsidized by other funding sources. However, AT could take on these trips if it becomes advantageous to do so; for example, it would be advantageous if the agency intends to fully-fund these trips and if other resources (e.g., vans) come with package. For example, if UDS wants to be out of the transportation business, it may be advantageous for AT to take over these trips if they are full-funded by DMR and if AT gets UDS's vehicles.

8.13.11 Estimated Cost

Given that AT already has the vehicles and insurance, as well as office space, utilities and supplies, out-of-pocket expenses would include: (1) administrative labor and fringe; (2) driver labor and fringe; (3) fuel and oil; and (4) maintenance. Administrative labor would include one administrative person to perform client registration, trip reservation, trip scheduling, reporting, and invoicing functions; this assumes that AT supervisory staff and dispatch staff would absorb any paratransit-related duties. Driver labor would include one full-time driver and one part-time driver, as described above. These costs are estimated in Figure 8-19. Other administrative costs (e.g., share of supervisory labor, direct administrative costs), operating costs (e.g., insurance), and capital costs that we have not included in the "out-of-pocket" costs below should eventually be allocated to the service.

Figure 8-19: Estimated Marginal Costs for Introducing A Small Paratransit Service

Administrative Labor and Fringe	
Calltaker/Scheduler	$20,000
Fringe @ 15%	$3,000
Subtotal	$23,000
Administrative Direct Expenses	$0
Driver Labor	
Full-time Driver (255 days x 8 hrs x $8.00)	$16,320
Fringe @ 20%	$3,264
Part-time Driver (255 days x 4 hrs x $8.00)	$8,160
Subtotal	$27,744
Fuel & Oil (3060 hrs x 17 mph x $0.15/mi)	$7,803
Maintenance (3060 hrs x 17 mph x $0.15/mi)	$7,803
Total	$66,350
Optional: Computer Hardware/Software/Training	$20,000

Chapter 9: Five-Year Capital Plan and Financial Plan

Chapter 9 presents a five-year Capital Plan and a five-year Financial Plan for Advance Transit. Both of these plans assume that Advance Transit will implement the recommendations contained in this Short Range Transit Plan. The Capital Plan is set forth in Section 9.1, and the Financial Plan is presented in Section 9.2.

9.1 Advance Transit Capital Plan

The capital expenditure plan set forth in this section covers Fiscal Year 1995 through Fiscal Year 2000. It describes capital purchases necessary to support of the actions recommended in the Short Range Transit Plan developed for Advance Transit. It also reflects other capital needs identified by Advance Transit.

The following discussion presents the assumptions and findings which went into the development of the capital expenditures plan presented in Table 9-2. It should be noted that capital grants for FY 95 have been approved by the Vermont Agency of Transportation and by the New Hampshire Department of Transportation. FY 95 grants, combined with funds carried forward from previous years, will help Advance Transit pay for capital purchases during FY 95 projected to total $491,500.

FY 95 grant funds will also help pay for three 30-passenger buses early in FY 96. Advance Transit has also submitted FY 96 requests for funds to purchase two additional 20-passenger buses. AT anticipates that capital purchases in FY 96 will total $535,000.

Table 9-1 shows the existing fleet and anticipated retirement years for each vehicle. Advance Transit has recently purchased five new 20-passenger lift-equipped buses, and expects to purchase one more 20-passenger bus before the end of the current fiscal year. Most of the remaining vehicles in the AT fleet have very high mileage and need to be replaced.

9.1.1 30-Passenger Buses

AT anticipates purchasing three 30-passenger buses early in FY 96 at an estimated price of $118,000 each. These vehicles will be used to provide bus service on the "Blue Route" serving downtown Lebanon, the Dartmouth-Hitchcock Medical Center, downtown Hanover, and Dartmouth College.

Table 9-1: Advance Transit Vehicles

Advance Transit Vehicle Fleet (March 1995)

Unit #	Description	Mileage 3/95	Retirement Year
153	8-passenger lift-equipped van	108,503	1998
201	20-passenger bus	206,873	1996
205	20-passenger bus	185,552	1996
206	20-passenger bus	217,609	1996
207	20-passenger bus	192,057	1996
251	16-passenger lift-equipped bus	148,742	1996
401	40-passenger lift-equipped bus	189,425	1996
403	40-passenger lift-equipped bus	213,659	1996
9401	20-passenger lift-equipped bus	1,751	2000
9402	20-passenger lift-equipped bus	1,478	2000
9403	20-passenger lift-equipped bus	1,428	2000
9404	20-passenger lift-equipped bus	1,449	2000
9405	20-passenger lift-equipped bus	1,821	2000

9.1.2 20-Passenger Buses

As indicated above, Advance Transit expects to have purchased six new 20-passenger lift-equipped buses by the end of FY 95. The agency anticipates buying two additional 20-passenger buses during FY 96. This will bring AT's newly acquired fleet to a total of eleven vehicles. Eight of these will be 20-passenger buses, and three will be 30-passenger buses. All eleven will be lift-equipped and accessible for wheelchair users. This fleet should be sufficient to allow AT to operate the improved and expanded services described in Chapter 8 of this Short Range Transit Plan.

With the addition of a fixed-route parking lot shuttle route for the Dartmouth-Hitchcock Medical Center, Advance Transit would have eight vehicles in service during peak commuter hours, with three spares. As older vehicles are replaced by new buses, Advance Transit should experience a significant reduction in day-to-day maintenance costs.

The five-year capital plan calls for the replacement of six 20-passenger buses in FY 2000. The expected useful life of 20-passenger buses purchased in FY 95 is five years.

9.1.3 New Building

Advance Transit moved into a new administrative and maintenance facility in the fall of 1994. AT has entered into a mortgage agreement with the Community Transportation Association of America to cover the local share cost of the new facility.

9.1.4 Facility Enhancement

During FY 95, Advance Transit expects to complete the installation of several unfinished items associated with its new building. These include: (1) the installation of air conditioning equipment for $13,500; (2) driveway and parking lot paving for $33,500; (3) an interior stairway for $3,500; (4) skylight controls for $500; and (5) roof gutters for $2,000.

9.1.5 Shop Equipment

Advance Transit anticipates purchasing several pieces of shop equipment for its new maintenance facility during FY 95. These include: (1) lubrication equipment for $4,600; (2) a portable lift for $3,100; (3) a parts washer for $4,500; (4) a wheel dolly for $1,100; (5) an engine analyzer for $4,000; and (6) an oil filter crusher for $800. These shop equipment purchases total $18,100.

9.1.6 Office Partitions

AT expects to spend roughly $10,000 during FY 95 to purchase office partitions and related furniture to equip its new administrative facility.

9.1.7 Maintenance Software

AT hopes to acquire a software package to track vehicle maintenance and parts inventory during FY 95. The estimated cost for software and training is $8,000.

9.1.8 Passenger Shelters

Advance Transit would like to purchase and install six passenger shelters during FY 96. The agency expects to turn to local communities for assistance in installing and maintaining these facilities.

9.1.9 Signs

AT anticipates spending $1,800 during FY 95 on signs for its new facility.

9.1.10 Computers

AT expects to spend $10,000 on computer network equipment and software during FY 95. The agency also hopes to purchase a plain paper fax machine for $600.

9.1.2 Summary of Capital Expenditures

Tables 9-2, 9-3, and 9-4 summarize the proposed capital expenditures described above. Table 9-2 shows total capital purchases proposed for each fiscal year. Table 9-3 shows projected unit costs for items included in Table 9-2. Table 9-4 shows the number of items proposed to be purchased each year.

This five year capital improvement program should allow Advance Transit to plan ahead so that vehicles and other capital equipment items are purchased in a timely manner. The plan should help to insure the continued operation of comfortable, reliable, and cost-effective public transportation service in the Lebanon-Hanover-White River Junction region.

9.1.3 Funding Sources

The Federal Transit Administration will fund up to 80 percent of approved capital expenditures through formula Section 18 or discretionary Section 3 funding. In Vermont, these funds are administered by the Vermont Agency of Transportation. New Hampshire capital grants are handled by the New Hampshire Department of Transportation.

For many capital items, 10% State funding is available from either VAOT or NHDOT. This leaves the remaining 10% to be covered by local funds. Advance Transit provided the full 20% local requirement for the construction of its new building. It also expects to cover the full 20% share of two of the 20-passenger buses to be purchased in FY 95.

Anticipated local share requirements are summarized in Table 9-5.

Advance Transit has entered into loan agreements with CTAA for the local cost of its new facility, and with the Vermont National Bank for the local cost of vehicles and equipment to be purchased in FY 95 and FY 96. Debt service costs are expected to total approximately $36,000 per year throughout the five-year planning period. Additional local share costs will be covered by year-end operating surplus funds. The labor cost for local towns to install passenger shelters could be used as in-kind local match for these shelter facilities.

Table 9-2: Capital Plan Costs for Advance Transit

Advance Transit Five-Year Capital Costs

	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
1. 30-Passenger Bus			354,000				
2. 20-Passenger Bus		390,000	130,000				450,000
3. New Building	765,000						
4. Facility Enhancement		53,000					
5. Shop Equipment	10,000	18,100					
6. Office Partitions		10,000					
7. Maintenance Software		8,000					
8. Passenger Shelters			51,000				
9. Signs		1,800					
10. Computer Equipment	2,100	10,600					
11. Radio Equipment	6,000						
Total for Fiscal Year	783,100	491,500	535,000				450,000

Table 9-3: Capital Plan Unit Costs for Advance Transit

Advance Transit Five Year Unit Costs

	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
1. 30-Passenger Bus			118,000				
2. 20-Passenger Bus		65,000	65,000				75,000
3. New Building	765,000						
4. Facility Enhancement		53,000					
5. Shop Equipment	10,000	18,100					
6. Office Partitions		10,000					
7. Maintenance Software		8,000					
8. Passenger Shelters			8,500				
9. Signs		1,800					
10. Computer Equipment	2,100	10,600					
11. Radio Equipment	6,000						

Table 9-4: Capital Plan Purchases for Advance Transit

Advance Transit Five Year Capital Purchases

	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
1. 30-Passenger Bus			3				
2. 20-Passenger Bus		6	2				6
3. New Building	1						
4. Facility Enhancement		1					
5. Shop Equipment	1	1					
6. Office Partitions		1					
7. Maintenance Software		1					
8. Passenger Shelters			6				
9. Signs		1					
10. Computer Equipment	1	1					
11. Radio Equipment	1						

Table 9-5: Funding Sources For Advance Transit Capital Expenditures

Advance Transit Capital Funding Sources

	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	TOTAL
Federal (80%)	626,480	393,200	428,000	0	0	0	360,000	1,807,680
State	1,810	40,150	53,500	0	0	0	45,000	140,460
Local	154,810	58,150	53,500	0	0	0	45,000	311,460
TOTAL	783,100	491,500	535,000	0	0	0	450,000	2,259,600

9.2 Financial Plan

A five-year financial plan for Advance Transit was developed based on assumptions regarding levels of service, ridership, operating costs, and revenue sources. The assumptions used, the analysis performed, and the resulting financial projections are presented in the following sections.

9.2.1 Financial Plan Assumptions

This financial plan is based on projected FY 95 costs for existing Advance Transit services, known and anticipated changes and trends, the FY 95 implementation of fixed-route service adjustments recommended in the Short Range Transit Plan; and the FY 95 implementation of the Short Range Transit Plan marketing plan.

The following sections describe in further detail the financial plan assumptions regarding service, ridership, costs, and revenues.

Service Levels

Recommended changes to fixed-route services are described in detail in Chapter 8. Changes to weekday service result in an increase of two service hours per day, or approximately 500 service hours per year. Changes to Saturday service add one service hour per day, or 52 hours per year.

Service hour projections are summarized in Table 9-7. A supporting spreadsheet is included as an appendix to this report.

Revenue and expense projections in this Financial Plan do not include the provision by Advance Transit of paratransit services. The possibility of AT offering door-to-door paratransit service is discussed in Section 8.13. The projected cost of providing paratransit service for 12 service hours per day comes to just under $100,000 per year. Before AT can move ahead with plans to implement such service, the agency must first locate roughly $100,000 of senior citizen, social, service, or other contract revenues to offset the projected cost.

Financial projections likewise do not include the downtown Lebanon "feeder bus" service that is described in Chapter 8. As indicated in Section 8.9.4, this service would operate during peak commuter hours and would add approximately 5 hours of service per day, or 1,250 hours per year. This service would add between $20,000 and $30,000 per year to AT's operating expenses. As indicated in Chapter 8, this service would make the most sense if it is operated in conjunction with expanded midday service in Lebanon for senior citizens. New "senior citizen" contract revenues would be required to make this possible.

A number of other service enhancements have been identified that may merit future consideration by Advance Transit. These additional changes, and their potential areas of impact on Advance Transit finances, are set forth in Table 9-6.

Table 9-6: Additional Advance Transit Service Issues

Additional Advance Transit Service Options

Service Option	Description	Impacts
Paratransit Service	Door-to-door service could be provided by one full-time driver and one half-time driver. An additional administrative position would also be required.	The projected cost is just under $100,000 per year. This includes one new administrative position, plus 12 hours of driver time per day. New contract revenues would be required to cover the cost of this service.
Lebanon "Feeder Bus"	Peak-hour service to provide residents of downtown Lebanon with convenient access to and from the downtown transfer site.	This service would cost between $20,000 and $30,000 per year. It would make the most sense if combined with expanded midday service for senior citizens.
Separate Lyme Peak-Hour Service	Additional peak-hour vehicle and driver to serve Lyme students and commuters, allowing other Blue Route vehicles to provide 15-minute headways throughout the peak commuter period.	This would add roughly 1,000 service hours per year plus additional capital needs to serve a small number of Lyme riders. It might be more cost effective to reduce Lyme afternoon service to one trip per day.
Peak-Hour Service for the Plaza Shuttle (Orange Route)	Expanded service hours for the Plaza Shuttle, providing service before 9:00 a.m. and after 3:00 p.m.	Adding 4.5 hours of service per day would mean approximately 1,125 additional service hours per year. An extra vehicle would be required
Increased Service on the Red Route, with 30-Minute Headways	Operation of two buses throughout the day between Lebanon and White River Junction, resulting in improved connections with the Plaza Shuttle.	This would add about 3,000 hours per year. It would cost roughly $68,000 per year, and would require the acquisition of an additional bus.
Vermont "Free Fare" Demonstration Project	Vermont-funded demonstration of expanded fare-free services. New Service funding of $40,000 per year for two years may become available for this project. These dollars are not included in the financial plan because funding is uncertain, because marketing problems may result for NH riders who are required to pay, and because the impact on ridership and revenues after completion of the experiment has not been fully addressed	A Vermont "Free Fare Zone" should result in an increase in Vermont ridership. However, there may be a negative response from New Hampshire riders who are required to pay. This program may also create public perception problems if fares are restored at the end of the two-year experiment

Ridership

Ridership is assumed to increase as a result of service improvements and marketing efforts. Basic fixed-route ridership is projected to increase by 7% in FY 96 and by 7% in FY 97, following introduction of new and revised routes and services. An increase of 5% is projected for FY 98, with 3% increases for FY 99 and FY 2000.

Ridership on a DHMC Parking Lot Shuttle is projected to total 4,000 during the first five months of service in FY 95, and 9,600 during FY 96. After FY 96, ridership is projected to increase by 3% per year. Since this is a "free-fare" service, these projected increases have no direct impact on financial projections. Ridership on other contract services is projected to increase by 2% per year.

Projected ridership increases for individual service components are shown in Tables 9-8 and 9-9. A supporting spreadsheet is included as an appendix to this report..

Operating and Administrative Cost

Annual increases of 3% are assumed for Advance Transit's operating and administrative expenses. For administrative costs, this 3% annual increase was applied to Advance Transit's projected actual administrative expenditures for FY 95. For operating costs, the increase was applied to hourly unit costs for operations and maintenance. These hourly rates resulted from dividing projected FY 95 expenses by the anticipated number of service hours.

Capital Costs and Debt Service

Proposed capital purchases are detailed in the Capital Plan set forth in Section 9.1 above. The financial plan presented in Table 9-10 assumes that any year-end surplus dollars will be placed in a "fund" to cover current debt service and future capital needs. "Withdrawals" from this "fund" include (1) monthly payments on AT's building mortgage to CTAA; (2) monthly payments to the Vermont National Bank for AT's capital equipment loan; (3) repayment of funds borrowed to cover operating fund deficits in FY 93 and FY 94; and (4) local match payments for non-financed capital expense purchases.

This approach differs from the usual accounting practice of including all interest charges as administrative expenses. Debt financing and other capital items were separated from administrative and operating expenses. This was done in an effort to present a clearer picture of the impact of proposed service changes on operating and administrative costs and revenues.

Revenue Sources

Advance Transit revenue sources include: fare box revenues, contract revenues, municipal funding, Vermont and New Hampshire State funding, Federal funding, rental income, advertising sales, and interest. The financial plan assumptions for revenue changes in the next five years are presented in Table 9-11.

Table 9-7: Advance Transit Projected Service Hours

Service Hours

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 100
Regular Route Hou	21,348	18,300	19,570	20,130	20,130	20,130	20,130	20,130
DHMC Shuttle Hou	0	0	1,524	3,048	3,048	3,048	3,048	3,048
Other Contract Hou	254	254	254	254	254	254	254	254
Total Annual Hours	21,602	18,554	21,348	23,432	23,432	23,432	23,432	23,432

Table 9-8: Advance Transit Projected Ridership Increases

Projected Ridership Increases

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Regular Transit		-4%	2%	7%	7%	5%	3%	3%
DHMC Shuttle					3%	3%	3%	3%
Other Services		-14%	0%	2%	2%	2%	2%	2%

Table 9-9: Advance Transit Projected Ridership

Projected Ridership

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Regular Transit	124,547	119,834	122,231	130,787	139,942	146,939	151,347	155,888
DHMC Shuttle	0	0	4,000	9,600	9,888	10,185	10,490	10,805
Other Services	10,424	8,931	8,931	9,110	9,292	9,478	9,667	9,861
Total Riders	134,971	128,765	135,162	149,496	159,122	166,601	171,505	176,553

Table 9-10: Advance Transit Financial Projections

Expenses

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Administrative	268,159	358,660	282,587	291,065	299,797	308,790	318,054	327,596
Operating	332,331	274,816	348,333	393,807	405,622	417,790	430,324	443,234
Maintenance	178,731	142,569	136,749	154,602	159,240	164,017	168,938	174,006
Total Costs	779,221	776,045	767,669	839,474	864,658	890,598	917,316	944,835

Revenues

	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Fare Box Revenues	68,259	62,296	58,487	62,581	66,962	70,310	72,420	74,592
Hanover Free Zone	150,945	99,000	99,000	99,000	99,000	99,000	99,000	99,000
Lebanon Free Zone	0	20,000	20,000	20,000	20,000	20,000	20,000	20,000
DHMC Shuttle	0	0	40,000	80,000	80,000	80,000	80,000	80,000
Special Services	0	0	10,000	10,000	10,000	10,000	10,000	10,000
VT Rideshare	21,991	30,585	25,000	25,000	25,000	25,000	25,000	25,000
NH Rideshare	4,545	16,330	15,000	15,000	15,000	15,000	15,000	15,000
NH Section 18	276,866	277,175	260,193	336,939	336,939	336,939	336,939	336,939
NH Intercity	0	0	67,000	65,000	65,000	65,000	65,000	65,000
VT Sect 18	65,097	94,262	81,798	81,798	81,798	81,798	81,798	81,798
VT State Funds	73,273	30,386	44,000	44,000	44,000	44,000	44,000	44,000
Municipal	99,036	100,673	99,500	99,500	99,500	99,500	99,500	99,500
Rental Income	0	0	2,500	1,500	0	0	0	0
Interest	683	365	100	100	100	100	100	100
Miscellaneous	1,301	12,695	2,000	2,000	2,000	2,000	2,000	2,000
Total Revenue	761,996	743,767	824,578	942,418	945,299	948,647	950,757	952,929
Admin & Op Costs	779,221	776,045	767,669	839,474	864,658	890,598	917,316	944,835
Debt Service			35,713	35,713	35,713	35,713	35,713	35,713
Surplus/(Deficit)	-17,225	-32,278	21,196	67,232	44,928	22,337	-2,272	-27,619

Capital Reserve Fund

	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Beginning Balance			0	1,196	8,428	53,356	75,693	73,421
Additions			21,196	67,232	44,928	22,337	-2,272	-27,619
Withdrawals			0	13,000	0	0	0	45,000
Operating Fund Repayment			20,000	47,000	0	0	0	0
Ending Balance			1,196	8,428	53,356	75,693	73,421	802

Table 9-11: Revenue Sources and Assumptions

Revenue Source	Assumption	Description
Fare Box Revenue	Apply average fare of $0.87 to fare-paying riders. Projections assume the continuation of Lebanon - DHMC free fare zone.	Projected ridership increases are shown in Tables 9-8 and 9-9. Increases result from improved routes, better commuter options, increased midday service, and improved marketing.
Lebanon Free Fare Zone	Continued support from DHMC and the City of Lebanon	Funding is used to offset the loss of fares for rides between downtown Lebanon and DHMC / Hanover
DHMC Shuttle	Contract DHMC parking lot shuttle beginning in April 1995 and continuing through FY 2000.	The existing 3-year contract will need to be extended beyond FY 98
VT & NH Rideshare	Continued funding at FY 95 levels	
VT Section 18	No increase	Future Federal funding levels are uncertain. These may be affected by efforts to balance the Federal budget.
NH Section 18	29% increase in FY 96, followed by level funding at the FY 96 level	This increase may be threatened by competing interests in NH and by political developments in Washington, DC.
NH Intercity	Continued funding of service to Canaan	Future availability of these intercity funds is uncertain.
VT State Funds	no increase	An increase in State support may be needed to offset possible reductions in future federal Section 18 funding
Special Contracts	No increase	
Municipal funding	Level funding through FY 2000	Inflation adjustments may be needed in future years
Rental Income	Reflects temporary rental arrangement during FY 95 and FY 96	Advance Transit expects to need this space for its own purposes after FY 96

Major changes in revenues for FY 95 and FY 96 include: new contract funding for a DHMC parking lot shuttle route, and a projected 29% increase for FY 96 in New Hampshire Section 18 funding. This level of Section 18 funding was available to Advance Transit in FY 95, but the agency was limited in its ability to take advantage of these funds because of insufficient local matching dollars.

Major assumptions include (1) a 29% increase in New Hampshire Section 18 funding in FY 96; (2) continued availability of New Hampshire "Intercity" funds for Canaan-Enfield bus service; (3) continued support for the expanded "Free Fare Zone" in Hanover and Lebanon; (4) renewal of an new three-year contract to provide parking lot shuttle service for DHMC; and (5) no increases or decreases in Federal and State funding after FY 96.

9.2.2 Analysis

Revenue and expense projections were developed using Microsoft Excel 5.0. Individual linked spreadsheets address (1) service hours and costs; (2) fare box revenues; (3) program revenues, and (4) Section 18 eligibility. In each spreadsheet, all assumptions are set forth in "Initial Data" sections; "Report Areas" contain linked formulas only. Supporting spreadsheets are included as an appendix to this report.

The results are summarized in Table 9-10. The key findings of the analysis are described below:

Operating Costs

Proposed changes in fixed-route services will result in only modest increases in service hours and operating costs. Administrative and operating costs are projected to increase at a rate of 3% per year due to inflation.

Operating Revenues

Fare box revenues are projected to increase by approximately 20% between FY 94 and FY 2000 as a result of service improvements and marketing efforts. Contract revenue increases will include a new contract to provide parking lot shuttle service for DHMC. New Hampshire Section 18 funds are projected to increase by 29% in FY 96. New Hampshire "Intercity" funds are projected to remain available through FY 2000. Other Federal, State, and municipal funds are projected to remain level throughout the period.

Operating Surplus and Debt Service

During the period FY 95 through FY 98, revenues are projected to cover all Advance Transit administrative, operating, and debt service costs. Any funds that remain at the end of each year should be placed in a capital reserve account to cover the local share of future capital purchases.

Projections show operating fund deficits for FY 99 ($2,272) and FY 2000 ($27,619). It should be noted that expenses are projected to increase by roughly $25,000 more than revenues each year between FY 96 and FY 2000. This results from the fact that inflationary increases have been applied to costs, but not to projected revenues. Advance Transit may need to include increases to cover inflation in its future funding requests, in order to avoid deficits in FY 99 and beyond..

As noted above, these projections assume a 29% increase in New Hampshire Section 18 dollars in FY 96 and continued availability of New Hampshire "Intercity" funding. Without the Section 18 increase, Advance Transit would face a year-end operating deficit of $9,514 in FY 96. This deficit would be expected to grow by roughly $25,000 per year between FY 96 and FY 2000

Appendix A: Analysis of October 1, 1993 Boardings

Memo

KKO & ASSOCIATES

TO: Will Rodman, Multisystems, Inc.

FROM: Ellen Collins, KKO & Associates

DATE: July 1, 1994

SUBJECT: Advance Transit - Analysis of one-day ridership counts, Oct. 1, 1994

Attached are summaries of AT's one day bus counts taken on Oct.1, 1994. I used their definition of route segments as the basic unit of analysis.

These segments are defined as:

1. R! - Red Route 2 - W. Lebanon to Hanover, 12 trips
2. R2 - Red Route2 - W. Lebanon to Lebanon via Plazas, 11 trips
3. R4 - Red Route 2 - Bookstore to W. Lebanon, 5 trips
4. R5 - Lebanon to W. Lebanon via Seminary Hill, 2 trips
5. R6 - Lebanon to W. Lebanon via Plazas, 10 trips
6. B1 - Blue Route 1 - Lebanon to Hanover, 40 trips
7. B11 - Garage? to DMHC, 4 trips
8. B2 - Cotton Ctr to Thompson Lot, 3 trips
9. B3 - Cotton Ctr to DMHC, 55 trips
10. B4 - DHMC to Lebanon, 3 trips
11. B5 - ?
12. B6 - Lebanon to Canaan, 10 trips
13. B7 - Canaan to Lebanon, 9 trips
14. B8 - DHMC to Hanover, 24 trips
15. B9 - Cotton Ctr to DMHC, 4 trips
16. G1 - Hanover to W. Lebanon, 1 trip
17. G2 - Green Rte 3 to White River Junction via Norwich
18. G4 - W. Lebanon to Hanover via Wilder

I need to review the segment definitions with Van, because they are not apparent from the stop locations and their description.

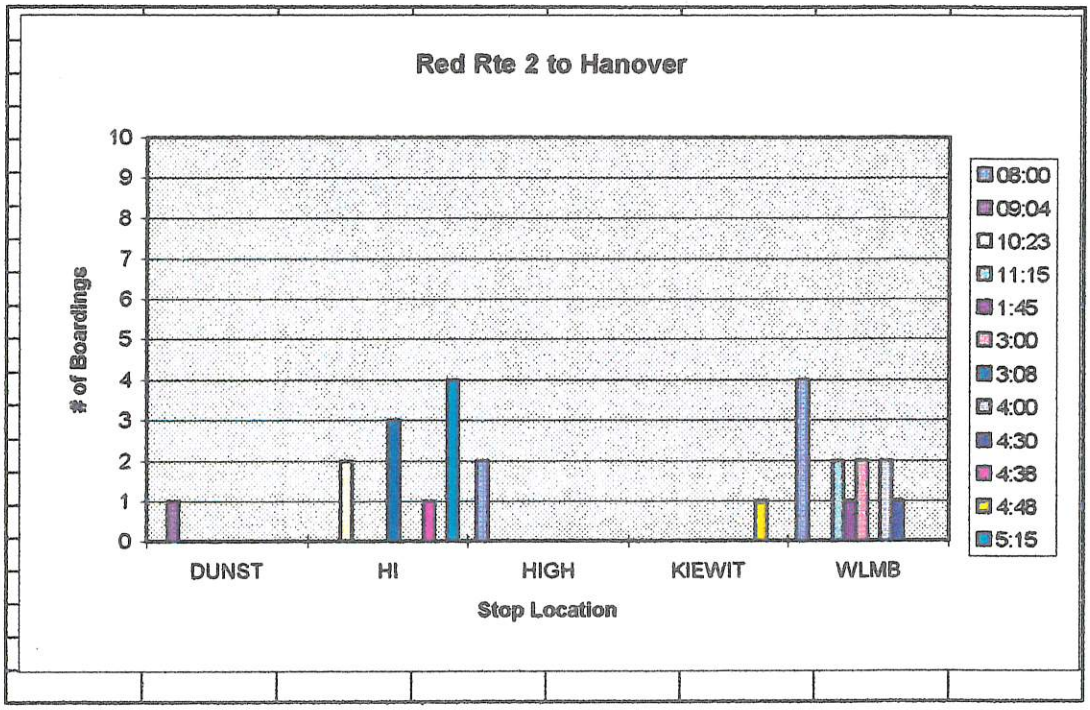
As you can see, many of the trips carry only one or two passengers, and few of them carry six or more. This data indicates a strong potential for major rerouting, since so few pockets of high ridership can be found.

Boardings on Red Route 2 to Hanover

RCODE	R1						
Sum of BRD		STOPCODE					
AMPM	TIME	DUNST	HI	HIGH	KIEWIT	WLMB	Grand Total
A	08:00	0	0	2	0	4	6
	09:04	1	0	0	0	0	1
	10:23	0	2	0	0	0	2
	11:15	0	0	0	0	2	2
P	1:45	0	0	0	0	1	1
	3:00	0	0	0	0	2	2
	3:08	0	3	0	0	0	3
	4:00	0	0	0	0	2	2
	4:30	0	0	0	0	1	1
	4:38	0	1	0	0	0	1
	4:48	0	0	0	1	0	1
	5:15	0	4	0	0	0	4
Grand Total		1	10	2	1	12	26

DUNST	Dunster Drive
HI	Hanover Inn
HIGH	Highland Avenue
KIEWIT	Kiewit or Keiwit
WLMB	West Lebanon (Mascoma Bank)

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993

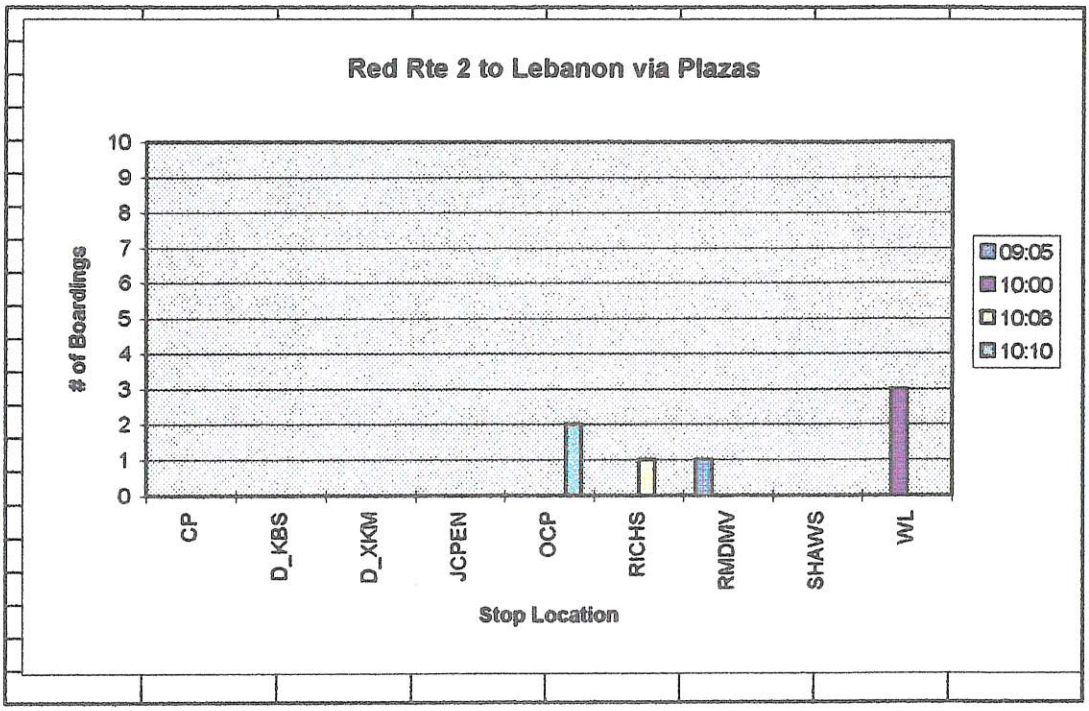


Boardings on Red Route 2 to Lebanon via Plazas

RCODE	R2										
Sum of BRD		STOPCODE									
AMPM	TIME	CP	D_KBS	D_XKM	JCPEN	OCP	RICHS	RMDMV	SHAWS	WL	Grand Total
A	09:05	0	0	0	0	0	0	1	0	0	1
	10:00	0	0	0	0	0	0	0	0	3	3
	10:08	0	0	0	0	0	1	0	0	0	1
	10:10	0	0	0	0	2	0	0	0	0	2
A Total		0	0	0	0	2	1	1	0	3	7
P	1:45	0	0	0	0	0	0	0	0	5	5
	1:50	0	0	0	0	0	0	0	1	0	1
	4:00	0	2	0	0	0	0	0	0	0	2
	5:00	0	0	1	0	0	0	0	0	1	2
	5:05	0	0	0	3	0	1	0	0	0	4
	6:05	0	0	0	0	0	0	0	0	1	1
	6:10	1	0	0	0	0	0	0	0	0	1
P Total		1	2	1	3	0	1	0	1	7	16
Grand Total		1	2	1	3	2	2	1	1	10	23

CP	Colonial Plaza
D_KBS	(D) K-Mart Bagel Shop
D_XKM	(D) Exit from K-Mart Plaza
JCPEN	J. C. Penney
OCP	One Clean Place
RICHS	Entrance to Richs Store
RMDMV	Rivermill at DMV
SHAWS	Shaws Market (Front Door)
WL	West Lebanon (library)

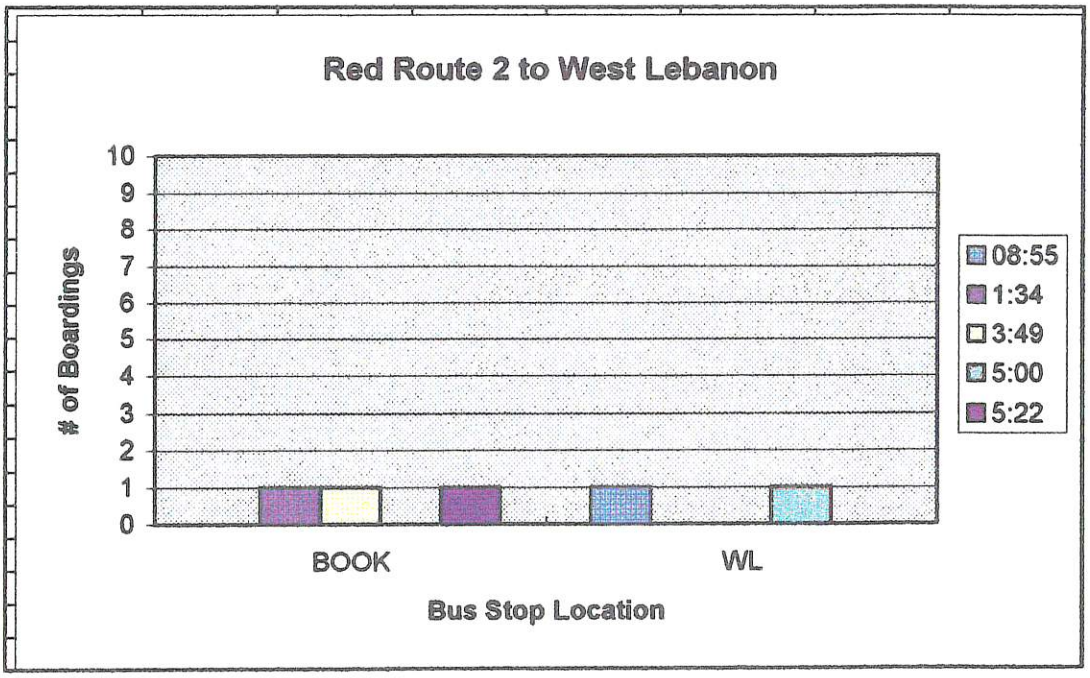
ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Red Route 2 to West Lebanon

RCODE	R4			
Sum of BRD		STOPCODE		
AMPM	TIME	BOOK	WL	Grand Total
A	08:55	0	1	1
P	1:34	1	0	1
	3:49	1	0	1
	5:00	0	1	1
	5:22	1	0	1
Grand Total		3	2	5
		BOOK	Bookstore	
		WL	West Lebanon (library)	

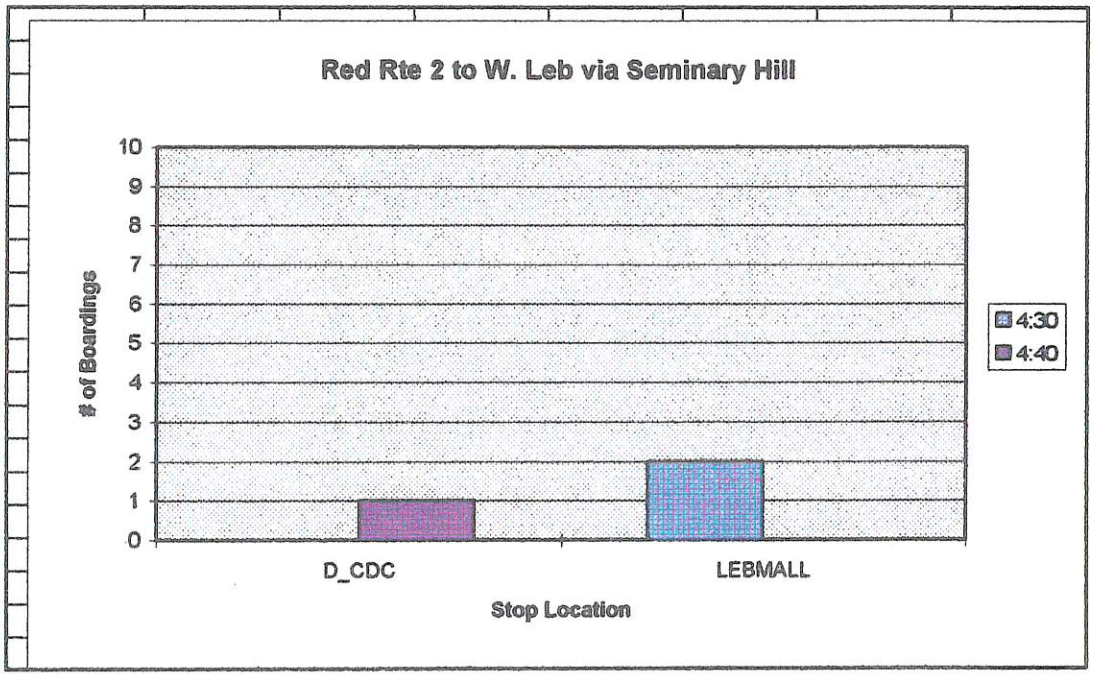
ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Red Route 2 to West Lebanon via Seminary Hill

RCODE	R5			
Sum of BRD		STOPCODE		
AMPM	TIME	D_CDC	LEBMALL	Grand Total
P	4:30	0	2	2
	4:40	1	0	1
P Total		1	2	3
Grand Total		1	2	3
		D_CDC	Crosby and Lebanon Street	
		LEBMALL	Lebanon Mall	

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993

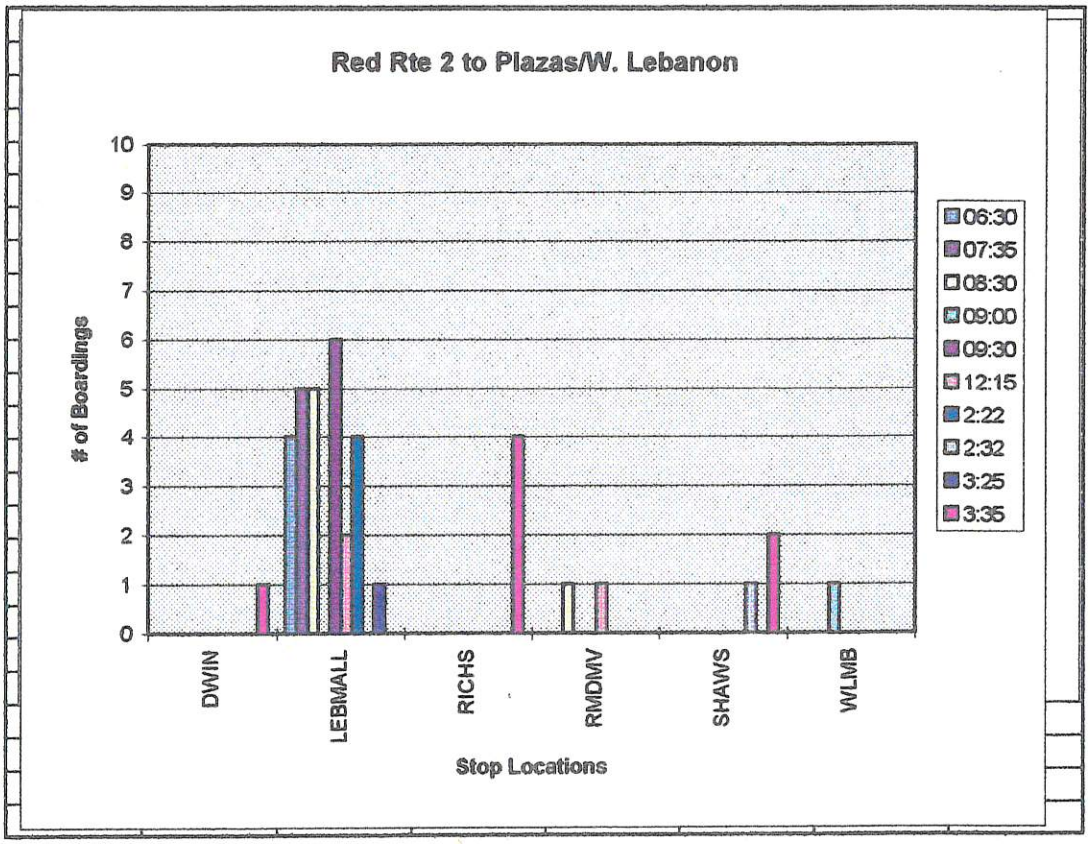


Boardings on Red Route 2 to Plazas/West Lebanon

RCODE	R6							
Sum of BRD		STOPCODE						
AMPM	TIME	DWIN	LEBMALL	RICHS	RMDMV	SHAWS	WLMB	Grand Total
A	06:30	0	4	0	0	0	0	4
	07:35	0	5	0	0	0	0	5
	08:30	0	5	0	1	0	0	6
	09:00	0	0	0	0	0	1	1
	09:30	0	6	0	0	0	0	6
P	12:15	0	2	0	1	0	0	3
	2:22	0	4	0	0	0	0	4
	2:32	0	0	0	0	1	0	1
	3:25	0	1	0	0	0	0	1
	3:35	1	0	4	0	2	0	7
Grand Total		1	27	4	2	3	1	38

DWIN	(D) Exit from K-Mart Plaza
LEBMALL	Lebanon Mall
RICHS	Entrance to Richs Store
RMDMV	Rivermill at DMV
SHAWS	Shaws Market (Front Door)
WLMB	West Lebanon (Mascoma Bank)

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Blue Rte 1 to Hanover

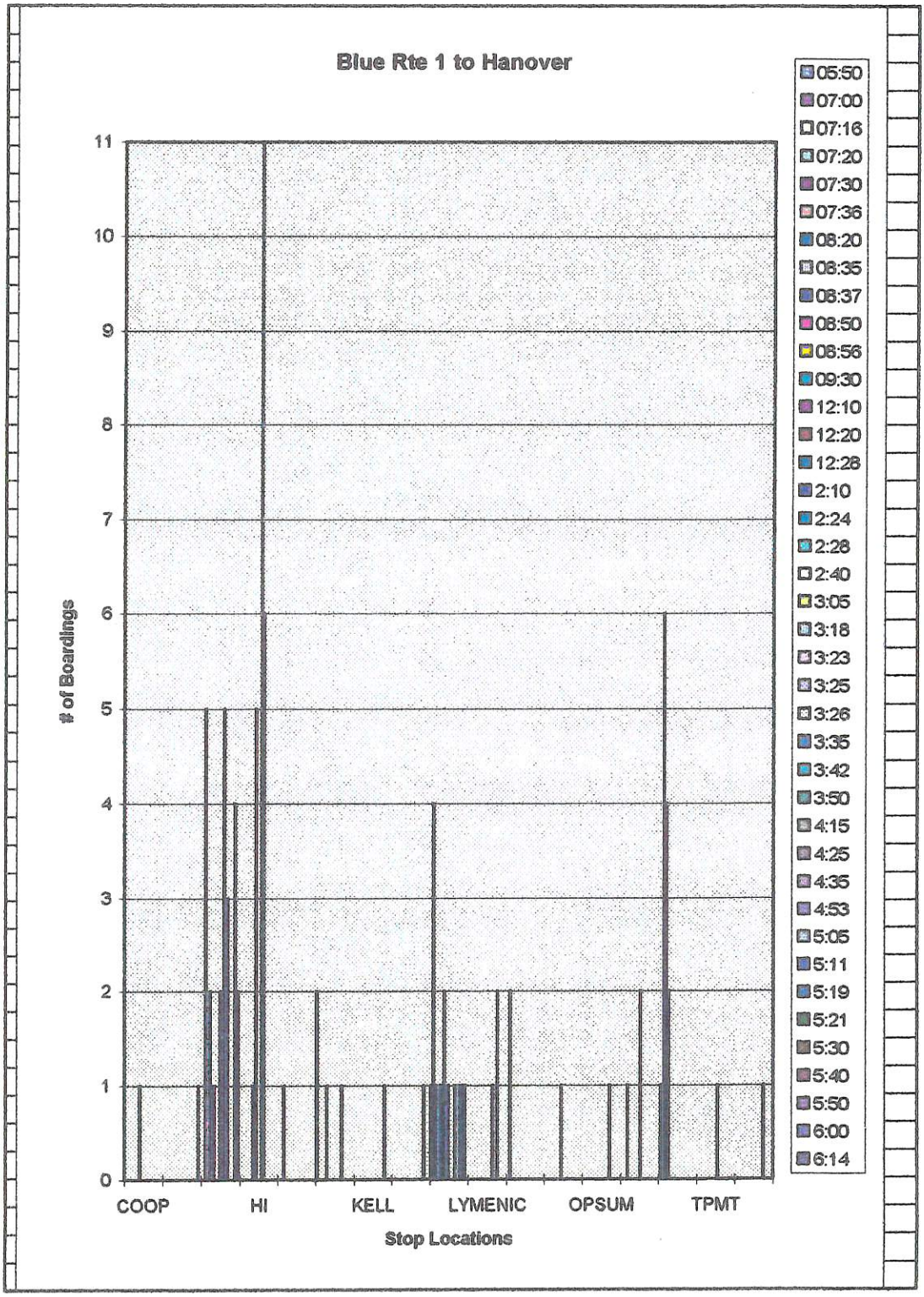
RCODE	B1								
Sum of BRD		STOPCODE							
AMPM	TIME	COOP	DHE	DHM	HI	HTR120	HTRET	KELL	KIEWIT
A	05:50	0	0	0	0	0	2	0	0
	07:00	0	0	0	0	0	2	0	0
	07:16	0	0	0	0	0	0	0	0
	07:20	0	0	0	0	0	0	0	0
	07:30	0	0	5	0	0	0	0	0
	07:36	0	0	0	0	0	0	0	0
	08:20	0	0	0	0	1	0	0	0
	08:35	0	0	0	0	0	0	0	0
	08:37	0	0	0	0	0	0	0	0
	08:50	0	0	2	0	0	0	0	0
	08:56	0	0	0	0	0	0	0	0
	09:30	0	0	0	0	0	1	0	0
P	12:10	0	0	0	0	0	0	0	0
	12:20	0	0	1	0	0	0	0	0
	12:28	0	0	0	1	0	0	0	0
	2:10	0	0	0	0	0	0	0	0
	2:24	1	0	0	0	0	0	0	0
	2:28	0	0	0	5	0	0	0	0
	2:40	0	0	0	0	0	0	0	0
	3:05	0	0	0	0	0	0	0	0
	3:18	0	0	2	0	0	0	0	0
	3:23	0	0	0	0	0	0	0	0
	3:25	0	0	0	0	0	0	0	0
	3:26	0	0	0	11	0	0	0	0
	3:35	0	0	5	0	0	0	0	0
	3:42	0	0	0	6	0	0	0	0
	3:50	0	0	0	0	0	0	0	0
	4:15	0	0	0	0	0	1	0	0
	4:25	0	0	3	0	0	0	0	0
	4:35	0	0	0	0	0	0	0	0
	4:53	0	0	0	0	0	0	0	0
	5:05	0	0	0	0	0	0	0	0
	5:11	0	0	0	0	0	0	0	0
	5:19	0	0	0	0	0	0	1	0
	5:21	0	0	0	0	0	0	0	1
	5:30	0	0	0	0	0	0	0	0
	5:40	0	0	4	0	0	0	0	0
	5:50	0	0	0	0	0	0	0	0
	6:00	0	1	0	0	0	0	0	0
	6:14	0	0	2	0	0	0	0	0
Grand Total		1	1	24	23	1	6	1	1
		COOP	DHE	DHM	HI	HTR120	HTRET	KELL	KIEWIT
		Coop Foodsto	DHMC (entra	DHMC Main Entr	Hanover Inn	Heater Road a	Heater Road a	Kellog	Kiewit or Kei

Boardings on Blue Rte 1 to Hanover

LEBMALL	LYMENIC	MEDMT	MTMEM	OPSUM	PSTLOT	TLOT	TPMT	WHEEL	Grand Total
1	0	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	0	3
0	0	0	0	0	0	1	0	0	1
4	0	2	0	0	0	0	0	0	6
0	0	0	0	0	0	0	0	0	5
0	0	0	0	0	0	6	0	0	6
1	0	0	0	0	0	0	0	0	2
0	0	0	0	0	1	0	0	0	1
0	0	0	0	0	0	4	0	0	4
0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	2	0	0	2
1	0	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	5
0	0	0	1	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	2	0	0	0	2
0	0	0	0	0	0	0	1	0	1
0	0	0	0	0	0	0	0	0	11
0	0	0	0	0	0	0	0	0	5
0	0	0	0	0	0	0	0	0	6
0	1	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	3
0	0	0	0	1	0	0	0	0	1
0	0	0	0	0	0	0	0	1	1
0	2	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	4
1	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	2
16	3	2	1	1	3	13	1	1	99

LEBMALL	LYMENIC	MEDMT	MTMEM	OPSUM	PSTLOT	TLOT	TPMT	WHEEL	
Lebanon Mall	Lyme/Nichols	Med Center R	Mount Suppor	Opposite Sum	Park Street at	Thompson Lo	Trailer Park or	Wheeler Hall	

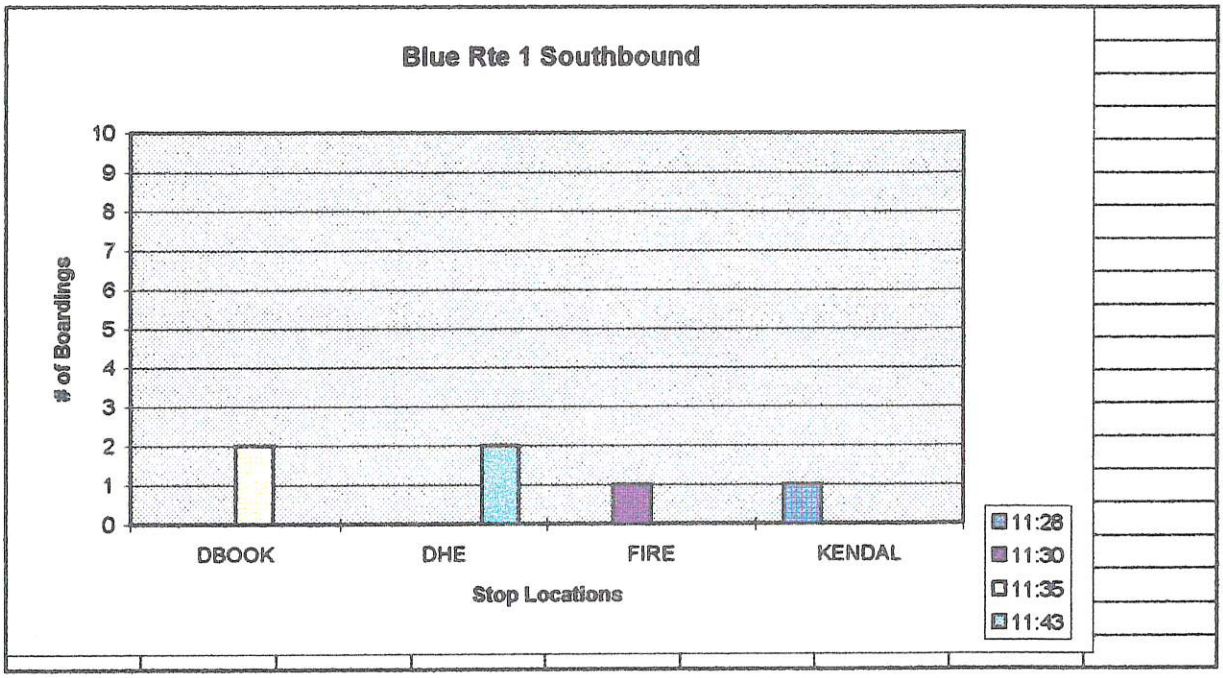
ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Blue Rte 1 Southbound

RCODE	B11					
Sum of BRD		STOPCODE				
AMPM	TIME	DBOOK	DHE	FIRE	KENDAL	Grand Total
A	11:28	0	0	0	1	1
	11:30	0	0	1	0	1
	11:35	2	0	0	0	2
	11:43	0	2	0	0	2
Grand Total		2	2	1	1	6
		DBOOK	Dartmouth Bookstore			
		DHE	DHMC (entrance)			
		FIRE	Fire Station			
		KENDAL	Kendal			

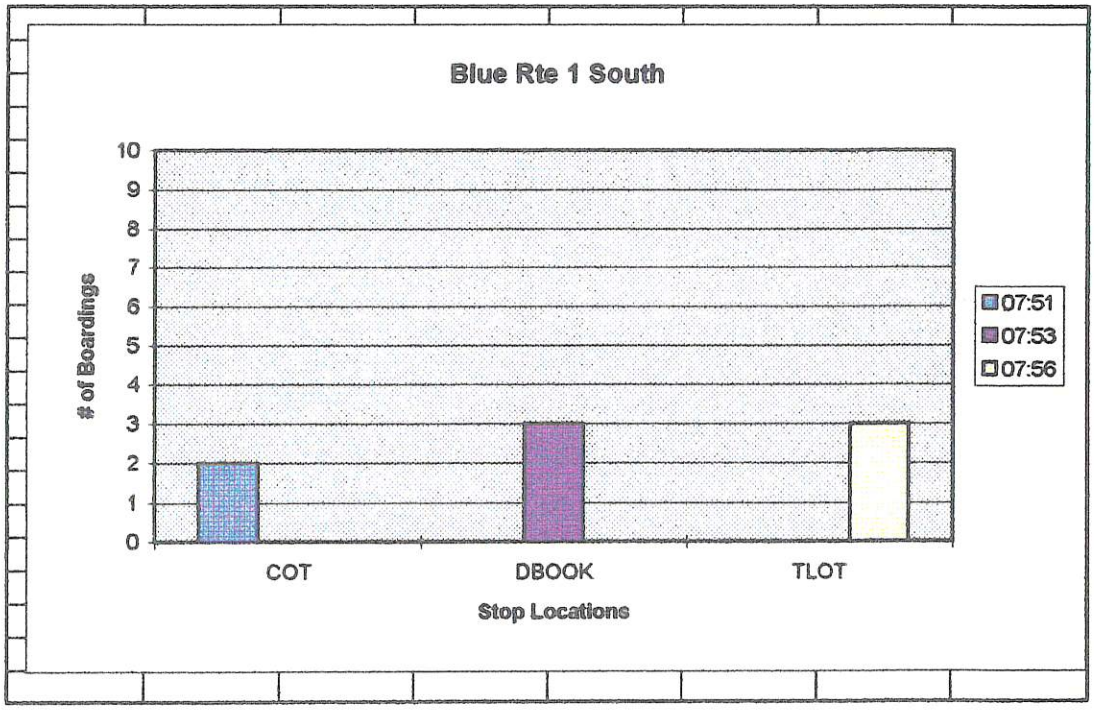
ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Blue Rte 1 Southbound to Hanover

RCODE	B2				
Sum of BRD		STOPCODE			
AMPM	TIME	COT	DBOOK	TLOT	Grand Total
A	07:51	2	0	0	2
	07:53	0	3	0	3
	07:56	0	0	3	3
Grand Total		2	3	3	8
		COT	Cotton		
		DBOOK	Dartmouth Bookstore		
		TLOT	Thompson Lot		

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993

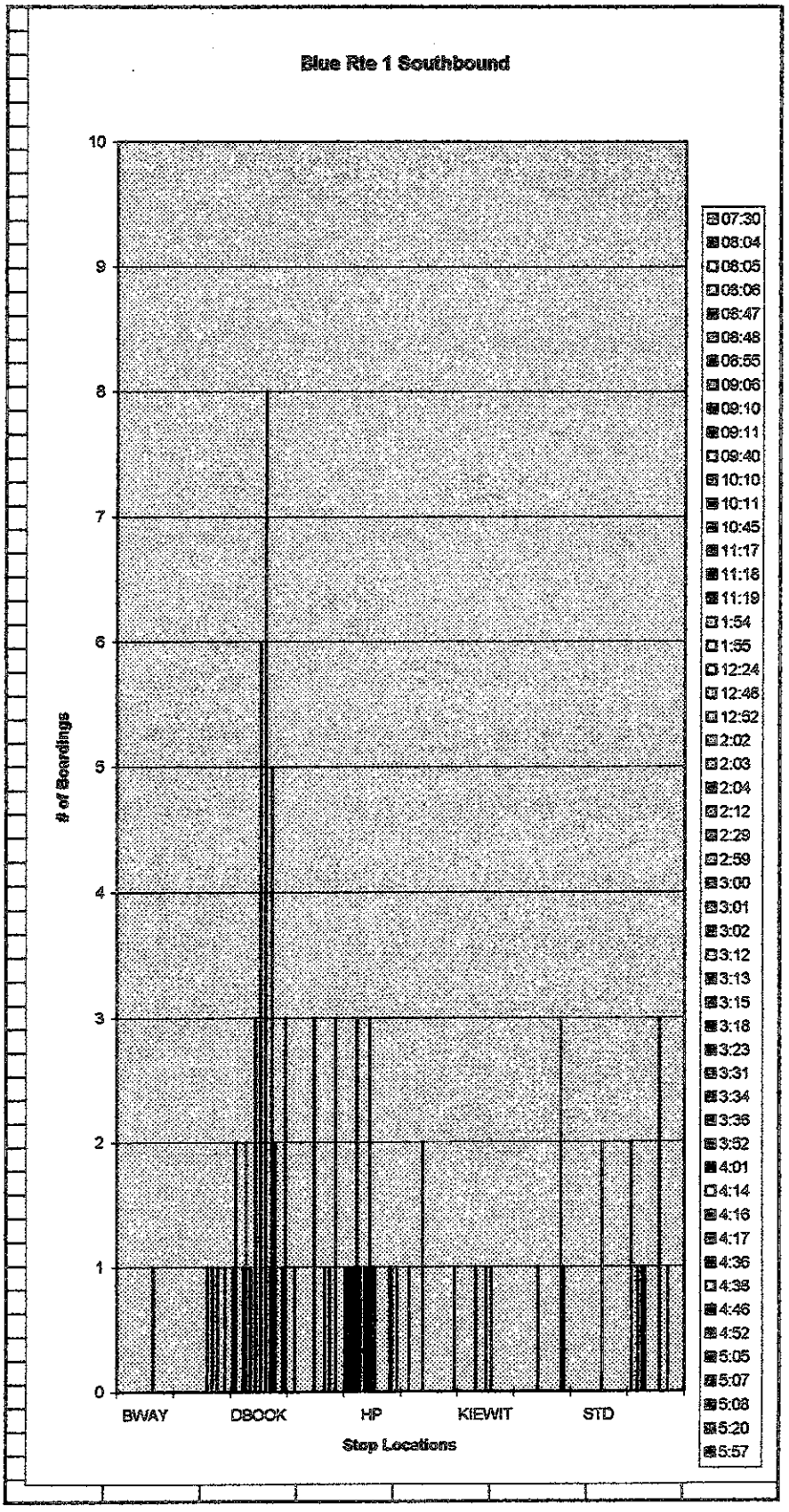


Boardings on Blue Rte 1 Southbound

RCODE	B3											
Sum of BRD		STOPCODE										
AMPM	TIME	BWAY	COT	DBOOK	DHE	HP	KELL	KIEWIT	PKH	STD	SUM	Grand Total
A	07:30	0	0	0	0	1	0	0	0	0	0	1
	08:04	0	0	1	0	0	0	0	0	0	0	1
	08:05	0	0	0	0	1	0	0	0	0	0	1
	08:06	0	0	0	0	0	0	0	0	0	2	2
	08:47	0	0	2	0	0	0	0	0	0	0	2
	08:48	0	0	0	0	1	0	0	0	0	0	1
	08:55	0	0	0	1	0	0	0	0	0	0	1
	09:06	0	0	0	0	0	1	0	0	0	0	1
	09:10	0	0	0	0	1	0	0	0	0	0	1
	09:11	0	0	0	0	0	0	0	0	0	1	1
	09:40	0	0	0	0	1	0	0	0	0	0	1
	10:10	0	0	1	0	0	0	0	0	0	0	1
	10:11	0	0	0	0	3	0	0	0	0	0	3
	10:45	0	0	0	0	0	0	0	0	0	1	1
	11:17	0	0	2	0	0	0	0	0	0	0	2
	11:18	0	0	0	0	1	0	0	0	0	0	1
	11:19	0	0	0	0	0	0	0	0	0	1	1
P	1:54	0	0	0	0	0	0	1	0	0	0	1
	1:55	0	0	1	0	0	0	0	0	0	0	1
	12:24	0	0	0	0	1	0	0	0	0	0	1
	12:48	0	0	0	0	0	2	0	0	0	0	2
	12:52	0	0	0	0	1	0	0	0	0	0	1
	2:02	0	0	0	0	0	0	0	1	0	0	1
	2:03	0	0	3	0	0	0	0	0	0	0	3
	2:04	0	0	0	0	3	0	0	0	0	0	3
	2:12	0	0	0	3	0	0	0	0	0	0	3
	2:29	0	0	0	0	1	0	0	0	0	0	1
	2:59	0	0	0	0	0	0	1	0	0	0	1
	3:00	0	0	6	0	0	0	0	0	0	0	6
	3:01	0	0	0	0	1	0	0	0	2	0	3
	3:02	0	0	0	0	0	0	0	0	0	3	3
	3:12	0	1	0	0	0	0	0	0	0	0	1
	3:13	0	0	0	0	0	0	1	0	0	0	1
	3:15	0	0	8	0	0	0	0	0	0	0	8
	3:18	1	0	0	0	0	0	0	0	0	0	1
	3:23	0	0	0	1	0	0	0	0	0	0	1
	3:31	0	1	0	0	0	0	0	0	0	0	1
	3:34	0	0	1	0	0	0	0	0	0	0	1
	3:36	0	0	0	0	0	0	0	0	0	1	1
	3:52	0	0	5	0	0	0	0	0	0	0	5
	4:01	0	0	0	1	0	0	0	0	0	0	1
	4:14	0	1	0	0	0	0	0	0	0	0	1
	4:16	0	0	2	0	0	0	0	0	0	0	2
	4:17	0	0	0	0	1	0	0	0	0	0	1
	4:36	0	0	0	0	0	0	0	3	0	0	3
	4:38	0	0	0	0	1	0	0	0	0	0	1
	4:46	0	0	0	3	0	0	0	0	0	0	3
	4:52	0	0	0	0	0	0	0	1	0	0	1
	5:05	0	1	0	0	0	0	0	0	0	0	1
	5:07	0	0	1	0	0	0	0	0	0	0	1
	5:08	0	0	0	0	1	0	0	0	0	0	1
	5:20	0	0	0	0	0	1	0	0	0	0	1
	5:57	0	0	3	0	0	0	0	0	0	0	3
Grand Total		1	4	36	9	19	4	3	5	2	9	92

BWAY	Hanover Coop (Brockway Street)
COT	Cotton
DBOOK	Dartmouth Bookstore
DHE	DHMC (entrance)
HP	Hanover Park
KELL	Kellog
KIEWIT	Kiewit or Keiwit
PKH	Parkhurst
STD	St. Dennis Church
SUM	Summer Street

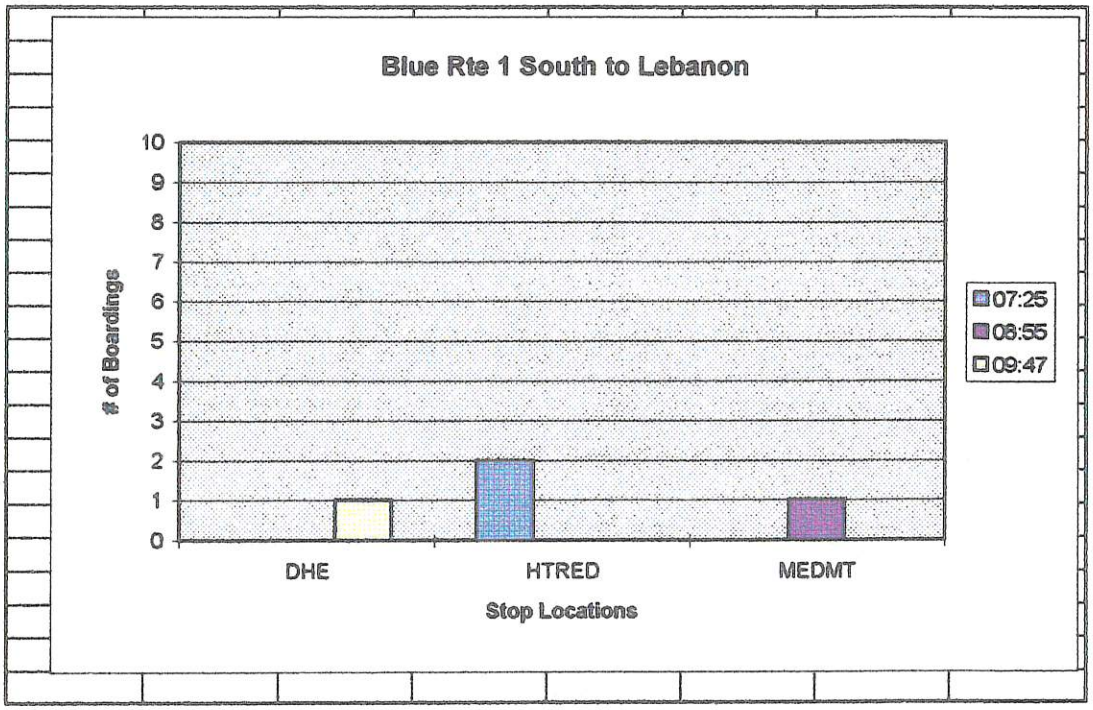
ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Blue Rte South to Lebanon

RCODE	B4					
Sum of BRD		STOPCODE				
AMPM	TIME	DHE	HTRED	MEDMT	Grand Total	
A	07:25	0	2	0	2	
	08:55	0	0	1	1	
	09:47	1	0	0	1	
Grand Total		1	2	1	4	
		DHE	DHMC (entrance)			
		HTRED	Heater Road at Route 120			
		MEDMT	Med Center Road (Lahaye Road) at Mount Support			

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



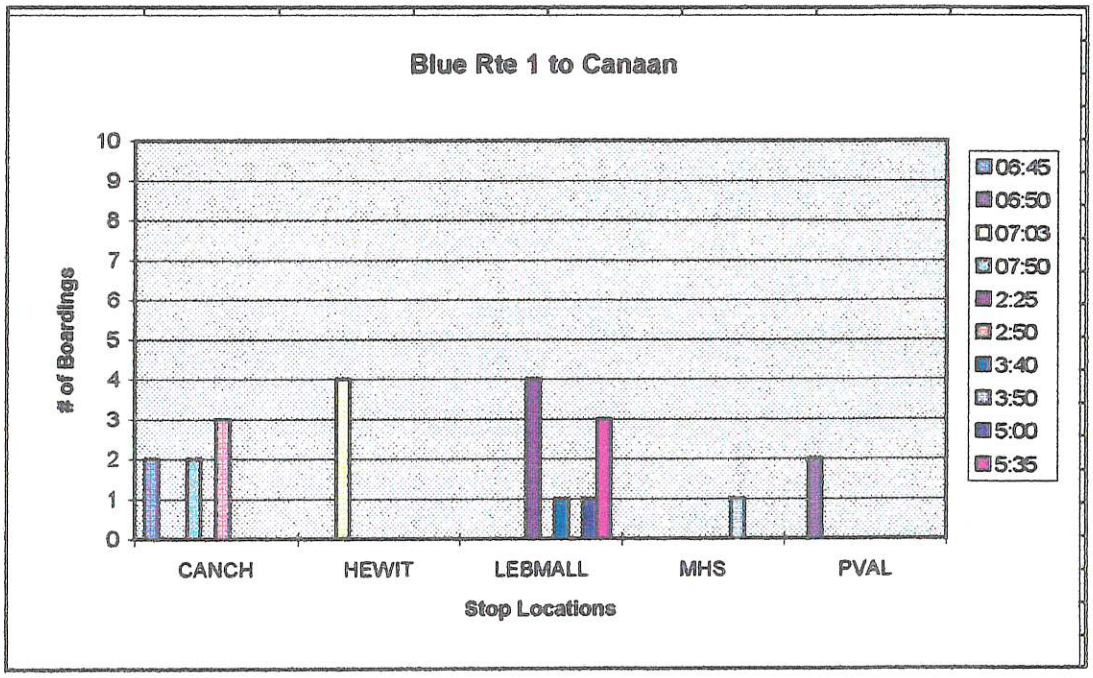
Boardings on Blue
Rte 1 to DHMC

RCODE	B5				
Sum of BRD		STOPCODE			
AMPM	TIME	MTMEM	Grand Total		
A	09:05	2	2		
Grand Total		2	2		
		MTMEM	Mount Support at Memorial Drive		

Boardings on Blue Rte 1 to Canaan

RCODE	B6						
Sum of BRD		STOPCODE					
AMPM	TIME	CANCH	HEWIT	LEBMALL	MHS	PVAL	Grand Total
A	06:45	2	0	0	0	0	2
	06:50	0	0	0	0	2	2
	07:03	0	4	0	0	0	4
	07:50	2	0	0	0	0	2
P	2:25	0	0	4	0	0	4
	2:50	3	0	0	0	0	3
	3:40	0	0	1	0	0	1
	3:50	0	0	0	1	0	1
	5:00	0	0	1	0	0	1
	5:35	0	0	3	0	0	3
Grand Total		7	4	9	1	2	23
		CANCH	Canaan Church (on US 4)				
		HEWIT	Enfield at Hewitt House (on US 4)				
		LEBMALL	Lebanon Mall				
		MHS	Mascoma High School (on US 4)				
		PVAL	Pleasant Valley Store				

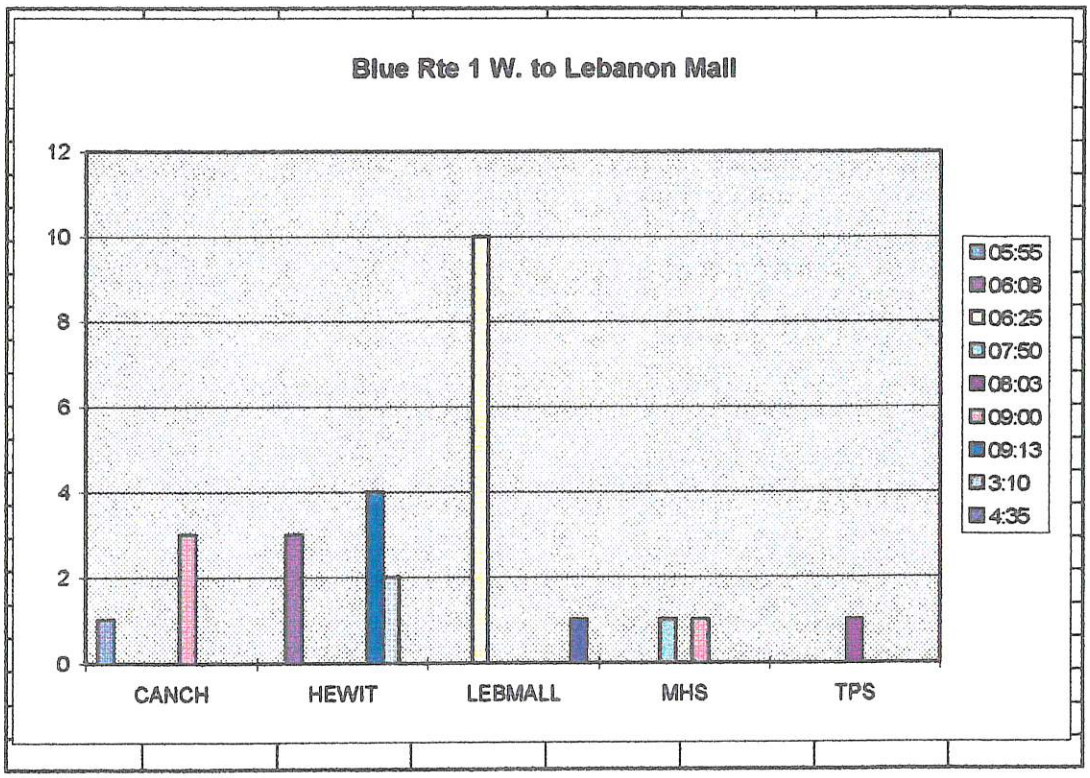
ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Blue Rte 1 West to Lebanon Mall

RCODE	B7						
Sum of BRD		STOPCODE					
AMPM	TIME	CANCH	HEWIT	LEBMALL	MHS	TPS	Grand Total
A	05:55	1	0	0	0	0	1
	06:08	0	3	0	0	0	3
	06:25	0	0	10	0	0	10
	07:50	0	0	0	1	0	1
	08:03	0	0	0	0	1	1
	09:00	3	0	0	1	0	4
	09:13	0	4	0	0	0	4
P	3:10	0	2	0	0	0	2
	4:35	0	0	1	0	0	1
Grand Total		4	9	11	2	1	27
		CANCH	Canaan Church (on US 4)				
		HEWIT	Enfield at Hewitt House (on US 4)				
		LEBMALL	Lebanon Mall				
		MHS	Mascoma High School (on US 4)				
		TPS	Trailer Parks Stop				

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993

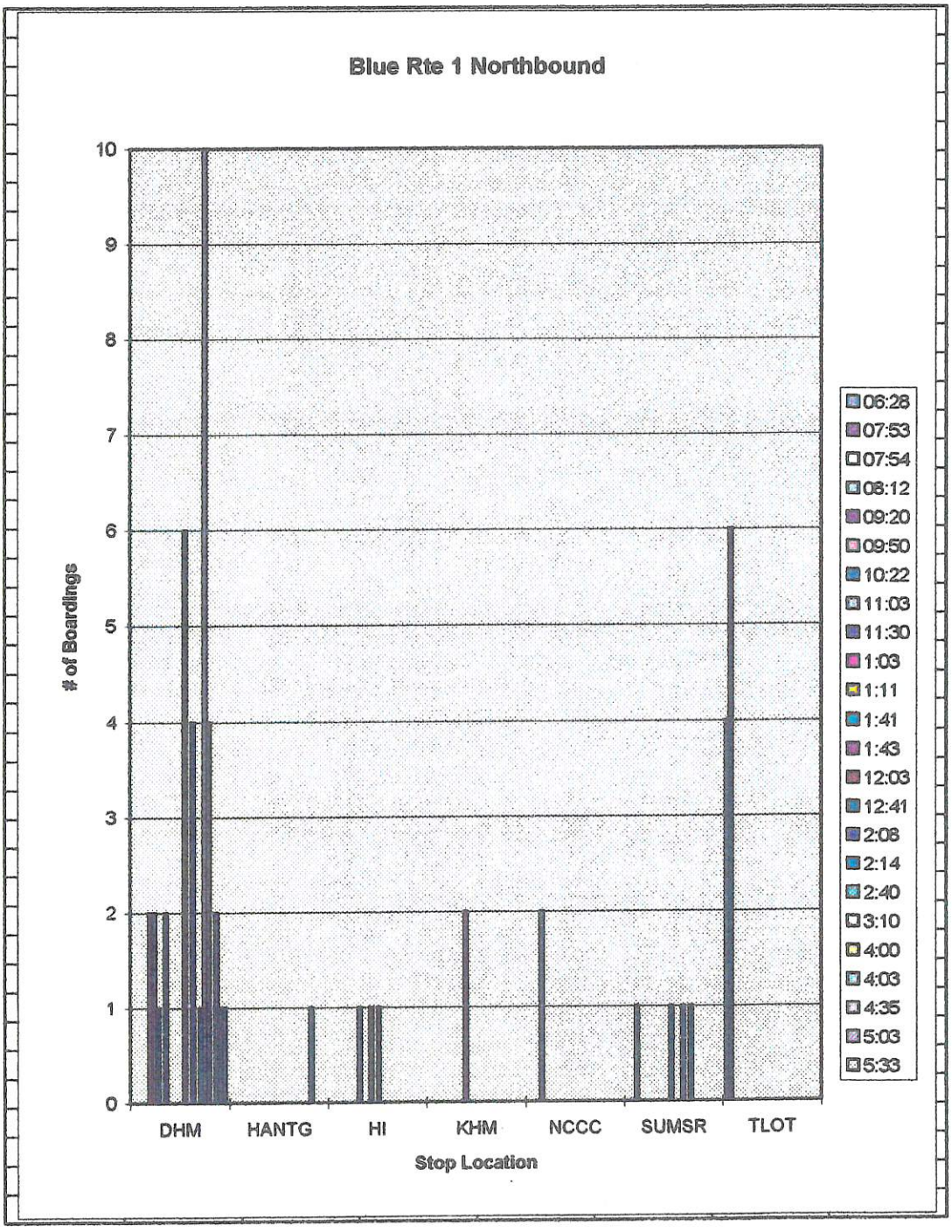


Boardings on Blue Rte 1 Northbound

RCODE	B8								
Sum of BRD		STOPCODE							
AMPM	TIME	DHM	HANTG	HI	KHM	NCCC	SUMSR	TLOT	Grand Total
A	06:28	0	0	0	0	0	0	4	4
	07:53	0	0	0	0	0	0	6	6
	07:54	0	0	0	0	0	1	0	1
	08:12	0	0	0	0	2	0	0	2
	09:20	2	0	0	0	0	0	0	2
	09:50	2	0	0	0	0	0	0	2
	10:22	1	0	0	0	0	0	0	1
	11:03	0	0	1	0	0	0	0	1
	11:30	2	0	0	0	0	0	0	2
P	1:03	0	0	0	2	0	0	0	2
	1:11	0	0	1	0	0	0	0	1
	1:41	0	0	0	0	0	1	0	1
	1:43	0	0	1	0	0	0	0	1
	12:03	6	0	0	0	0	0	0	6
	12:41	0	0	0	0	0	1	0	1
	2:08	4	0	0	0	0	0	0	4
	2:14	0	0	0	0	0	1	0	1
	2:40	1	0	0	0	0	0	0	1
	3:10	10	0	0	0	0	0	0	10
	4:00	4	0	0	0	0	0	0	4
	4:03	0	1	0	0	0	0	0	1
	4:35	2	0	0	0	0	0	0	2
	5:03	1	0	0	0	0	0	0	1
	5:33	1	0	0	0	0	0	0	1
Grand Total		36	1	3	2	2	4	10	58

DHM	DHMC Main Entrance
HANTG	Hanover Town Garage
HI	Hanover Inn
KHM	Kendal
NCCC	Norris Cotton CC
SUMSR	Summer Street/Senior Housing
TLOT	Thompson Lot

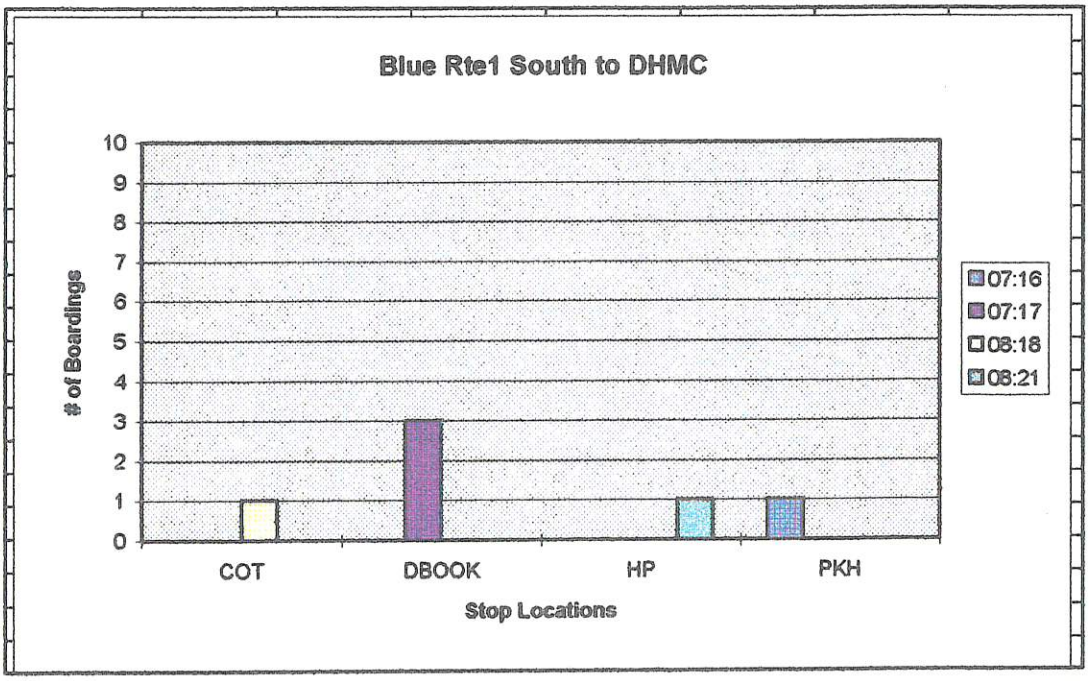
ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Blue Rte 1 South to DHMC

RCODE	B9					
Sum of BRD		STOPCODE				
AMPM	TIME	COT	DBOOK	HP	PKH	Grand Total
A	07:16	0	0	0	1	1
	07:17	0	3	0	0	3
	08:18	1	0	0	0	1
	08:21	0	0	1	0	1
Grand Total		1	3	1	1	6
		COT	Cotton			
		DBOOK	Dartmouth Bookstore			
		HP	Hanover Park			
		PKH	Parkhurst			

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Green Rte 3 Southbound

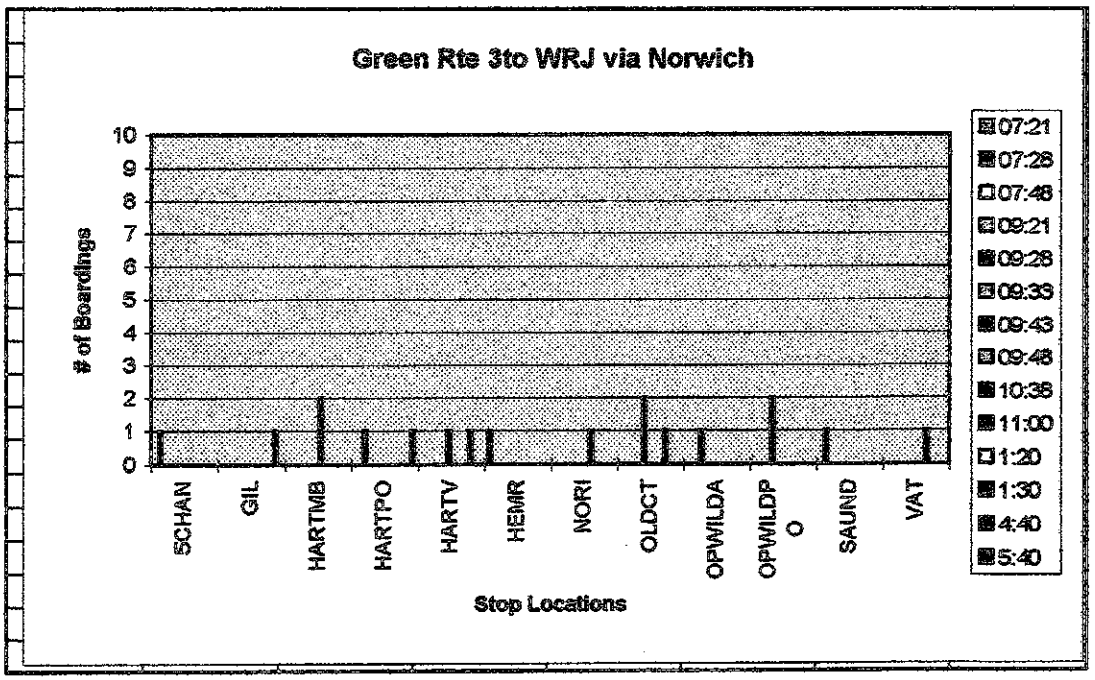
RCODE	G1		
Sum of BRD		STOPCODE	
AMPM	TIME	HI	Grand Total
P	4:12	8	8
P Total		8	8
Grand Total		8	8
		HI	Hanover Inn

Boardings on Green Rte 3 to White River Junction via Norwich

RCODE	G2													
Sum of BRD		STOPCODE												
AMPM	TIME	5CHAN	GIL	HARTMB	HARTPO	HARTV	HEMR	NORI	OLDCT	OPWILDA	OPWILDPO	SAUND	VAT	Grand Total
A	07:21	0	0	0	0	0	1	0	0	0	0	0	0	1
	07:28	1	0	0	0	0	0	0	0	0	0	1	0	2
	07:48	0	0	0	1	0	0	0	0	0	0	0	0	1
	09:21	0	0	0	0	0	0	0	0	1	0	0	0	1
	09:28	0	0	0	0	0	0	0	0	0	2	0	0	2
	09:33	0	0	0	0	0	0	0	2	0	0	0	0	2
	09:43	0	0	0	0	1	0	0	0	0	0	0	0	1
	09:48	0	0	2	0	0	0	0	0	0	0	0	0	2
	10:38	0	0	0	0	0	0	1	0	0	0	0	0	1
	11:00	0	0	0	0	0	0	0	0	0	0	0	1	1
P	1:20	0	0	0	0	0	0	0	1	0	0	0	0	1
	1:30	0	0	0	0	1	0	0	0	0	0	0	0	1
	4:40	0	1	0	0	0	0	0	0	0	0	0	0	1
	5:40	0	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total		1	1	2	2	2	1	1	3	1	2	1	1	18

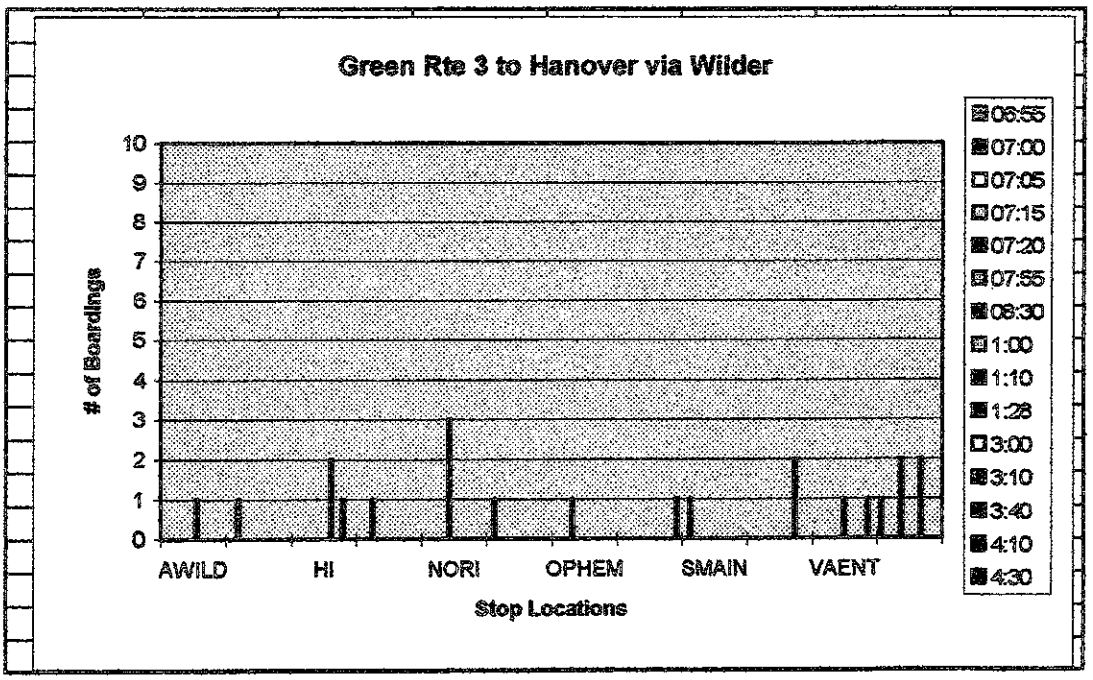
5CHAN	US 5 at Chandler Road
GIL	Gilman Office Complex
HARTMB	Hartford Municipal Building
HARTPO	Hartford Post Office
HARTV	(US 4 to Mill Road) Hartford Village
HEMR	Hemlock Ridge
NORI	Norwich Inn
OLDCT	Old Court Building, WRJ
OPWILDA	Opposite Wilder Auto
OPWILDPO	Opposite Wilder Post Office
SAUND	Saunders Avenue
VAT	VA Info Turnout

ADVANCE TRANSIT
ONE DAY BUS COUNTS BY ROUTE SEGMENT - OCT.1, 1993



Boardings on Green Rte 3 to Hanover via Wilder

RCODE	G4													
Sum of BRD		STOPCODE												
AMPM	TIME	AWILD	GIL	HI	N5	NORI	OLDCT	OPHEM	RHALL	SMAIN	SYKES	VAENT	WLMB	Grand Total
A	06:55	0	0	0	0	0	0	0	0	0	0	0	1	1
	07:00	0	0	0	0	0	1	0	0	1	0	0	0	2
	07:05	0	1	0	0	0	0	0	0	0	0	0	0	1
	07:15	0	0	0	1	0	0	0	0	0	0	0	0	1
	07:20	0	0	0	0	0	0	1	0	0	0	0	0	1
	07:55	0	0	0	0	0	0	0	0	0	0	0	2	2
	08:30	0	0	0	0	3	0	0	0	0	0	0	0	3
P	1:00	0	0	0	0	0	0	0	0	0	0	1	0	1
	1:10	1	0	0	0	0	0	0	0	0	0	0	0	1
	1:28	0	0	2	0	0	0	0	0	0	0	0	0	2
	3:00	0	0	0	0	0	0	0	0	0	0	0	2	2
	3:10	0	0	0	0	0	0	0	0	0	2	0	0	2
	3:40	0	0	1	0	0	0	0	0	0	0	0	0	1
	4:10	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:30	0	0	0	0	0	0	0	1	0	0	0	0	1
Grand Total		1	1	3	1	3	1	1	1	1	2	2	5	22
	AWILD	"A" Street Wilder												
	GIL	Gilman Office Complex												
	HI	Hanover Inn												
	N5	North on U.S. 5 at Elementary School												
	NORI	Norwich Inn												
	OLDCT	Old Court Building, WRJ												
	OPHEM	Opposite Hemlock Ridge												
	RHALL	Reed Hall												
	SMAIN	South Main at Mountain Ave												
	SYKES	On Sykes Avenue at VTL Busport												
	VAENT	VA Outpatient Entrance												
	WLMB	West Lebanon (Mascoma Bank)												


Green Rte 3 to Hanover via Wilder
# of Boardings
0
1
2
3
4
5
6
7
8
9
10
AWILD
HI
NORI
OPHEM
SMAIN
VAENT
Stop Locations
06:55
07:00
07:05
07:15
07:20
07:55
08:30
1:00
1:10
1:28
3:00
3:10
3:40
4:10
4:30

TOTAL BOARDINGS, BY ROUTE AND DIRECTION

Green Route

Northbound W. Leb-WRJ-Hanover	
Sum of BRD	
DEPART	Total
6:55:00 AM	6
7:55:00 AM	5
12:45:00 PM	4
3:00:00 PM	5
3:55:00 PM	2
Grand Total	22

Southbound Hanover-WRJ-W. Leb	
Sum of BRD	
DEPART	Total
7:03:00 AM	4
9:08:00 AM	8
10:23:00 AM	2
12:53:00 PM	2
4:12:00 PM	9
5:15:00 PM	1
Grand Total	26

Red Route

Northbound Leb-W. Leb-Hanover	
Sum of BRD	
DEPART	Total
6:30:00 AM	4
7:35:00 AM	11
8:30:00 AM	8
9:30:00 AM	6
10:15:00 AM	2
11:15:00 AM	2
12:15:00 PM	3
1:45:00 PM	1
2:20:00 PM	5
3:00:00 PM	5
3:25:00 PM	8
4:00:00 PM	2
4:30:00 PM	7
Grand Total	64

Southbound Hanover-W. Leb-Leb.	
Sum of BRD	
DEPART	Total
8:40:00 AM	2
10:00:00 AM	6
1:28:00 PM	7
3:42:00 PM	3
4:33:00 PM	3
5:05:00 PM	6
5:20:00 PM	1
6:05:00 PM	2
(blank)	1
Grand Total	31

Blue Route

Northbound Canaan-Leb-Hanover-Ly	
Sum of BRD	
DEPART	Total
5:50:00 AM	3
5:55:00 AM	14
6:28:00 AM	4
6:50:00 AM	25
7:00:00 AM	4
7:44:00 AM	7
7:50:00 AM	4
8:07:00 AM	2
8:20:00 AM	7
8:50:00 AM	4
9:00:00 AM	12
9:20:00 AM	2
9:50:00 AM	2
10:22:00 AM	1
10:55:00 AM	1
11:30:00 AM	2
12:03:00 PM	6
12:10:00 PM	3
12:35:00 PM	1
1:05:00 PM	3
1:35:00 PM	2
2:08:00 PM	5
2:10:00 PM	8
2:40:00 PM	2
2:55:00 PM	17
3:05:00 PM	17
3:10:00 PM	10
4:00:00 PM	5
4:05:00 PM	3
4:20:00 PM	5
4:35:00 PM	2
5:06:00 PM	1
5:11:00 PM	1
5:20:00 PM	2
5:30:00 PM	5
5:36:00 PM	1
6:05:00 PM	2
Grand Total	195

Southbound Lyme-Hanover-Leb-	
Sum of BRD	
DEPART	Total
7:14:00 AM	4
7:25:00 AM	2
7:26:00 AM	1
7:46:00 AM	8
8:01:00 AM	4
8:11:00 AM	2
8:44:00 AM	5
9:06:00 AM	3
9:36:00 AM	1
9:50:00 AM	1
10:07:00 AM	4
10:40:00 AM	1
11:14:00 AM	4
11:29:00 AM	6
12:18:00 PM	1
12:48:00 PM	3
1:52:00 PM	2
1:54:00 PM	10
2:25:00 PM	5
2:54:00 PM	13
3:05:00 PM	14
3:30:00 PM	3
3:49:00 PM	6
4:13:00 PM	4
4:34:00 PM	8
4:50:00 PM	1
5:00:00 PM	6
5:05:00 PM	4
5:23:00 PM	4
Grand Total	130

Missing or Unsampled Trips:

Rte #1 Blue NB - 6:45a; 7:01a; 8:10a; 8:42a; 9:07a; 11:23a; 2:40p; 6:00p.
Rte #1 Blue SB - 6:12a; 6:20a; 6:36a; 6:49a; 6:51a; 8:28a; 11:48a; 1:20p; 3:50p; 5:38p; 5:56p; 6:15p.
Rte #2 Red NB - complete
Rte #2 Red SB - 6:55a; 7:40a; 7:55a; 8:45a; 9:45a; 11:00a; 12:28p; 2:28p.
Rte #3 Green NB - 9:00a; 10:15a.
Rte #3 Green SB - 3:08p.

DAILY BOARDINGS AT BUS STOPS, BY ROUTE

GREEN	
BOARDS, BY STOP	
STOPCOD	Total
5CHAN	1
AWILD	1
GIL	2
HARTMB	2
HARTPO	2
HARTV	2
HEMR	1
HI	11
N5	1
NORI	4
OLDCT	4
OPHEM	1
OPWILDA	1
OPWILDP	2
RHALL	1
SAUND	1
SMAIN	1
STOPCOD	0
SYKES	2
VAENT	2
VAT	1
WLMB	5
Grand Tota	48

RED	
BOARDS, BY STOP	
STOPCOD	Total
BOOK	3
CP	1
D_CDC	1
D_KBS	2
D_XKM	1
DUNST	1
DWIN	1
HI	10
HIGH	2
JCPEN	3
KIEWIT	1
LEBMALL	29
OCP	2
RICHS	6
RMDMV	3
SHAWS	4
STOPCOD	0
WL	12
WLMB	12
Grand Total	94

BLUE	
BOARDS, BY STOP	
STOPCOD	Total
BWAY	1
CANCH	11
COOP	1
COT	7
DBOOK	44
DHE	13
DHM	60
FIRE	1
HANTG	1
HEWIT	13
HI	26
HP	20
HTR120	1
HTRED	2
HTRET	6
KELL	5
KENDAL	1
KHM	2
KIEWIT	4
LEBMALL	36
LYMENIC	3
MEDMT	3
MHS	3
MTMEM	3
NCCC	2
OPSUM	1
PKH	6
PSTLOT	3
PVAL	2
STD	2
STOPCOD	0
SUM	9
SUMSR	4
TLOT	26
TPMT	1
TPS	1
WHEEL	1
Grand Tota	325

KEY TO STOPCODES WITH 5 OR MORE DAILY BOARDINGS	
CANCH	Canaan Church (on US 4)
COT	Cotton
DBOOK	Dartmouth Bookstore
DHE	DHMC (entrance)
DHM	DHMC Main Entrance
HEWIT	Enfield at Hewitt House (on US 4)
HI	Hanover Inn
HP	Hanover Park
HTRET	Heater Road at Old Etna Road
KELL	Kellog
PKH	Parkhurst
RICHS	Entrance to Richs Store
SUM	Summer Street
TLOT	Thompson Lot
WL	West Lebanon (library)
WLMB	West Lebanon

Appendix B: Employer Survey Form

Advance Transit (AT)
Short-Range Transit Plan
Transit Survey
(Employers)

General Information

Company: _____

Address: _____

_____

Phone: _____

Contact Person: _____

Title/Dept.: _____

Analysis of Existing Conditions

1. What is the nature of your business?

   Retail _____ Manufacturing _____ Service _____ Grocery _____

   Education _____ Government _____ Lodging _____ Recreation _____

   Tourism _____ Other _____ (Specify) _____

2. How many total employees do you have? _____

   By shift:

   Administrative Offices: ___ thru ___ ___ to ___ #____; (wknd) ___thru___ ____to___; #_____

   Work Shifts (#/shift) ___ thru ___ ___ to ___ #____; (wknd) ___thru___ ____to___; #_____

   Work Shifts (#/shift) ___ thru ___ ___ to ___ #____; (wknd) ___thru___ ____to___; #_____

   Work Shifts (#/shift) ___ thru ___ ___ to ___ #____; (wknd) ___thru___ ____to___; #_____

3. On the average, how far do most of your employees travel to work.

   0-5 mi. _____ 6-10 mi. _____ 10-20 mi. _____ +20 _____

   What mode of transportation do most of these individuals use:

   Walk _____ Ride Bicycle _____ Ride with friend or family _____

   Drive themselves _____ Use public or specialized transportation services _____(specify type and provider)_____

   Comments:_____

   _____

   _____

4. On the average, how far do most of your customers travel to your store.

   0-5 mi. _____ 6-10 mi. _____ 10-20 mi. _____ 20-40 mi. _____ +40_____

What mode of transportation do most of these individuals use:

Walk _____ Ride Bicycle _____ Ride with friend or family _____

Drive themselves _____ Use public or specialized transportation services _____(specify type and provider) _____

Comments: _____

_____

_____

5. Is there adequate parking available for your customers? ____Yes ____No

   If no, please explain? _____

   _____

6. Is there adequate parking available for your employees? ____Yes ____No

   If no, please explain? _____

   _____

7. Do you charge for parking? _____Yes _____No

   If no, would you consider charging for parking? _____Yes_____No

8. Has your company found it difficult to recruit/maintain an adequate work force due to transportation/mobility related problems? ____Yes ____No

   If yes, please explain? _____

   _____

   Would you consider a carpool/vanpool program or a transit incentive program? _____Yes _____No

   If so, please describe? _____

   _____

9. Has your company found it difficult to expand/retain an adequate customer base due to transportation/mobility related problems? ____Yes ____No

   If yes, please explain? _____

   _____

10. Are you familiar with the public transportation services that are available in your area?

    Yes ____ No ____

11. Are you familiar with the transportation services that are offered through Advance Transit (AT)?

    Yes ____ No ____

    a. How many of your employee use AT? _____

       Frequency: ___ daily; ____once/wk.; ____once/mo.; _____never

    b. How many of your customers use AT? _____

       Frequency: ___ daily; ____once/wk.; ____once/mo.; _____never

12. Are there any geographic areas or populations that your company would like to attract but are unable due to transportation difficulties or mobility limitations?

_____

_____

13. With respect to your region, what are the greatest transportation needs?

_____

_____

14. With respect to your company or region, what do feel will be the major future transportation issues?

_____

_____

Appendix C: Employer Survey Responses

Table 2
ADVANCE TRANSIT SHORT RANGE TRANSIT PLAN
EMPLOYER SURVEY SUMMARY

Name of Company	VA Hospital	Dartmouth Printing	Dartmouth College	CRREL	Split Ball Bearing	Hanover Inn	New Jersey Machine (Etna Rd)	Alice Peck Day Memorial Hospital	Dartmouth Hitchcock Medical Center	Dartmouth Hitchcock Medical Center
Nature of Business	Hospital	Printing Plant - print magazines	Education	Research - government laboratory	Manufacture Ball bearings	Hotel/Restaurant	Machine Manufacturer	Hospital	Hospital	Clinic
Number of Employees	1,000 (600 full time)	240 full time employees	2,800 faculty and staff campus wide	360 employees - mostly full time	550 full time employees, 3 sites , 15 by Airport indus. park, 80 at Etna Road site	90 employees, 115 when terrace is open.	113	200	3,500	1,000
Shifts	3 shifts, 7 days a week. 1st shift 8:00 AM-4:30PM (300-400 Employees)	3 shifts, 7:00 AM 3:30 PM, 3:00 - 11:00 PM, 11:00 PM-7:30 AM	3 shifts , for food service & heating 7:30 AM-4:00 PM, 2:00PM-10:00 Planned a Night shift. Other Staff 8:00 -5:00 @ 1,500. Faculty come and go all day.	Flextime, generally 8:00 AM-4:30 PM. Many start early.	3 shifts, 7-3,3-11,11-7	HouseKeeping: 8-2:30, 2:30 -10 PM. Kitchen: 6:30-2PM, 2-10 PM. Administration: 8or 9 to 5 PM	Flextime, basically 7 AM-5:30 PM about 6 work 9:30 PM - 7:00 AM	3 shifts, 7-3,3-11,11-7	Shifts vary, some are 12 hours (7-7)	7:30 AM - 5:00 PM
How far do employees travel to work	Within 30 miles	More than 10 miles, mostly from surrounding towns	6-20 miles, Clarement, New London, Enfield , Canaan, Thetford, Woodstock,	15-25 miles, Canaan, Cornish, Hanover, Lebanon, Hartford, Hartland, Windsor	More than 10 miles	Enfield, Hartford, Norwich, Lyme, Plainfield, Windsor, Claremont	6-20 miles Lebanon, Enfield	5-10 miles Mostly Lebanon, West Lebanon, and White River Junction	10-20miles	Varies, 10-20% from Vermont
What mode of transportation do they use	Private vehicle, none commute on bus	Car	Drive themselves	Drive themselves, a few bicycle	Drive alone	Drive, Bike, Not sure if any use AT	Drive, some carpool	Most drive, some carpool on their own	Drive car, vanpool, carpool, use AT	Drive car, carpool, use AT

Table 2
ADVANCE TRANSIT SHORT RANGE TRANSIT PLAN
EMPLOYER SURVEY SUMMARY

Name of Company	VA Hospital	Dartmouth Printing	Dartmouth College	CRREL	Split Ball Bearing	Hanover Inn	New Jersey Machine (Etna Rd)	Alice Peck Day Memorial Hospital	Dartmouth Hitchcock Medical Center	Dartmouth Hitchcock Medical Center
Is there adequate parking	Shortage for employees and visitors	Yes	On campus yes, in outlying lots no	Yes	Yes	No	Yes	Yes	Don't know	Barely
Do you charge for parking	No	No	Yes , $10 a month on campus based on seniority. Can walk to campus from Thompson lot	No	No	Yes, $1.50 per week, spaces run out so some employees are forced to feed the meters	No	No	No	No
Is it difficult to recruit/maintain work force due to transportation problems	No	No	No best situation as compared to other ivy league colleges	No	No	Don't Know	No	No	Don't know	No
Would you consider carpool / vanpool / transit incentive program	Have Carpool program through VT transit. Offer special reserved parking	Yes but there doesn't seem to be an interest	Would not work, employees are dispersed over entire campus	No interest, people are pretty independent	Thought about it but due to recent downsize (reduction of almost 50%) decided not to pursue at this time	Probably	Don't know, not sure there is any interest	Don't feel it to be of use, most live very close	Have vanpool	Yes

Table 2
ADVANCE TRANSIT SHORT RANGE TRANSIT PLAN
EMPLOYER SURVEY SUMMARY

Name of Company	VA Hospital	Dartmouth Printing	Dartmouth College	CRREL	Split Ball Bearing	Hanover Inn	New Jersey Machine (Etna Rd)	Alice Peck Day Memorial Hospital	Dartmouth Hitchcock Medical Center	Dartmouth Hitchcock Medical Center
Are you familiar with AT services	No	Yes, have schedules in cafeteria	Yes	Yes	Somewhat, would be willing to distribute schedules	Yes, schedules are displayed	A few have schedules	Somewhat	Yes	Yes
How many employees use AT services	None	Not aware of any	Yes ,but don't know how many	A few maybe	Not aware of any	Not sure	None		Some, don't know how many	Some
What do you feel will be the major transportation issues	Parking					Parking	Not sure, Air quality	No	Don't know	Parking
Are you planning to increase staff significantly	No	No	No	May decrease overtime	No	No	Maybe a little		Don't know	It is possible

Appendix D: Human Service Agency Survey Form

Short-Range Transit Study
Transit Survey
(Human Service Agencies)

General Information

Name of Organization: _____

Address: _____

_____

Phone: _____

Contact Person: _____

Title/Dept.: _____

Analysis of Existing Conditions

1. What is the nature of your organization? (i.e. What population segments do you serve)

Elderly _____ Disabled _____ Low Income _____ Youth _____

Veterans _____ Religious _____ Mental Health _____

Other _____ (Specify) _____

2. Hours of Operation:

Administrative Offices: ___ thru ___ ___ to ___; (wknd) ___thru___ ____to___

Employees: ___ thru ___ ___ to ___; (wknd) ___thru___ ____to___

Programs: ___ thru ___ ___ to ___; (wknd) ___thru___ ____to___

Transit Services: ___ thru ___ ___ to ___; (wknd) ___thru___ ____to___

3. What types of programs/services does your organization offer?

Adult Day Care	_____	Workshop/Rehabilitation Services	_____	Head Start	_____
Medical	_____	Unemployment Benefits	_____	Meal Delivery	_____
JPTA	_____	Public Assistance	_____	Daily Meals	_____
Public Trans.	_____	Para/Specialized Transit	_____	Child Day Care	_____
Other(s) Specify	_____		_____		
	_____		_____		

4. How many clients/members does your organization serve? _____

   a. On the average, how far do most of your clients travel to get from their place of residence to your site? 0-5 miles _____ 6-10 miles _____ 10-20 miles _____ +20 _____

   b. What mode of transportation do most of these individuals use:
   Walk _____ Ride Bicycle _____ Ride with friend or family _____
   Drive themselves _____ Use public or specialized transportation services _____(specify type and provider) _____
   Comments: _____
   _____
   _____

   c. **(Meal Delivery Only)** What is your average trip length?
   0-5 miles _____ 6-10 miles _____ 10-20 miles _____ +20 _____

5. How many individuals does your organization employee? _____

   a. On the average, how far do most of your employees travel to work?
   0-5 miles _____ 6-10 miles _____ 10-20 miles _____ +20 _____

   b. What mode of transportation do most of these individuals use:
   Walk _____ Ride Bicycle _____ Ride with friend or family _____
   Drive themselves _____ Use public or specialized transportation services _____(specify type and provider) _____
   Comments: _____
   _____
   _____

6. Are you familiar with the public transportation services that are availablein you area?
   Yes ____ No ____

7. Are you familiar with the transportation services that are offered through AT? Yes ____ No ____

   a. How many of your employees use AT? _____
   Frequency: ___ daily; ____once/wk.; ____once/mo.; never_____

   b. How many of your clients/members use AT? _____
   Frequency: ___ daily; ____once/wk.; ____once/mo.; never_____

   c. What amount does your organization pay for clients or employees to use AT?
   per trip _____ per mile _____ per month _____ per year _____

8. Does your organization provide any transportation services? ____ Yes _____ No

If yes, what are the makes and types of vehicles that you use (# lift equipped)?

_____

_____

a. What areas do you serve? _____

_____

b. What days and hours does the service operate? _____

c. Do you have a maintenace or storage facility? Yes _____ No _____

d. How many full-time/part-time operators do you have? Full-time ____part-time _____

e. Do you provide maintenance yourself? Yes _____ No _____

f. How many trips do you make?

per day _____ per year _____

What are your total costs for transportation?

Admin _____ Operating _____ Maintenance _____

g. Do you charge fares? Yes _____ No _____ Amount: _____

9. Do you receive any Federal, state, or local funding to support transportation services?

Section 18____ Section 16____ Title III ____ Title XIX ____

Title XX ____ AAoA ____ DORS ____ County ____

Medicaid ____ State ____ City ___ Other ____

Specify Other Sources: _____

_____

_____

10. Are there any geographic areas or populations that your organization would like to serve but are unable due to a lack of transportation services?

11. With respect to your organization, what is the greatest transportation dilemma that you face? (For Example, Lack of Funding, Lack of Adequate Transportation services, Lack of Clients, Geography, etc.)

12. With respect to your region, what are the greatest transportation needs?

13. Do feel there is any real or barriers to the coordination of existing transportation services in your area? (For example, Statutory barriers to pooling funds, "Turf issues", etc.)

14. With respect to your organization, what do feel will be the major future transportation issues?

Appendix E: Human Service Agency Survey Responses

Table 3
ADVANCE TRANSIT
HUMAN SERVICE AGENCY SUMMARY

Name of Organization	Grafton County Senior Center	Bugbee Senior Center	United Development Service	Granite State Independent Living	West Central Services	SRS Child Care Services	Department of Employment and Training	Vocational Rehabilitation
Nature of Organization	Elderly, Disabled, Youth	Elderly, Disabled, Low income	Developmentally disabled	Disabled, Mental Health	Mental Health	Low Income Familes	Elderly, Disabled, Low Income Mental Health, Youth	Elderly, Disabled, Low Income, Youth, Mental Health
Hours of Operation	8:00AM-4:30PM, M-F Office & Programs 1:00PM-9:00PM M-F Transportation Occaisional weekend	8:30AM-4:30PM M-F, Occasional weekend & evening	8:00AM-5:00PM M-F, Group homes 24 hrs, evening case mtgs.	8:30AM-5:00PM M-F	8:00AM-5:00PM M-F	9:00AM-5:00PM Mon, 9:00AM-1:00PM Tue, Wed, Fri.	7:45AM-4:30PM M-F	7:45AM-4:30PM M-F
Programs/ Services Offered	Adult Day Care, Transportation, Meals	Medical, Meals, Transportation	Support service: employment, shopping, housing	Public assistance, transportation	Outpatient therapy, rehabilitation, residentail facilitiesand support services	Family Support	Workshops, Job Training	Workshop / Rehab. Services
Number of Clients served	5,000 a year	3,000 a year	146	50+	800	4	Within 60 mile radius	2
How far do the Clients travel	10-20 Miles	6-10 miles	6-10 miles (some over 20)	10-20 miles	10-20 miles	6-10 Miles	10-20 Miles, +20 Miles	0-5 Miles
What mode of transportation do they use	Center van service	Drive, Ride with Friend, Public Transportation (Rare)	Drive themselves, Ride with Friend	Drive themselves	Ride with Friend,use public transportation	Drive, get a ride	Drive, get ride, bike, AT	Taxis, drive, walk, get a ride, AT
Number of Employees	50 at 8 locations	11 plus 200 volunteers	90	1	175 full time, 125 part time	0.01	0.11	0.06
How far do they travel to work	6-10 Miles	6-10 miles	6-10 miles	0-5 miles	10-20 miles	0-5 Miles	6-10, +20	6-10 miles, +20 miles
What mode of transportation do they use	Drive themselves	Drive themselves	Drive themselves	Drive themselves	Drive themselves	Drive	Drive	Drive themselves

Table 3
ADVANCE TRANSIT
HUMAN SERVICE AGENCY SUMMARY

Name of Organization	Grafton County Senior Center	Bugbee Senior Center	United Development Service	Granite State Independent Living	West Central Services	SRS Child Care Services	Department of Employment and Training	Vocational Rehabilitation
Are you familar with Section 18	Yes	Yes	Yes	No	No	No	No	No
Familiar with public transportation services	Yes	Yes	Yes	No	Yes	Yes - very little	Yes	Yes
How many emplyees use AT	0	0	1 daily; 2 occasionally	0	5 or less, once a month	0	0	0
How many clients use AT	Don't know	Appox. 5 about once a month	10 daily or once a week	12 once a month	10-15 daily	0	Assume some do	Don't know, assume some
Amount you pay clients to use AT	0	0	0	0	0	0	0	0
Do you provide any transportation	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
What types of vehicles do you use	9 Vans and 4 buses	1 van and private cars	5 vans	1 van	Lease 2 vans, AT contract 1 van	N/A	Contract with Stagecoach	Pay taxi fares for clients
What areas do you serve	Grafton County (40 Communities)	Norwich, Hartland,Hartford,Thetford	Grafton County	Grafton County, statewide	Lower Grafton and all of Sullivan County	Orange/Windsor County	White River Junction, Hartland, Woodstock	Windsor County, White River Area
Days and hours of service	Varies	On demand	On demand		On demand		N/A	During the day
Do you have storage/maint. facility	No	No	No	No	No	N/A	N/A	No

Table 3
ADVANCE TRANSIT
HUMAN SERVICE AGENCY SUMMARY

Name of Organization	Grafton County Senior Center	Bugbee Senior Center	United Development Service	Granite State Independent Living	West Central Services	SRS Child Care Services	Department of Employment and Training	Vocational Rehabilitation
How many operators do you have	9 full time	1 full time	Combination case workers/drivers	1 part time	?, both full and part time	N/A	N/A	N/A
Do you provide maintenance	No	No	No	No	No	N/A	Sporadic	N/A
How many trips do you make	42,500 per year	?	103 trips a day	5-6 trips a day	10-20 per day on demand	Don't know	10-20 a year	Pay for 3 taxi fares a week
What are your total transportation costs	$222,000 a year	$18,000 a year	?	?	?	Don't know	?	?
Do you charge fares	No	No	Yes	No	No	No	No	No
Recieve funding to support transportation	Title III b	Section 16 b.2	Section 16 and various others	Title VII part B	Not specifically for transportation	No	Federal aid, Foreign Welfare reform	Yes - don't know exact sources
Areas you would like to serve but are unable to due to lack of transportation	Lyme, Bristol, Warren, Wentworth, Ordfordville	Outlying areas	Better service to more areas	No	Remote areas are difficult	Outlying areas	Bradford	No
What is your greatest travel dilema	Difficult with support from local money	Government does'nt understand needs	Need paratransit service	Public transportation not available in off hours when needed	Limits of current public transportation	Transportation in outlying areas	Service the outlying communities	None

Table 3
ADVANCE TRANSIT
HUMAN SERVICE AGENCY SUMMARY

Name of Organization	Grafton County Senior Center	Bugbee Senior Center	United Development Service	Granite State Independent Living	West Central Services	SRS Child Care Services	Department of Employment and Training	Vocational Rehabilitation
What are your greatest transportation needs	Long distance needs	Personal service and flexible schedule and route	Flexible transit	Rural Transportation	More service to outlying areas. More flexibility	Getting kids to and from day care	Servicing the outlying communities	Hard to say
Are there barriers to coordination of transportation services	No	Turf issues	Turf issues	No	No	No - lack of interest	No	No
What are the major future Transportation Problems	Long Distance especially medical needs to DHMC	Needs to be convenient, wheel chair mass transit not appropriate	Transit to assist with various lifestyle needs	Paratransit more flexible	Transportation help with employment	Getting kids to and from day care	Servicing the outlying communities	Getting enough assistance

Appendix F: Media List

ADVANCE TRANSIT MEDIA LIST

Newspaper	Deadline
Steve Gordon Valley News P.O. Box 877 WRJ, VT 05001	PR Friday 1:00 p.m. PH: 603/298-6082 FAX: 603/298-8711
Mascoma Valley Messenger P.O. Box 55 Canaan, NH 03741	Friday a.m. for following weeks paper PH: 523-7405 FAX: 523-7507
The Vermont Standard P.O. Box 88 Woodstock, VT 05091	Monday 5:00 p.m. FAX: 802/457-3639 PH: 802/457-1313
Argus-Champion P.O. Box 509 Newport, NH 03773	Thursday 3:00 p.m. FAX: 863-0066 PH: 863-1776
The Dartmouth 6175 Robinson Hall Dartmouth College Hanover, NH 03755 Att: Publisher	2 days in advance FAX: 646-3443 PH: 646-2177 646-2600
Valley Bus. Journal P.O. Box 769 WRJ, VT 05001 Off press by first week of month	1 month ahead FAX: 295-1686
VOX of Dartmouth 38 North Main Street Hanover, NH 03755	1+ week ahead PH: 646-3045

- CONT -

Newspaper (continued)	Deadline
The Hartford Village Voice P.O. Box 30 Hartford, VT 05047 Att: Beth Adams	1 month ahead PH: 295-5327
It's Classified Bradford, VT	
Update MHMH 1 Medical Center Drive Lebanon, NH 03756 Att: Sherry Caulkins	Tuesday 12 noon PH: 650-4284

- CONT -

Radio	Deadline
WNHV - WKXE P.O. Box 910 WRJ, VT 05001	PSA - 1 week in advance PH: 802/295-3093 FAX: 295-3095
WTSL P.O. Box 1400 Lebanon, NH 03766 Att: PSA Director	PSA - 1 week or more in advance PH: 448-1400 FAX: 448-1755
WNTK 1 Court Street Lebanon, NH 03766 also: P.O. Box 2295 New London, NH 03257	PSA - 2 days in advance PH: 448-0500 FAX: 526-9372
WMXR - 94 FM Junction of Rt. 4 & 12 Taftsville, VT 05073 Att: Lisa Franklin	PSA - 2 weeks in advance PH: 802/457-9494 FAX: 802/457-9496
WDCR/WFRD Community Bulletin Board P.O. Box 957 Hanover, NH 03755	PSA - 1 week in advance PH: 646-3313 FAX: 643-7655
Q106 P.O. Box 1230 Claremont, NH 03743 Att: Tom Hoyt	PSA - 2 weeks ahead FAX: 542-8721 PH: 542-7735

- CONT -

Radio (continued)	Deadline
KIXX 25 Pine Street Claremont, NH 03743 Att: Bob Frisch	PSA - 1+ week ahead FAX: 603/543-1706 PH: 603/543-1511
WVPR Arts & Events Calendar P.O. Box 89 Windsor, VT 05089	PSA - 2-3 weeks ahead

- CONT -

Miscellaneous

Montshire Museum Newsletter
P.O. Box 770
Norwich, VT 05055

FAX: 649-3637
PH: 649-2200

Earthwrite Institute Newsletter
Gates Briggs Building
Room 322
WRJ, VT 05001

PH: 802/295-7734

*Chamber of Commerce

Lebanon
Jim Wechsler

603/448-1203

Hanover
Clint Bean

603/643-3115

White River Junction
Lisa O'Neil

802/295-6200

- CONT -

TV	Deadline
WNNE - Channel 31 P.O. Box 1310 WRJ, VT 05001 Att: Community Calendar/Public Service Bob Daley	PSA - 2 weeks ahead PH: 802/295-3100 FAX: 802/295-3983
Local cable station	need
Community Access TV 41 Lebanon Street Hanover, NH 03755 Att: Community Calendar Send in mail and FAX	PH: 643-0659 FAX: 643-3073

Appendix G: Press Releases & Public Service Announcements

NEWS RELEASE

FOR IMMEDIATE RELEASE

Editor's Contact:

Susan Berry Langsten or Van Chesnut, (603) 448-2815
Advance Transit , Inc.

TRANSIT STUDY UNDERWAY IN UPPER VALLEY REGION

LEBANON, May 2, 1994 - Advance Transit is seeking public input as it develops a five year plan to improve transportation service throughout the region. According to Advance Transit Executive Director Van Chesnut, "the bus company can play an important role in solving the parking availability problem and reducing traffic congestion in the region. We would like to receive suggestions on how to improve our service so that more people will use it."

Advance Transit is seeking public in put in three ways: (1) by surveying riders on board the buses; (2) by asking pedestrians at key locations to answer a short list of questions; and (3) by holding afternoon and evening public meetings to which all persons are invited.

Survey team members will conduct the downtown survey on Wednesday, May 11, 1994 and the bus rider survey on Thursday, May 12, 1994. The downtown surveys will be conducted in Hanover, Lebanon and West Lebanon, New Hampshire and White River Junction, Vermont.

(More)

The public open forums will be held Monday, May 16, 1994 from 7:00- 9:00 PM in Auditorium A at the Dartmouth Hitchcock Medical Center in Lebanon, and on Tuesday May 17, 1994 from 2:00 - 4:00 PM at the Bugbee Senior Center on North Main Street in White River Junction.

According to Chesnut, the planning effort will address possible improvements in existing routes, schedules, and fares, including expanded mid-day service to the Enfield/Canaan area, and possibly the restructuring of routes that connect the Vermont towns of Hartford and Norwich with West Lebanon, Lebanon and Hanover.

The project will involve developing a marketing plan to encourage more people to ride Advance Transit and take advantage of the carpool matching service. The plan also will address whether Advance Transit should operate door-to-door paratransit services.

The local transportation planning process has been made possible by a grant from the Vermont Agency of Transportation which seeks to improve transportation throughout the state. Advance Transit contracted Multisystems, Inc., a Cambridge, Massachusetts firm, to assist in the development of the five-year transportation plan.

For more information about the transit study contact Van Chesnut or Susan Berry Langsten of Advance Transit at 603-448-2815.

-30-

PUBLIC SERVICE ANNOUNCEMENT

Advance Transit will be conducting a Downtown pedestrian survey on Wednesday, May 11th and a Bus rider survey on Thursday, May 12th. Your thoughts and concerns are important as the information gathered will be utilized for improving Advanced Transit's services. Watch for the survey team in the downtown areas of Hanover, Lebanon, West Lebanon and White River Junction or on the bus. If you have any questions please contact Van Chesnut or Susan Berry Langsten at (603) 448-2815.

FOR IMMEDIATE RELEASE

Editor's Contact

Van Chesnut or Susan Berry Langsten (603) 448-2815
Advance Transit, Inc.

PUBLIC INVITED TO OPEN FORUMS ON TRANSIT ISSUES

LEBANON, May 9, 1994 - Advance Transit, the Upper Valley's public transit system, invites all interested area residents to attend an open forum to share comments and suggestions about Advance Transit's service. The meetings to be held on May 16 and May 17, are part of the public participation component of a Short Range Transit Plan being prepared by Multisystems, Inc. through a grant from the Vermont Agency of Transportation.

According to Advance Transit Executive Director Van Chesnut, "The primary goal of the project is to develop a five-year plan to improve the quality and cost-effectiveness of transit and paratransit services and increase ridership in the Upper Valley region. Input from area residents is critical to the development of this plan."

Public opinion surveys are being conducted this week on-board Advance Transit buses and in downtown Lebanon, Hanover, and White River Junction. According to Chesnut, "While the survey results

are important in gauging how riders and the general public view

(More)

Advance Transit, we also want to provide an additional opportunity for people to share their concerns and ideas--what they like and don't like about the services as well as to share their vision about service improvements and the role of Advance Transit in the next five years."

This opportunity will be provided at either one of two open forums to be held as follows:

Monday, May 16, 1994 from 7:00-9:00 PM in Auditorium A of the Dartmouth-Hitchcock Medical Center, Medical Center Drive, Lebanon, New Hampshire.

Tuesday, May 17, 1994 from 2:00-4:00 PM at the Bugbee Senior Center, 54 North Main Street, White River Junction, Vermont.

For more information about the forums contact Van Chesnut or Susan Berry Langsten at Advance Transit at (603) 448-2815. If you are unable to attend one of the meetings you may submit your suggestions in writing or audio cassette to Ms. Susan Berry Langsten, Advance Transit, 91 Mechanic Street, Lebanon, New Hampshire 03766-1522.

-30-

PUBLIC SERVICE ANNOUNCEMENT

Advance Transit urges all area residents who have comments and suggestions about its public transit service to attend one of two open forums. The meetings will be held from 7:00-9:00 PM on Monday, May 16, in Auditorium A of the Dartmouth-Hitchcock Medical Center in Lebanon, and from 2:00-4:00 PM on Tuesday, May 17, at the Bugbee Senior Center in White River Junction. For more information about the meetings please contact Van Chesnut or Susan Berry Langsten at (603) 448-2815.

Appendix H: Analysis of Rider Survey

5/26/94 SUMMARY OF ALL RESPONSES.

ADVANCE TRANSIT RIDER SURVEY

Route: Blue 77 Red 21 Green 23 Time:_____

Advance Transit would like your input for a short-range transit plan. Directions are italicized.

YOUR USE OF ADVANCE TRANSIT

1. **At what intersection or bus stop near your home do you get on Advance Transit.** SEE ATTACHED.

2. **Is this stop convenient for you?** Yes 113 No 9

3. **If no, why isn't the stop convenient?** SEE ATTACHED.

   (Please be specific)

4. **What are three places that you travel to frequently on Advance Transit?** *How often?*

   (Please be specific)

   1. SEE ATTACHED.
   2.
   3.

Please circle as appropriate.

5. **How often do you use Advance Transit for the following purposes?**

Work	4-5 Days Per Week 55	1-3 Days Per Week 23	1-3 Days Per Month 9	Not at All 34
School	4-5 Days Per Week 8	1-3 Days Per Week 6	1-3 Days Per Month 4	Not at All 102
Shopping	4-5 Days Per Week 4	1-3 Days Per Week 11	1-3 Days Per Month 18	Not at All 88
Medical	4-5 Days Per Week 1	1-3 Days Per Week 2	1-3 Days Per Month 13	Not at All 105
Social/Rec.	4-5 Days Per Week 2	1-3 Days Per Week 2	1-3 Days Per Month 8	Not at All 103
Other	4-5 Days Per Week 2	1-3 Days Per Week 7	1-3 Days Per Month 11	Not at All 101

6. **Does the bus get you to your destinations at convenient times?** Yes 97 No 18 SOMETIMES 5

7. **If no, where would you like to travel from and to and at what times?** From (location): SEE ATTACHED. Time:

   To (location): Time:

PLEASE RESPOND TO QUESTIONS ON THE BACK SIDE.

8. **Please respond to the following statements about Advance Transit:**

Please check one space in each line.

	Agree	Disagree	No Opinion	Comments (optional)
a. The buses are clean.	112	3	3	
b. The buses are comfortable.	103	13	2	
c. It is easy to find a seat.	112	6	0	SEE ATTACHED.
d. Drivers are helpful and friendly.	110	1	5	
e. The buses generally run on time.	80	30	5	
f. It is easy to find a bus schedule.	104	12	1	
g. The schedules are easy to understand.	89	25	4	

Please circle as appropriate.

9. **How do you usually pay for Advance Transit services?** Cash Fare 42 | 10-Ride Ticket 19 | Monthly Pass 18 | Ride only in free fare zone 37

10. **How often would you ride Advance Transit if the fare was $0.25 higher?** About the same 91 | Less often 7 | Much less often 7

11. **How often would you ride Advance Transit if the fare was $0.25 lower?** About the same 89 | More often 10 | Much more often 5

YOUR OTHER TRANSPORTATION NEEDS

12. **Where in the Upper Valley do you frequently travel by other means and how often?** *How often?*

1. SEE ATTACHED.
2.
3.

13. **How do you get there now?** Drive myself 44 | Get a ride 29 | Taxi 11 | Senior Van 11 | Walk 2 | Bicycle 2

Other: 0

14. **Does Advance Transit go there now?** Yes 38 | Yes, but not at convenient time 26 | No 11 | Don't know 15

15. **How could we improve service so that you would take Advance Transit to these places?** SEE ATTACHED.

16. **What other improvements would you like to see?** SEE ATTACHED.

PERSONAL INFORMATION

Please circle or fill in the blanks.

17. **Are you male or female?** Male 54 | Female 58

18. **What is your age?** 17 or younger 11 | 18-25 35 | 26-64 64 | 65-older 7

19. **Do you work outside your home?** Yes 94 | No 28

20. **If yes, where do you work?** SEE ATTACHED.

21. **Are you a student?** Yes 37 | No 28

22. **If yes, which school or college?** SEE ATTACHED.

23. **Do you have a valid driver's license?** Yes 76 | No 46

24. **If yes, is a car available to you during the day?** Yes 38 | No 45 | Sometimes 14.

THANK YOU FOR PARTICIPATING IN OUR SURVEY!

QUESTION #1

ON BOARD RIDER SURVEY.

Canaan	
Canaan - far end of extension	1
Canaan - Rt. 4	1
Canaan U.M. Church	1
Chandler Road Wilder	5
Colonial Deli Mart	1
Court Street	1
Dan & Whits	1
Daniels Acres	1
DHMC	1
DMV	4
Dresdon Road	1
Enfield Trailer Park	1
Enfield, Huse Par	1
Fire Station	1
Grand Union WRJ	2
Hanover Bank	3
Hanover Bookstore	1
Hanover Inn	12
Hanover Park	10
Hanover St.	4
Hartford Village	2
Hayden Ct	2
Hewitt House	1
Highland Ave. & Main St.	1
Hospital	1
Hotel Coolidge	1
It goes by my house	4
Lebanon	1
	3

CON'T

QTRS

QUES_1	
Lebanon Mall	4
Lebanon St.	1
Lebanon Sweet Tomatoes	1
Lyme	2
Lyme, Nichols Hardware	6
Lyme, Top of common	1
Main & Highland	1
Mall	1
Mascoma Bank	4
Memorial Dr.	2
Mouart Avenue	1
None	1
Norwich Inn	4
Parkhurst	2
Pleasant St.	1
Pleasant Valley Store	1
Potato Road	1
Summer St.	6
Tafts Lot - Wilder	1
Thompson Parking Lot	2
W. Lebanon	1
W. Lebanon Village	1
W.Lebanon	1
White River - Mountain Avenue	2
White River Jct.- S. Main St.	1
White River Junction - Rogers Garage	1
White River VTL	1
Your Idea Bookstore	1

QUESTION #1
ON BOARD RIDER SURVEY.

ATR

Hanover
Came from Grafton
Live 2 mi. down Rt. 10, need 6:15a ride
Twenty minute walk from house
Parents drive me
Live in Lyme Center 15 minutes away
I don't live nearby
Because it's 5 mi. from my house
Stop by fire station is dumb cross diff.
Need stop 2 Greens

QUESTION #3

ON BOARD RIDER SURVEY.

QUES_4_1

QUES_4_1A

QUES_4_1		QUES_4_1A
		DHMC
Airport W. Lebanon		4x week
Borwell Research		2x week
Chamberlain Trailer Park		5x week
City of Lebanon		
Colonial Deli		4x week
Dartmouth		Daily
		5x week
		3x week
Dartmouth Camput		4x year
Dartmouth College		3x month
DHMC		
		5x month
		2x week
		4x week
		2x month
		3x week
		Daily
		3x week
		2-10x week
		1x week
		Daily
		2 days/week
		2x week
DHMC	once	
DMHC		5 days/week
		1x week
Hanover		
		1-3 days/week
		Daily
		Daily M-F
		3x week
		1-2x week
		Daily
		2x day
		Daily
		5x week
		3x week
Hanover	3-4x week	
Hanover High		
		3x week
Hanover Inn		Daily
		2x month
		Daily
		5x week
		Daily
Hanover Inn - Dartmouth College		5x week
Hanover Park		2x week
Hanover Place		
Hartford VT		
Havoner Terrace		
Hitchcock		
Hospital		
K Mart		3-4x week
Lebanon		2x week
		4x month
		2x week
		Daily
		4x week

QUESTION #4 ON BOARD RIDE SURVEY.

— CONT. —

ATT

QUES_4_1	QUES_4_1A
Lebanon Fire Department	4x week
Lyme	
Mall	
Mascoma Bank	Daily
Nichol's	Daily
Nichol's Hdwr.	6x week
Norwich Inn	
Old Hospital	1x week
Plaza	4 days/week
Plaza - Rte.12	
Plazas	
Purity	4-5x week
Purity Supreme	
School	3-5 days week
Shaw's	
Shaws	Daily
Summer St.	3 days/week
Thermodynamics	
Thompson Office	
Top of Common in Lyme	
Tuck	5x week
VA Hospital	2x week
	1-3 days/month
W. Lebanon	Daily
	1x month
	5-6 days/week
W. Lebanon - work	Daily
West Lebanon Plaza	
Wheeler	5x week
Work	5x week
	5x week
Work & Home	Daily
Work-Hanover	

QUESTION #

CONT

QUES_4_2		QUES_4_2A
2x week		
Bookstore		
Canaan		Daily
		2x week
Coop		
Dartmouth		Daily
DHMC		
		1-3 x month
		4x year
		1x month
		Daily
DMHC		4x year
End of Summer St		
Friends		
Hanover		1-3 days/month
		once in a while
Hanover & Lyme		
Hanover Center		
Hanover Downtown		3x month
Hanover High		
Hanover Inn		2x week
		Daily
Hitchcock		3x week
Home		
Hospital		1-2x week
Hunsler		5 days week
J.C. Penney		
Kellogg		
Lebanon		2x month
		3x week
Lebanon	3-4x week	
Lebanon Mall		Daily
Lebanon Plaza		
Lyme		
		Daily
Maple St. W. Lebanon		
Med. School		2-5x week
MHMH		4x week
Newberrys		
Plaza		2x week
Rich's Plaza		
Thompson Lot		1x week
Thompson Wt.		
Uptwon		2x week
VA		2x year
W. Lebanon		
		5 days/week
		Daily
		1x week
		Daily
W. Lebanon Plazas		
W.Lebanon		
White River Jct.		3x month
WRJ		Daily M-F
		Daily

QUESTION #4.

- CONT -

QUES_4_3	QUES_4_3A
Colonial Mall, W. Lebanon	
Crosby St.	2x week
DHMC	2x week
Downtown	
Enfield	Daily
Hanover	1x week
	3x week
Hanover Inn	
Heate Road	2x week
Hospital	
Lebanon Mall	3x month
	Daily
Lebanon Town Green	Rarely
Norwich	1-3 days/month
Plazas	2-3x month
Plazas, W. Lebanon	
Power House Plaza	
Rich's	
W. Lebanon	2x month
White River	1-3x week
White River Jct.	
Wilder - Hemlock Ridge	
WRJ	1x month

QUESTION #4.

ATRS

Q7FROM	Q7TIME
	00:00
	00:00
DHMC	07:30
	12:00 p
	07:00 p
	04:15
Hanover	
	06:00
	04:00
	10:00 a
Hanover Inn	03:10 p
	05:00
	03:15
	05:15
Hanover Pk, 5:03p - Thompsn Lt	00:00
Jody Smith's	07:40 a
Lebanon	10:30
	07:40 a
Lyme	08:30
Lyme Ctr. P.O.	07:25
MHMH, 4:40p to Colonial Deli	00:00
Nichol's	06:55
Norwich	08:30 a
Norwich Inn	00:00 a
Norwich,/Lebanon	10:00 a
W. Lebanon	00:00 a
White river Jct.	01:45 p
Wilson Tire	09:30 a
WRJ, 6:45a-Norwich, 6:45a	00:00 a

QUESTION #7
ON BOARD RIDER
SURVEY.

CONT.

AFTRS

Q7TO	Q7TIM
	00:00 a
	00:00
	00:00
Canaan	04:45
DHMC	
	02:00 p
	10:15 a
Hanover	
	07:15 p
Hanover High	00:00 a
	09:00
Hanover High School	07:50
Hanover Inn	08:00 a
	06:30
Jody Smith's	03:30 p
Kellog	04:30
Lyme	06:15
	05:30
	03:30
Lyme Center	
Lyme Rd.	00:00 p
	05:20
NH	
Summer St.	07:35
Wilson Tire	12:30 p

QUESTION #7.

ATRS

QUES_8_A1

Clean windows regularly

Important for public relations

QUES_8_B1

Sometimes its a bumpy ride
Except big blue
Leaks in roof
Not handicapped one
Big ones aren't
Smaller are better
Mostly
Short trip ok
Not the Bluebird

QUESTION #8 ON BOARD RIDER SURVEY

QUES_8_C1

usually

Not when van is used
Most of the time
Mostly

Not at 4:10 plaza

QUES_8_D1

they are great
Don't fit

Mostly
some are, some aren't

QUES_8_E1

pm buses usually late, 5:08 HP-Thompso
5-25 minutes late
Not always
Not always in the winter
Most of the time
Most of the time
usually
Not all the times
50 minute wait once
Variable, pm buses are late
In good weather
12:20 & 2:20 Mall bus usually late
Sometimes
Not always

5-10 minutes late
Better in spring than winter
Frequently late

QUES_8_F1

Service is out a lot

Not sure where they're available

Need one at every bus stop

QUES_8_G1

Not at all easy to understand
Standing/waiting is difficult for my age

ATT

QUES_12_1	QUES_12_1A
Around campus 1x week	
By bike to w.Leb,	On weekends
Car	Everywhere
Car- Enfield	
Church	Sundays
Colonial Mall	3x week
Dartmouth Printing	3x week
DHMC	
	Saturdays
Doctor's	1x month
Ely Vt.	1x week
Enfield - car	
Enfield to Hospital	Daily
Everywhere - car	
Grocery Stores	1x week
Hanover	
	4-5x week
	2-3x week
	Saturdays/weekly
	5x week
	Daily
Hanover - Taxi	1 x week
Hanover High	Drive
Hanover High School	
Hanover, auto	Weekends
Hanover/Norwich area	4x week
Hartford High	5x week
Home	4x week
Hospital	2x week
Lebanon	
	3x week
	2x week
	1x week
Lebanon Shopping Ctr.	
Lenanon	
Manchester	1x month
No	
None	
Norwich	2-3x week
Oxford	1x week
	Daily
Plaza	
School	
	Daily
Sharon VT.	10x week
Shaws	3x week
Shopping	
Sr. bus to Canaan	2x week
Taxi when not taking bus	
U.V. Plaza - auto	1x week
W. Lebanon	2-4x week
	1x week
	2x week
	1x week
	1x month
	1x week
	2x week
	3-4x month
	3-4x week

QUESTION #12
ON BOARD RIDER SURVEY.

-CONT-

ATRS

QUES_12_1	QUES_12_1A
W. Lebanon Plaza - auto	weekly
W. Lebanon Shpping area	3x week
W. Norwich	3-5x week
West Lebanon Plazas	2x week
White River	4x week
White River area	
Wilder	5x week
Wilder, VT	Monthly
Windsor	3 days/week
Work	2-4x week
Work only	
WRJ	

QUESTION #12

QUES_12_2	QUES_12_2A
Amhurst/UMASS	1x month
DHMC	
Fairlee	1x week
Hanover	
Hanover, taxi	
Lebanon	
	3x week
	Daily
	1x week
	Daily
Lebanon Grand Union	1x week
Mountshire Mus.	
Plazas	
School	Daily
Shaw's	2x week
Shopping	
	1x month
Valley	
W. Lebanon	2-3x week
	2x Month
	3x week
	2x week
W. Lebanon 1x week	
W. Lebanon Airport	
White River	
White River Jct.	
White River Junction - auto	weekly
Wilder	
Woodstock	1x month
WRJ	1x week
WRJ. VT	2x month

- CONT -

ATRS

QUES_12_3	QUES_12_3A
3	
Canoon	
Claremont	1-3x month
Friends	1x month
Hanover	
Lebanon	
Lebruns Park	2x week
Norwich	1x week
W. Lebanon	1x week
	2x month

QUESTION #12.

ATRS

QUES_15

1
1 more run from Plaza W. Leb. late aft.
1 Post - 5pm run Hanover - Norwich
12:00pm northbound & 1:30pm south needed
Be on time from Lebanon Mall
Better saturday service
Can't
Con't
Don't
Don't know
Earlier buses
Excellent - no need to improve
Expand to Oxford
Fares would have to be much lower
Go more frequently Lyme to Hanover
Hard to carry groceries on bus
Hard to carry groceries on bus
Have a 5:45 pm departure from Hanover
If went to Oxford
It's fine.
Later hours on weekends
Midday bus to Canaan
More am runs
More frequent buses
More frequent runs
More runs
More runs
More runs from Canaan
More runs on Saturdays
More saturday runs
More times available
More trips to Lyme
More W. Lebanon runs
More weekend run Hanover-DHMC vice versa
Never mind
Night bus service
Night service, prefer to ride bike
No
No
No
None
None
Not
Not sure
Not worth it
Park & ride off Route 89
Prefer driving
Prefer to drive
Reinstate early WRJ bus
Run buses as often as possible
Sparatic work departure
Start a route
Stay on schedule
Study metro public transport
Weekend Service
Would like to carry bike on bus
Wouldn't take it

QUESTION #15

ON BOARD RIDER SURVEY.

ATRS

QUES_16

QUESTION #16
ON BOARD RIDER
SURVEY.

Add music
Aggressive marketing to commuters
Be more on time
Don't know
Eevening service, Sunday service
Everything
Fine
Great bus drivers
Later on weekends
Lebanon to Enfield at noon
Make steps shorter
Mid day to Enfield
More cushy seats
More evenings and weekend runs
More frequent service in general
More music played
More Norwich WRJ on Saturdays
More ofter
More runs from Hanover to DHMC 12-2
More runs Hanover - W. Lebanon, 4-7 pm
New Buses
No
No Rush Limbaugh on the radio!
None
None
None
None
None
pm buses only run hourly
Posted schedule
Run bus depart Lebanon 6:45 AM to Plaza
Run later at night
Run later in the evening during summer
Schedules at bus stops
Sheltered stops
Stop in Lyme Center
Trip to Lyme Rd. @ 5:15
Work to imporve services

ATTRS

QUES_20

Airport Inn	1
Canaan - Enfield	1
Chef Eba's in Hanover	2
College	2
CRREL	1
Dartmouth	6
Dartmouth Bookstore	1
Dartmouth College Dartmouth college Dartmouth College	6
Dartmouth Medical School	1
Dartmouth Printing	2
Depends	1
DHMC	15
Different places	1
Dining Hall	1
Eastman's	1
Everywhere	1
Friendly's	1
Garger Travel	1
Gnomon Copy	1
Hanover	8
Hanover & DHMC	1
Hanover Church of Christ N.S.	1
Hanover Inn	6
Hanover Terrace	1
Hanover/Norwich/Canaan areas	1
Hitchcock Clinic	1
J.C. Penney	1
Lebanon	2

QUESTION #20
ON BOARD RIDER SURVEY.

-CONT-

ATRS

QUES_20	
Massi	1
Medical School	1
MHMH	1
Norwich Inn	1
Plazas	1
Purity	2
Rich's	2
Sbarros	1
School	1
Shaws	1
Thermal	1
Thermodynamics	1
United Developmental Svcs.	1
UPNE	1
VA Hospital	3
W. Lebanon	1
Wendy's	1
White Church	1

QUESTION # 20

ATRS

QUES_22

Community College	1
Dartmouth	14
Dartmouth College.	
Dartmouth college	
Dartmouth College	4
Dent	1
DHMC	1
DMS	1
Estabrook SDA	1
Hanover High	5
Hanover High School	3
Hartford High	1
Marion Cross	1
Mascoma High	1
Theyer School	1
Vermont Law School	1
Worchester Polytechnic Inst.	1

QUESTION #22
ON BOARD RIDER SURVEY.

ATRS

06/01/1994

Appendix I: Analysis of Pedestrian Survey

SUMMARY OF ALL RESPONSES

ADVANCE TRANSIT PEDESTRIAN SURVEY

PERSONAL INFORMATION

Please circle or fill in the blanks.

1. **Are you male or female?** Male 49 Female 72
2. **What is your age?** 17 or younger 5 | 18-25 11 | 26-64 73 | 65-older 15
3. **What city or town do you live in?** SEE ATTACHED.
4. **Do you work outside your home?** Yes 76 No 50
5. **If yes, what is the name of your employer?** SEE ATTACHED.
6. **Are you a student?** Yes 15 No 111
7. **If yes, which school or college?** SEE ATTACHED.
8. **What are your normal work/school hours?** Arrive at Work/School: SEE ATTACHED AM / PM

   Leave Work/School: _____ AM / PM
9. **Do you have a valid driver's license?** Yes 111 No 14
10. **If yes, is a car available to you during the day?** Yes 101 No 13 Sometimes 3

TRIPS YOU TAKE

11. **How many times/week do you travel for the following purposes:**

	How Often?	What are your destinations?	How do you get there?
Work		SEE ATTACHED.	
School			
Shopping			
Medical			
Social/Rec.			
Other			

TRANSIT USE

12. **Have you ever used Advance Transit?** Yes 51 No 75
13. **If Yes, how often?** 4-5 Days Per Week 6 | 1-3 Days Per Week 8 | 1-3 Days Per Month 17
14. **What could Advance Transit do so that you would use its services (more)?** SEE ATTACHED

TRAFFIC CONGESTION/PARKING

15. **Is traffic congestion a problem in the Upper Valley Region?** Severe 50 Slight 30 None 43
16. **If so, where and when?** SEE ATTACHED.
17. **Is parking a problem in the Upper Valley Region?** Severe 37 Slight 20 None 65
18. **If so, where and when?** SEE ATTACHED.

QUES_3.WHAT CITY OR TOWN DO YOU LIVE IN

AETNA	1
BILLS FALLS	1
CANAAN	4
CLAREMONT	3
CONCORD	1
CORNISH	2
DORCHESTER	1
E. THETFORD	1
ENFIELD	3
FAIRLEE, VT	1
HANOVER	10
HANOVER S. LYME RD. AT KENDALL	1
HARTFORD	2
HARTLAND	1
LEBANON	28
LYME	4
METHODIST HILL	1
NEWPORT	1
NORTH POMFRET	1
NORTHFIELD,VT	1
NORWICH	11
OXFORD	1
PLAINFIELD	1
PLYMOUTH	1
POST MILLS	1
QUECCHEE	4
RICHFORD	1
STRATFORD	2
THETFORD	2
W. HARTFORD	

ATDS

QUES_3 WHAT CITY OR TOWN DO YOU LIVE IN	
	1
W. LEBANON	7
WALPOLE, NH	1
WEST CANAAN	1
WEST HARTFORD	1
WHITE RIVER	9
WHITE RIVER JCT	3
WHITE RIVER JCT.	3
WILDER	5
WINDSOR	1
WOODSTOCK	2

QUES 5. WHAT IS THE NAME OF YOUR EMPLOYER

	0
BARKER STEEL, LEBANON	1
BP AUTO CLEAN RT.14	1
COURT HOUSE-WHITE RIVER	1
CREEL	1
CROSS ROADS ACADEMY	1
DARMOUTH MED. SCHOOL	1
DARTMOUTH	2
DARTMOUTH BOOKSTORE @ DHMC	1
DARTMOUTH COLLEGE	5
DHMC	27
DIS. VET	1
FLUENT INC.	1
HARTFORD SCHOOL DISTRICT	1
HOTEL COOLEDGE	3
HOUSEWORK,HANOVER	1
JOHNS PLACE, WHITE RIVER	1
LEBANON-DAYMON MOTORS	1
LIBRARY	1
LOOKING FOR JOB	1
MAIN STREET FURNITURE	1
MANCHESTER NIT	1
MENTAL HEALTH SERVICE	1
PIZZAZZ, BAGEL BASEMENT	1
PURITY	1
RETIRED	13
RICHS	1
RSD TRANSPORTATION/W. LEB	1
SELF EMPLOYED	3
ST OF VT.	1

QUES 5 WHAT IS THE NAME OF YOUR EMPLOYER

VA HOSPITAL	12
VERMONT, PART TIME	1
VOLUNTEER-LEBANON	1
W. LEB SCHOOL DISTRICT	1
WILDER-BROOKSIDE NURSING	1
WNNE T.V. WHITE RIVER JCT.	1
WORK INSIDE HOME	1

QUES_7 WHICH SCHOOL OR COLLEGE

CLASS AT BROOKSIDE	0
CONCORD COLL, LECTURE	1
DARTMOUTH	1
HANOVER ST.	3
LEBANON HIGH	1
LEBANON JR. HIGH	1
SEMINARY HILL	1
UNH	2
UNIV. N.H.	3
VA	1

WHAT ARE YOUR NORMAL WORK/SCHOOL HOURS?

QUES_8_A	QUES_8_B
03:00 PM	08:20 PM
03:00 PM	11:00 PM
03:00 PM	11:30 PM
04:00 AM	05:30 PM
05:00 PM	08:00 PM
06:00	04:30
06:00 AM	04:30 PM
06:00 AM	04:30 PM
06:00 AM	05:30 PM
06:30 AM	03:00 PM
07:00 AM	05:00 PM
07:00 AM	02:00 PM
07:00 AM	10:00 PM
07:00 AM	03:30 AM
07:00 AM	04:00 PM
07:00 AM	05:00 PM
07:00 AM	05:00 PM
07:00 AM	03:30 PM
07:00 AM	03:30 PM
07:00 AM	07:00 PM
07:10 AM	04:00 PM
07:15 AM	05:00 PM
07:30 AM	02:45 PM
07:30 AM	04:00 PM
07:30 AM	04:00 PM
07:30 AM	06:00 PM
07:30 AM	04:00 PM
07:30 AM	05:30 PM
07:30 AM	05:00 PM
07:30 AM	05:00 PM
07:30 AM	03:30 PM
07:30 AM	03:00 PM
07:30 AM	05:00 PM
07:30 AM	05:30 PM
07:30 AM	07:00 PM
07:30 AM	05:30 PM
07:35 AM	02:30 PM
07:45 AM	05:00 AM
07:45 AM	05:00 PM
07:45 AM	04:30 PM
08:00	05:00
08:00	04:30
08:00 AM	04:30 PM
08:00 AM	04:30 PM
08:00 AM	04:30 PM
08:00 AM	04:30 PM
08:00 AM	04:30 PM
08:00 AM	04:00 PM
08:00 AM	04:30 PM
08:00 AM	02:30 PM
08:00 AM	12:00 PM
08:00 AM	05:00 PM
08:00 AM	05:00 PM
08:00 AM	05:00 PM
08:00 AM	03:30 PM
08:00 AM	05:30 PM
08:00 AM	04:30 PM
08:00 AM	04:30 PM
08:00 AM	04:30 PM
08:00 AM	06:00 PM

ATPS

QUES_8_A	QUES_8_B
08:10 AM	02:50 PM
08:15 AM	03:00 PM
08:15 AM	03:00 PM
08:30 AM	05:30 PM
08:30 AM	05:00 PM
08:30 AM	03:00 PM
08:45 AM	05:00 PM
09:00	05:00
09:00 AM	02:00 PM
09:00 AM	05:00 PM
09:00 AM	05:00 PM
09:00 AM	12:00 PM
09:30 AM	05:00 PM
10:00 AM	04:30 PM
11:00 AM	03:00 PM
11:00 AM	03:00 PM
11:00 AM	03:00 PM

QUES. 11

HOW OFTEN	HOW MANY TIMES/WEEK DO YOU TRAVEL FOR WORK WHAT ARE YOUR DESTINATIONS?	GET THERE
1/WHILE	PLAZA	DRIVE
2	DHMC	DRIVE
3	DHMC	DRIVE
3	W. LEBANON	DRIVE
3/WK	HANOVER	DRIVE
3/WK	CREEL	BUS
3/WK	VERMONT	DRIVE
4	DHMC	DRIVE
4	DHMC	CARPOOL
4	DHMC	DRIVE
4-5	DHMC	DRIVE
4-5		WALK
4-5/WK	JOHNS PLACE,KMART,RICHS	BIKE/WALK
4-5/WK	DHMC	DRIVE
4/DAY	VA HOSPITAL	
4/WK	COURT HOUSE, WHITE RIVER,LEBANON	DRIVE
4/WK	VA HOSPITAL	AT
4/WK	HOTEL COOLEDGE	WALK
4/WK	GILLMAN OFFICE	DRIVE
5	WHITE RIVER JCT.	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5	DHMC	DRIVE
5		DRIVE
5	DARTMOUTH COLLEGE	DRIVE
5	DATMOUTH COLLEGE	DRIVE
5	DARTMOUTH COLLEGE	DRIVE
5	DARTMOUTH	DRIVE
5	DARTMOUTH COLLEGE	DRIVE
5	DARTMOUTH	DRIVE
5	DARTMOUTH MED SCHOOL	DRIVE
5-6/WK	RICH	DRIVE
5-6/WK	BROOKSIDE	WLK/DRIVE
5-6/WK	LEBANON	DRIVE
5-7/WK	COOLIDGE HOTEL	TAXI
5/WK	HARTFORD	DRIVE
5/WK	WEST LEBANON	BUS
5/WK		
5/WK	MHMC	CAR
5/WK	DHMC	CAR/BIKE
5/WK	VA HOSPITAL	DRIVE
5/WK	RT. 14 BP	DRIVE
5/WK	VA HOSPITAL	DRIVE
5/WK	VA HOSPITAL	DRIVE
5/WK	VA HOSPITAL	DRIVE
5/WK	VA HOSPITAL	DRIVE
5/WK	VA HOSPITAL	DRIVE
5/WK	VA HOSPITAL	DRIVE
5/WK	VA HOSPITAL	DRIVE

Ques. 11

HOW OFTEN	HOW MANY TIMES/WEEK DO YOU TRAVEL FOR WORK WHAT ARE YOUR DESTINATIONS?	GET THERE
5/WK	50 MI RAD. RANDOLPH, VT	DRIVE
5/WK	VA HOSPITAL	
5/WK	VA HOSPITAL	DRIVE
5/WK	MAIN ST. FURN.	
5/WK	WHITE RIVER	DRIVE
5/WK	DHMC	DRIVE
5/WK	RT 120	DRIVE
5/WK	GLEN IN W. LEBANON	DRIVE
5/WK	DHMC	DRIVE
5/WK	HANOVER	DRIVE
5/WK	LEBANON	DRIVE
5/WK	DHMC	DRIVE
6	HANOVER	WALK
6/WK	HOTEL COOLEDGE	DRIVE
DAILY	LOOK FOR WORK, PLAZAS	WALK
DAILY	PLAZAS	BUS
DAILY	DHMC	FRIEND

Ques. 11 HOW MANY TIMES/WEEK DO YOU TRAVEL FOR SCHOOL

HOW OFTEN	WHAT ARE YOUR DESTINATIONS?	GET THERE
1	VA	DRIVE
2	HANOVER	DRIVE
2 DAYS	ON WEEKENDS	CAR
5		WALK/BIKE
5	DARTMOUTH	WALK
5/WK	LEBANON	DRIVE
5/WK	LEBANON	BOYFRIEND
5/WK		
5/WK		SCL BUS
5/WK	DHMC	CAR
5/WK	HANOVER	DRIVE

Q#11 HOW MANY TIMES/WEEK DO YOU TRAVEL FOR SHOPPING

HOW OFTEN	WHAT ARE YOUR DESTINATIONS?	GET THERE
2	W. LEBANON, BRADFORD	DRIVE
2	W. LEBANON	DRIVE
2	HANOVER/AETNA/ W. LEB	DRIVE
2	W. LEBANON/ HANOVER	DRIVE
2-3	COOP HANOVER/W. LEB	DRIVE
2-3	LEBANON/W. LEB	DRIVE
2-3/WK	W. LEBANON,HANOVER	DRIVE
2-3/WK	PLAZAS, LEBANON	DRIVE
2-3/WK	SHAWS	GET RIDE
2-3/WK	IGA, GRAND UNION,WOOLWORTHS	WALK
2-3/WK	DOWNTOWN LEBANON	DRIVE
2-3/WK	W. LEBANON	DRIVE
2/MO	W/ LEBANON	DRIVE
2/WK	SNOW, RT.12 PLAZA	DRIVE
2/WK	SHOWS	GET RIDE
2/WK	ALL OVER	DRIVE
2/WK	W. LEBANON	DRIVE
2/WK	PLAZA, LEBANON	WALK
2/WK	W. LEBANON, PURITY	AT
2/WK	W. LEBANON	DRIVE
2/WK	GRAND UNION,IGA,LOWANS	GET RIDE
2/WK	LEBANON,HANOVER,NORWICH	DRIVE
2/WK	PLYMOUTH	DRIVE
3	W. LEBANON	DRIVE
3	HANOVER, LEBANON	DRIVE
3 DAYS	SHAW'S, W. LEBANON	CAR
3 DAYS	HANOVER/ W. LEBANON	CAR
3-4	HANOVER	WALK/DRV
3-4	W. LEBANON	DRIVE
3-4/WK	W.RIVER JCT, W. LEBANON	DRIVE
3-4/WK	W. LEBANON	DRIVE
3-4/WK	STORES	BIKE/WALK
3-4/WK	W. LEBANON	DRIVE
3/DAY	PURITY,KMART	DRIVE
3/WK	RT.12 PLAZAS	DRIVE
3/WK	W. LEBANON, LEBANON	
3/WK	W. LEBANON	DRIVE
3/WK	RT 12A PLAZAS	
3/WK	W. LEBANON	BUS
3/WK	W. LEBANON	DRIVE
3/WK	W. LEBANON	DRIVE
4	HANOVER, W. LEBANON	DRIVE
4	CLAREMONT	DRIVE
4 TIMES	LEBANON,BANK,PLAZA	DRIVE
4/WK	W. LEBANON, KMART	DRIVE
4/WK		DRIVE
4/WK	HANOVER, W. LEBANON	CAR/WALK
5	HANOVER,NORWICH	DRIVE
5/WK	HANOVER	DRIVE
5/WK	NORWICH	DRIVE
7	HANOVER/ W. LEB	DRIVE
7	HANOVER/LEB/W. LEB	DRIVE
DAILY	LEBANON,HANOVER,WILDER	WALK
DAILY	CCB	WLK/SKATE
DAILY		BUS
OCCAISION	RT. 12A	
ONCE		

QUES11 HOW MANY TIMES/WEEK DO YOU TRAVEL FOR SHOPPING

HOW OFTEN	WHAT ARE YOUR DESTINATIONS?	GET THERE
	KMART	
	PLAZA,LEBANON	GET RIDE
	ON THE WAY HOME	DRIVE
1	W. LEBANON	DRIVE
1	W. LEBANON	DRIVE
1	PLAZA W. LEBANON	DRIVE
1	W. LEBANON	DRIVE
1	W. LEBANON	DRIVE
1	W. LEBANON	DRIVE
1	W. LEBANON	DRIVE
1	W. LEBANON	DRIVE
1	HANOVER	WALK
1	W. LEBANON/HANOVER	DRIVE
1	W. LEBANON	RIDE
1	HANOVER	DRIVE
1	W. LEBANON	DRIVE
1	LEBANON	DRIVE
1 DAY	W. LEBANON	DRIVE
1-2	W. LEBANON	BUS
1-2	HANOVER/W. LEB/LEBANON	DRIVE
1-2	HANOVER/LEBANON	DRIVE/BUS
1-2/WK	PLAZA	DRIVE
1-2/WK	W. LEBANON	DRIVE
1/DAY	WOOLWORTH	WALK
1/MO		DRIVE
1/MO	GRAND UNION, PURITY	DRIVE
1/MO	HANOVER, LEBANON, W. LWBANON	
1/MO	W. LEBANON	DRIVE
1/MO.	PLAZA	GET RIDE
1/WK	WEST LEBANON	DRIVE
1/WK		BUS
1/WK	PLAZA/CLAREMONT	DRIVE
1/WK	IGA LEBANON, RT 12 PLAZA	
1/WK	WOODSTOCK OR PURITY	DRIVE
1/WK	RT. 12A PLAZA	DRIVE
1/WK	PLAZAS/LEBANON	DRIVE
1/WK	GRAND UNION	DRIVE
1/WK	HANOVER, WHITE RIVER	
1/WK	ST.ALBANS VT.	DRIVE
1/WK	PURITY, W. LEBANON	DRIVE
1/WK	W. LEBANON	DRIVE
1/WK	KMART,DENNYS,W. LEBANON	DRIVE
1/WK	GRAND UNION, W. LEBANON	DRIVE
1/WK	RT 122A PLAZA	AT
1/WK	GRAND UNION	WALK
1/WK	W. LEBANON	
1/WK	PLAZAS	DRIVE
1/WK	GROCERY	FRIEND
1/WK	W. LEBANON	CAR
1/WK	CONCORD	DRIVE
1/WK	CLAREMONT	DRIVE
1/WK	LEBANON	WALK/RIDE
1/WK	W. LEBANON	DRIVE
2	LEBANON	DRIVE
2	HANOVER/W. LEBANON	DRIVE
2	W. LEBANON	DRIVE
2	BILLS FALLS	DRIVE
2	W. LEBANON	DRIVE
2	W. LEBANON	DRIVE
2	W. LEBANON/HANOVER	DRIVE

ATPS

QUES. 11 HOW MANY TIMES/WEEK DO YOU TRAVEL FOR MEDICAL

HOW OFTEN	WHAT ARE YOUR DESTINATIONS?	GET THERE
	DHMC	DRIVE
1	DHMC	DRIVE
1	HANOVER	DRIVE
1	LEBANON	DRIVE
1-2/YR	LEBANON	DRIVE
1-2/YR	DHMC	DRIVE
1/MO	VA HOSPITAL	DRIVE
1/MO	VA HOSPITAL	DRIVE
1/MO	ALIE PECK DAY	DRIVE
1/MO	DHMC	DRIVE
1/MO	DHMC	DRIVE
1/MO	MASS. GENERAL	DRIVE
1/MO	DHMC	DRIVE
1/MO	WHITE RIVER	DRIVE
1/MO	HANOVER	
1/MO	DHMC	DRIVE
1/MO	DHMC	DRIVE
1/WK	VA HOSPITAL	DRIVE
1/WK	DHMC	RIDE
1/YR	DHMC	DRIVE
1DAY		CAR
2	LEBANON/ W. LEB/HANOVER	DRIVE
2-3/YR	DHMC	CAR
2-3/YR	DHMC	DRIVE
2-3/YR	DHMC	DRIVE
2/MO	VA HOSPITAL	DRIVE
2/MO	DHMC	BUS
2/YR	APD-LEBANON	DRIVE
2/YR	DHMC/LEBANON	DRIVE
2/YR	DHMC	DRIVE
2/YR	DHMC	
2/YR	DHMC	DRIVE
2/YR	DHMC	DRIVE
2/YR	DHMC	DRIVE
2/YR	CLAREMONT	DRIVE
2/YR	DHMC	DRIVE
2/YR	DHMC	BUS
2/YR	DHMC	DRIVE
2/YR	DHMC	WALK/RIDE
2/YR	DHMC	DRIVE
3	DHMC	DRIVE
3 DAYS	DHMC	DRIVE
3-4/YR	DHMC	DRIVE
3/WK	DHMC	DRIVE
3/YR	DHMC	DRIVE
4/YR	LEBANON	DRIVE
4/YR	DHMC	DRIVE
4/YR	DHMC	DRIVE
6/YR	BUCK RD. HANOVER DHMC	DRIVE
6/YR	FAMILY CENTER- LEBANON	DRIVE
9/YR	CONCORD	DRIVE

ATPS

QUES.11 HOW MANY TIMES/WEEK DO YOU TRAVEL FOR SOCIAL/REC.

HOW OFTEN	WHAT ARE YOUR DESTINATIONS?	GET THERE
	CONCORD	DRIVE
	HANOVER/W. LEBANON	DRIVE
	FAIRLEE	
1	LEBANON	
1	UPPER VALLEY	DRIVE
1	UPPER VALLEY	DRIVE
1	UPPER VALLEY	DRIVE
1	HANOVER/NORWICH	DRIVE
1	HANOVER/LEB	DRIVE
1	STRATFORD/CANAAN	DRIVE
1	HANOVER	DRIVE
1-2	LYME/LEBANON	
1-2	HANOVER/NORWICH	
1-2	HANOVER/ W. ELB	DRIVE
1/MO	LEBANON,HANOVER,W. LEBANON	DRIVE
1/MO	HANOVER	DRIVE
1/MO	W. LEBANON	
1/MO	LEBANON/HANOVER	RIDE
1/MONTH	LEBANON/HANOVER	
1/WK	GOLF-WHERE EVER	DRIVE
1/WK	BARRE, VT	CAR
10	WHT RIVER, ASCUTNEY	DRIVE
2	CALREMONT	DRIVE
2	ALL OVER THE VALLEY	DRIVE
2	HANOVER/W. LEBANNON	DRIVE
2	FROM DHMC	DRIVE
2	HANOVER	WALK
2	HANOVER	DRIVE
2	HANOVER	DRIVE
2	HANOVER/LEBANON	DRIVE
2	BURLINGTON TO CONCORD	DRIVE
2-3	W. LEBANON/LEBANON	
2/MO	W. LEBANON, QUECCHE	
2/MO	W. LEBANON	DRIVE
2/MO	HANOVER	CAR
2/MO	UPPER VALLEY	DRIVE
2/MO	HANOVER/LEBANON	DRIVE
2/WK	W. LEBANON	DRIVE
3	HANOVER, W. LEBANON	DRIVE
3	W.LEBANON	DRIVE
3	HANOVER/LEBANON	WALK/DRV
3	HANOVER,NORWICH	DRIVE
3	CARTER CENTER	DRIVE
3	HANOVER	WALK/BIKE
3	HANOVER/W LEB	DRIVE
3	HANOVER	WALK
3-4	LEBANON	DRIVE
4-5	QUECCHE, W. LEBANON	DRIVE
4/WK	WHITE RIVER, W. LEB, HANOVER	DRIVE
5	WOODSTOCK/HANOVER	DRIVE
5	VARIOUS	CAR/WALK
5 DAYS	BASKETBALL	CAR
6/WK	HANOVER	DRIVE
6/YR	UPPER VALLEY	DRIVE
7	W. LEBANON	DRIVE
7	CLAREMONT	DRIVE
7		DRIVE
DAILY	CCBA	FRIEND

Ques. 11

HOW OFTEN	HOW MANY TIMES/WEEK DO YOU TRAVEL FOR OTHER WHAT ARE YOUR DESTINATIONS?	GET THERE
	JOB HUNTING/PLAZAS	
	SWIMMING-LEBANON	
	AROUND AREA	DRIVE
	MAILBOX WJR P.O.	DRIVE
4	DHMC	CAR
DAILY	POST OFFICE	
DAILY	VISIT FAMILY	
EVENINGS	DOWNTOWN	GET RIDE

QUES_14 WHAT COULD ADVANCE TRANSIT DO	
	0
ADVERTISE	1
ADVERTISE SCHEDULE	1
ADVERTISE,SCHEDULES	1
ADVERTISE- NEW TO AREA	1
ADVERTISE/DON'T KNOW	1
BETTER SIGNAGE & ADVERTISING	1
CANT THINK	1
COMMUTER LOT IN NORWICH	1
DO PRETTY	1
DOESN'T GO TO METHODIST HILL	1
DOESN'T GO TO W. HARTFORD	1
DON'T KNOW	1
DON'T KNOW-FINE-RUN MORE FREQUENTLY	1
DON'T NEED	1
DON'T THINK IT'S CLOSE TO HOME	1
DON'T USE BECAUSE KENDALL HAS OWN BUS	1
DON'T USE NOT CONVENIENT	1
DONT KNOW	1
FIT SCHEDULE	1
FULL STOPS AT COOLEDGE HOTEL,VA HSP	1
GET A STOP AT QUECCHI	1
GET DRIVERS THAT KNO WHAT THEY'RE DOING	1
GET SEATBELTS ON BUS	1
GETS RIDES FROM RELATIVES,DOESN'T NEED	1
GO TO WINSOR	1
GO TO WOODSTOCK	1
GOOD THINGS, GETS AROUND BETTER/WIFE	1
HARTLAND	1
HAVE BUS GO THRU PLAZA,W. LEB MORE OFTEN	1

QUES_14 WHAT COULD ADVANCE TRANSIT DO	
IF STOP IN CLAREMONT	1
IF THE CAR BROKE DOWN	1
IF THEY ALLOWED KIDS UNDER 12	1
IF THEY WENT TO AETNA	1
IF THEY WENT TO CLAREMONT	1
IF WENT ON SCHOOL ST. IN LEBANON	1
ITS FINE-IF MISS BUS AT 9:00 HAS TO WAIT	1
KNOW SCHEDULE AND STOPS BETTER	1
LIVE 5 MI. OUTSIDE NORWICH-NOTHING	1
LIVE OUT, NOT CONVENIENT	1
LIVE TOO FAR AWAY	2
LIVE TOO FAR AWAY TO USE	1
LMTD SUN. SER.,1 TRIP AROUND LOOP AM-PM	1
LOWER THE PRICE	1
MAKE SCHD. MORE AVAIL., POST IN STORES	1
MORE STOPS-WALK 1/2 MI.TO NEAREST STOP	1
MORE STOPS/MORE TIMES AROUND	1
NEED MORE MARKETING	1
NO	12
NO DOING	1
NO HAVE OWN CAR	1
NO IT DOESN'T GO TO NORWICH	1
NO LIKE HAVING	1
NO NEED FOR	1
NO NEED TO-HAS TRANSPORTATION AVAILABLE	1
NO PROBLEM, JUST LIKE CAR	1
NO-DOESN'T AGREE / WORK HOURS	1
NO-HAVE WORKING CAR	1
NO-IF LIVED IN TOWN	1
NO-MAKE SCHEDULES EASIER TO READ	

QUES_14 WHAT COULD ADVANCE TRANSIT DO

NO-WIFE DOES USE SERVICE	1
NOT CONVENIENT	1
NOT EASY TO TAKE FROM W. LEB	1
NOT REALLY	1
NOT REALLY-LIKE USING CAR	2
NOTHING	1
NOTHING REALISTIC	8
NOTHING, I PREFER TO DRIVE MYSELF	1
NOTHING, LIVE TOO FAR OUT	1
PICK UP BURWELL BLDG,DROP OFF GRND UNION	1
PLANS ARE SPONTANIOUS,SCHED. DON'T HELP	1
POST OFFICE STOP, TOO FAR TO WALK	1
PROBABLY	1
PROBABLY WILL USE IN WINTER	1
PUT ADVANCE TRANSIT INTO LYME	1
RATHER WALK,NEED NEW BUSES/MORE ROOM	1
REVISE SCH.TO SAY FROM-TO INSTEAD OF N/S	1
RUN FROM QUECHEE GREEN TO VA	1
SCHEDULE	1
SCHEDULE NEEDS TO BE MORE AVAILABLE	1
SCHEDULE PROHIBITS, SERVICE IS CRITICAL	1
SEATS ARE SMALL, SEAT BELTS HARD TO USE	1
SEEMS OK	1
SERVICE CREEL MORE TIMES	1
SERVICE LYME MORE OFTEN	1
STOP ON SEMINARY HILL	1
STOP ON WHEELOCK-EARLY BEFORE 6:00 AM	1
THE HOURS DONT WORK WELL TO USE THE BUS	1
TIMES INCONVENIENT, NOT HELPFUL	1

QUES_16 IF SO, WHERE AND WHEN?

12 A HANOVER
12 A LEBANON & HANOVER
12 A W. LEBANON
12A
12A AFTERNOON
12A W. LEBANON
12A W. LEBANON, HANOVER @ RUSH HOUR
12A, FRIDAYS
3
ALL OVER 12A DURING RUSH HOUR
BETWEEN 4:00-5:00 PM
BRIDGE AT ENFIELD/LEBANON
COOP INTERSECTION HANOVER,120 LEBANON
DON'T ENCOUNTER PROBLEMS TO & FROM WORK
DON'T TRAVEL AT RUSH HOUR
FRI. AFTERNOON-RT. 12 PLAZA
GET HERE EARLY ENOUGH
HANOVER
HANOVER AM
HANOVER- RUSH HOUR
HANOVER/ W. WHEELOCK AM
HANOVER/NORWICH 7:30-8:00 AM
KMART
LEBANON AROUND PARK,RT 12A PLAZA
LEDYARD BRIDGE 8:00AM, 12A AFTERNOON
NO TO COSCO
NOT IF YOU COME EARLY
PLAZA-W. LEBANON
PLAZAS
ROUTE 4
RT 120
RT 120 WEST WHEELOCK
RT 12A
RT 12A & INTO HANOVER
RT 12A 5:00
RT 12A LEBANON
RT 12A PLAZAS
RT 12A W. LEBANON
RT 12A WEST
RT 12A, DOWNTOWN HANOVER
RT 12A, W. LEBANON
RT. 12, PLAZA
RT. 120 WHEN COLLEGE IS IN SESSION
RT. 12A
RT. 12A PLAZA
RT. 12A PLAZAS
RT. 12A, PLAZAS
RT. 12A-W. LEBANON
RUSH HOUR OVER BRIDGE INTO HANOVER
SHOPPING PLAZA W. LEB
W. LEBANON
W. LEBANON,HANOVER
W. LEBANON-SATURDAYS, HOLIDAY SHOPPING
W.LEBANON 12A
W.LEBANON 12A,CENTER OF HANOVER
WEST WHEELOCK/ACROSS BRIDGE TO HANOVER
WHEELOCK, HANOVER, LEDYARD BRIDGE
WHITE RIVER, LEBANON
WHITE RIVER-DOWNTOWN

QUES_14 WHAT COULD ADVANCE TRANSIT DO

TO & FROM HANOVER	1
TOO CLOSE-LONGER THAN DRIVING	1
TRIED TO USE, DOESN'T GO AT RIGHT TIMES	1
WORK LATE,LAST RUN @ 5:15	1
WOULD LIKE A SCHEDULE	1
WOULD LIKE IT TO RUN MORE FREQUENTLY	1
WOULDN'T USE	1

Q18_IF SO WHERE	WHEN
DHMC	
DHMC/LEBANON	
DOWNTOWN HANOVER	
DOWNTOWN LEBANON	
HANOVER	
HANOVER	DAY TIME
HANOVER	
HANOVER	DAYTIME
	DAYTIME
	DAYTIME
HANOVER	
HANOVER	DAYTIME
	DAYTIME
HANOVER	
HANOVER	DAYTIME
	DAYTIME
	DAYTIME
HANOVER	
HANOVER	DAYTIME
	DAYTIME
	DAYTIME
	DAYTIME
	DAYTIME
HANOVER	
HANOVER	DAYTIME
	DAYTIME
	DAYTIME
HANOVER	
HANOVER	DAYTIME
HANOVER PARKING PROBLEM	
HANOVER, W. LEBANON	
HANOVER,DHMC	BECAUSE YOU COME LATE
HANOVER/DHMC	
NEED MORE SPACES	
ON WEEKENDS	12A
PARKING IS PROBLEM	
PLAZA AREA	
PLAZA, VA HOSP	
PLAZAS	
VA PARKING LOT	
W. LEBANON	
W. RIVER JCT	
WHITE RIVER	
WHITE RIVER JCT	
WHITE RIVER-DOWNTOWN	

Appendix J: Analysis of ADA Meeting Survey

SUMMARY OF ALL RESPONSES

ADVANCE TRANSIT SURVEY

PERSONAL INFORMATION

Please circle or fill in the blanks.

1. **Are you male or female?** Male 5 Female 2

2. **What is your age?** 17 or younger 0 18-25 0 26-64 7 65-older 0

3. **What city or town do you live in?** HANOVER-2, LEBANON-4, CORNISH-1

4. **Do you work outside your home?** Yes 6 No 1

5. **If yes, what is the name of your employer?** THIS QUESTION WAS REMOVED FROM THE SURVEY BY THE DISABILITY RIGHTS CENTER.

6. **Are you a student?** Yes 1 No 6

7. **If yes, which school or college?** _____

8. **What are your normal work/school hours?** Arrive at Work/School: _____ AM / PM

   Leave Work/School: _____ AM / PM

9. **Do you have a valid driver's license?** Yes 5 No 2

10. **If yes, is a car available to you during the day?** Yes 4 No 0 Sometimes 2

11. **Do you have a disability that affects mobility?** Yes 7 No 0

12. **Do you use a mobility device?** Wheelchair 6 Walker 0 Cane 0 Guide dog 0

    Other: 1 - NO.

TRIPS YOU TAKE

13. How many times/week do you travel for the following purposes:	How Often?	What are your destinations?	How do you get there?
Work	_____	MOST RESPONDENTS TRAVELLED	_____
School	_____	TO WORK 5 TIMES/WEEK AND	_____
Shopping	_____	TO SHOPPING 1-5 TIMES/WEEK.	_____
Medical	_____	OTHER TRIP PURPOSES WERE	_____
Social/Rec.	_____	MORE INFREQUENT.	_____
Other	_____	_____	_____

PLEASE TURN OVER

TRANSIT USE

14. Have you ever used Advance Transit? Yes 2 No 5

15. If Yes, how often?

4-5 Days Per Week	1-3 Days Per Week	1-3 Days Per Month

16. What could Advance Transit do so that you would use its services (more)?

- BE AVAILABLE IN THIS AREA.
- LIFTS ON BUSES (2)
- DEMAND SERVICE NOT EQUAL UNDER ADA.
- EXPAND ROUTES AND TIMES.
- I DON'T LIVE NEAR A STOP.
- PROVIDE ACCESSIBLE BUS STOPS.
- MORE STOPS IN STATEGIC LOCATIONS
- INTEGRATE WITH OTHER SERVICES.
- COOPERATE WITH NHDOT
- SET SPECIFIC GOALS.

17. Will you use Advance Transit when the lift-equipped buses arrive later this year?

Yes	No	Don't know
5	0	2

THANK YOU FOR COMPLETING THIS SURVEY!

Appendix K: Supporting Spreadsheets for Financial Plan

INITIAL DATA: WEEKDAY SERVICE HOURS

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Route Hours	82	70	75	77	77	77	77	77
DHMC Shuttle Hours			6	12	12	12	12	12
Other Contract Hours	1	1	1	1	1	1	1	1
Total Weekday Hours	83	71	82	90	90	90	90	90

INITIAL DATA: SATURDAY HOURS

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 100
Saturday Hours	10	10	10	11	11	11	11	11

INITIAL DATA: SERVICE DAYS

Annual Weekdays	254
Annual Saturdays	52

INITIAL DATA: PAST COSTS (FY 93 & FY 94 actual, FY 95 projected)

	FY 93	FY 94	FY 95
Past Admin	268,159	358,660	282,587
Past Operating	332,331	274,816	323,466
Past Maintenance	178,731	142,569	126,987
	Note: FY 95 costs without DHMC shuttle		
	FY 95 hours without DHMC shu		19,824

INITIAL DATA: PER HOUR COSTS

	Actual FY 93	Actual FY 94	Projected FY 95	
Operating	$15.38	$14.81	$16.32	$323466 / 19824 hrs
Maintenance	$8.27	$7.68	$6.41	$126987 / 19824 hrs
Net Op Cost per Hou	$23.66	$22.50	$22.72	

INITIAL DATA: PROJECTED COST INCREASE

Cost Increase	3%	(after FY 95)

REPORT AREA: PROJECTED HOURLY OPERATING COSTS

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Operating	$15.38	$14.81	$16.32	$16.81	$17.31	$17.83	$18.36	$18.92
Maintenance	$8.27	$7.68	$6.41	$6.60	$6.80	$7.00	$7.21	$7.43
Net Op Cost per Hou	$23.66	$22.50	$22.72	$23.40	$24.11	$24.83	$25.57	$26.34

REPORT AREA: ANNUAL SERVICE HOURS

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 100
Transit Weekday Hrs	20,828	17,780	19,050	19,558	19,558	19,558	19,558	19,558
Transit Saturday Hrs	520	520	520	572	572	572	572	572
Regular Route Hours	21,348	18,300	19,570	20,130	20,130	20,130	20,130	20,130
DHMC Shuttle Hours	0	0	1,524	3,048	3,048	3,048	3,048	3,048
Other Contract Hours	254	254	254	254	254	254	254	254
Total Annual Hours	21,602	18,554	21,348	23,432	23,432	23,432	23,432	23,432

REPORT AREA: PROJECTED COSTS

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Administrative	268,159	358,660	282,587	291,065	299,797	308,790	318,054	327,596
Operating	332,331	274,816	348,333	393,807	405,622	417,790	430,324	443,234
Maintenance	178,731	142,569	136,749	154,602	159,240	164,017	168,938	174,006
Total Costs	779,221	776,045	767,669	839,474	864,658	890,598	917,316	944,835

INITIAL DATA: PAST RIDERSHIP & FARES

	FY 93	FY 94	proj FY 95	proj FY 96
Regular Route	79,383	119,834		
Hanover Shuttle	45,164	0		
DHMC Shuttle			20,000	48,000
Children's Center	2,221	2,232		
Leb Rec Center	3,748	0		
Special Services	4,455	6,699		
Total Transit	124,547	119,834		
Total DHMC Shuttl	0	0	4,000	9,600
Total Other	10,424	8,931		
Total Riders	134,971	128,765		
Total Fare Box	$68,259	$62,296		
Estimated Paid	64%	60%		
Paid Riders	79,710	71,900		
Average Fare	$0.86	$0.87		

INITIAL DATA: PROJECTED RIDERSHIP INCREASES

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Regular Transit		-4%	2%	7%	7%	5%	3%	3%
DHMC Shuttle					3%	3%	3%	3%
Other Services		-14%	0%	2%	2%	2%	2%	2%

INITIAL DATA: PERCENT PAID & AVERAGE FARE

Percent Paid	55%
Average Fare	$0.87

REPORT AREA: PROJECTED RIDERSHIP

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Regular Transit	124,547	119,834	122,231	130,787	139,942	146,939	151,347	155,888
DHMC Shuttle	0	0	4,000	9,600	9,888	10,185	10,490	10,805
Other Services	10,424	8,931	8,931	9,110	9,292	9,478	9,667	9,861
Total Riders	134,971	128,765	135,162	149,496	159,122	166,601	171,505	176,553
Paid Riders	79,710	71,900	67,227	71,933	76,968	80,816	83,241	85,738

REPORT AREA: PROJECTED FARE BOX REVENUES

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Fare Box Revenues	68,259	62,296	58,487	62,581	66,962	70,310	72,420	74,592

IMPORT AREA: FARE BOX REVENUE (from "Fare Box!")

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Fare Box Revenues	68,259	62,296	58,487	62,581	66,962	70,310	72,420	74,592

INITIAL DATA: REVENUES FY 93 - FY 95

	FY 93	FY 94	FY 95	FY 96	FY 97
Hanover Free Zone	150,945	99,000	99,000		
Lebanon Free Zone		20,000	20,000		
DHMC Shuttle	0	0	40,000	80,000	
Special Services			10,000		
VT Rideshare	21,991	30,585	25,000		
NH Rideshare	4,545	16,330	15,000		
NH Section 18	276,866	277,175	260,193	336,939	
NH Intercity			67,000	65,000	
VT Sect 18	65,097	94,262	81,798		
VT State Funds	73,273	30,386	44,000		
Municipal	99,036	100,673	99,500		
Rental Income	0	0	2,500	1,500	0
Interest	683	365	100		
Miscellaneous	1,301	12,695	2,000		

INITIAL DATA: PROJECTED RATE OF INCREASE

Hanover Free Zone	0%	after FY 95	IncHanFree
Lebanon Free Zone	0%	after FY 95	IncLebFree
DHMC Shuttle	0%	after FY 96	IncDHMC
Special Services	0%	after FY 95	IncSpecial
VT Rideshare	0%	after FY 95	IncVTRide
NH Rideshare	0%	after FY 95	IncNHRide
NH Section 18	0%	after FY 96	IncNH18
NH Intercity	0%	after FY 96	IncNHIntercity
VT Sect 18	0%	after FY 95	IncVT18
VT State Funds	0%	after FY 95	IncVAOT
Municipal	0%	after FY 95	IncMun
Rental Income	0%	after FY 97	IncRental
Interest	0%	after FY 95	IncInterest
Miscellaneous	0%	after FY 95	IncMisc

REPORT AREA: PROJECTED REVENUES

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Fare Box Revenues	68,259	62,296	58,487	62,581	66,962	70,310	72,420	74,592
Hanover Free Zone	150,945	99,000	99,000	99,000	99,000	99,000	99,000	99,000
Lebanon Free Zone	0	20,000	20,000	20,000	20,000	20,000	20,000	20,000
DHMC Shuttle	0	0	40,000	80,000	80,000	80,000	80,000	80,000
Special Services	0	0	10,000	10,000	10,000	10,000	10,000	10,000
VT Rideshare	21,991	30,585	25,000	25,000	25,000	25,000	25,000	25,000
NH Rideshare	4,545	16,330	15,000	15,000	15,000	15,000	15,000	15,000
NH Section 18	276,866	277,175	260,193	336,939	336,939	336,939	336,939	336,939
NH Intercity	0	0	67,000	65,000	65,000	65,000	65,000	65,000
VT Sect 18	65,097	94,262	81,798	81,798	81,798	81,798	81,798	81,798
VT State Funds	73,273	30,386	44,000	44,000	44,000	44,000	44,000	44,000
Municipal	99,036	100,673	99,500	99,500	99,500	99,500	99,500	99,500
Rental Income	0	0	2,500	1,500	0	0	0	0
Interest	683	365	100	100	100	100	100	100
Miscellaneous	1,301	12,695	2,000	2,000	2,000	2,000	2,000	2,000
Total Revenue	761,996	743,767	824,578	942,418	945,299	948,647	950,757	952,929

IMPORT AREA: PROJECTED COSTS (from "Hours & Costs!")

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Admin Costs	268,159	358,660	282,587	291,065	299,797	308,790	318,054	327,596
Operating	332,331	274,816	348,333	393,807	405,622	417,790	430,324	443,234
Maintenance	178,731	142,569	136,749	154,602	159,240	164,017	168,938	174,006
Total Costs	779,221	776,045	767,669	839,474	864,658	890,598	917,316	944,835

IMPORT AREA: PROJECTED FARE BOX REVENUES (from "Fare Box!")

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Fare Revenues	68,259	62,296	58,487	62,581	66,962	70,310	72,420	74,592

IMPORT AREA: PROJECTED SECTION 18 REVENUES (from "Revenues!")

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
VT Sect 18	65,097	94,262	81,798	81,798	81,798	81,798	81,798	81,798
NH Section 18	276,866	277,175	260,193	336,939	336,939	336,939	336,939	336,939

REPORT AREA: NET OPERATING DEFICIT

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
Net Op Costs	511,062	417,385	485,082	548,409	564,862	581,807	599,262	617,239
Fare Revenues	68,259	62,296	58,487	62,581	66,962	70,310	72,420	74,592
Oper Deficit	442,803	355,089	426,595	485,828	497,899	511,497	526,842	542,647

REPORT AREA: SECTION 18 ELIGIBILITY

	FY 93	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
80% Admin	214,527	286,928	226,070	232,852	239,837	247,032	254,443	262,077
50% Oper	221,402	177,545	213,297	242,914	248,950	255,749	263,421	271,324
Total Eligible	435,929	464,473	439,367	475,766	488,787	502,781	517,864	533,400
Proj Sect 18	341,963	371,437	341,991	418,737	418,737	418,737	418,737	418,737

INITIAL DATA: MONTHLY LOAN PAYMENTS

CTAA loan	976.07	LoanCTAA
VT National loan	2,000.00	LoanVTNat

IMPORT AREA: CAPITAL LOCAL SHARE (from "AT_Cap.XLW!Revenue")

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Local Share	154,810	58,150	53,500	0	0	0	45,000

INITIAL DATA: USE OF LOCAL CASH

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
Local Cash			13,000	0	0	0	45,000
Op Fund Reimbursement		20,000	47,000				

REPORT AREA: DEBT SERVICE

	FY94	FY95	FY96	FY97	FY98	FY99	FY00
CTAA Loan		11,713	11,713	11,713	11,713	11,713	11,713
VT National Loan		24,000	24,000	24,000	24,000	24,000	24,000
Total Debt Service		35,713	35,713	35,713	35,713	35,713	35,713