



**On Route to**  
*Sustainability*



*“The availability of this service and the manner in which it is delivered  
have made a huge difference in our lives.”*

## *A Unique Community Resource*

Advance Transit, Inc. (AT) is no secret to thousands of Upper Valley residents who depend on its reliable fleet of comfortable buses and friendly, safety-minded drivers. AT has provided dependable transportation services to area residents for twenty-seven years. Based upon a 2008 survey of 572 riders, the typical AT rider is a resident of the Upper Valley, has used the bus for several years, is employed and uses the bus to ride to their employer (69%).

*“It is very convenient. I’m a new mother without a license. I’d have no other way to get to work. Thank you for your service.”<sup>1</sup>*



AT operates five regular fixed routes, shuttle services, rideshare services (carpool matching) and paratransit services - on-demand rides for people, who because of disabilities, are unable to utilize the fixed route service. Thanks to innovative partnerships with Upper Valley municipalities, Dartmouth College and Dartmouth-Hitchcock Medical Center, rides are free on all AT routes. AT’s fixed-route service is its flagship enterprise. More than 20 buses cover 10,000 miles each week providing transportation through-out the Upper Valley from

early morning until late afternoon weekdays (except major holidays). To attract and retain riders, AT vehicles are clean, comfortable, safe, punctual and are equipped with wheelchair lifts.

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<sup>1</sup> Rider comments from Advance Transit Rider Survey, 2008

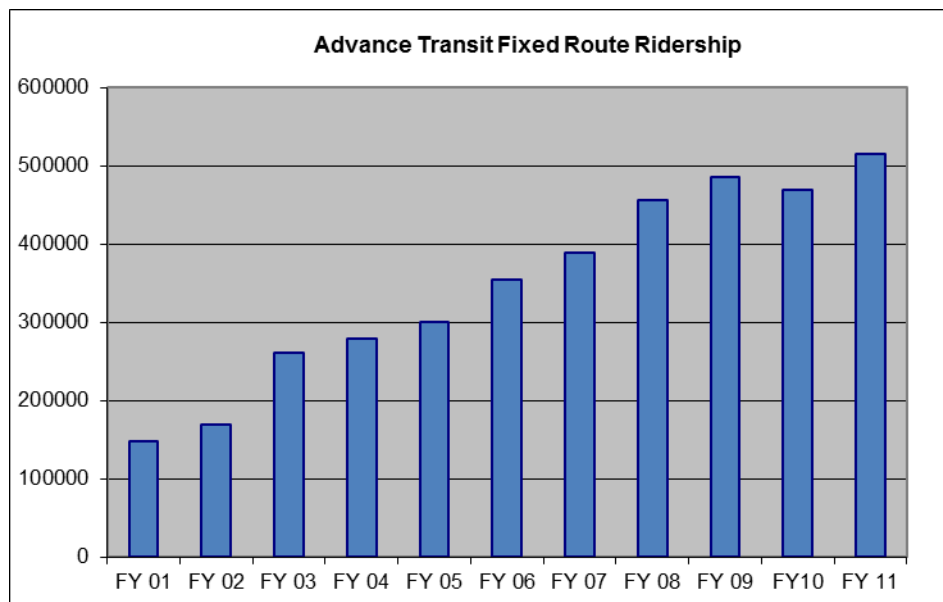
*“I really enjoy the bus service and expect to continue and increase my use of the bus to work. The convenience and reliability of this service is wonderful, saving me wear and tear on my vehicle and the cost of commuting. The drivers are great and demonstrate concern for their frequent riders!”*

As a nonprofit organization AT’s objective is to support activities of public interest. Our mission is to “help assure the continued growth, livability and accessibility of Upper Valley communities by offering safe, effective and friendly public transportation and rideshare services to persons regardless of age, sex, race or disability.” AT’s goals include:

- **Stimulate economic growth** - through improved access to jobs and increased employment opportunities for all area residents.
- **Ensure community participation** - by providing access to services, shopping and schools to all residents, including families with low-incomes, senior citizens, people with disabilities and students.
- **Assist towns, employers and area institutions** - with parking management.
- **Reduce traffic congestion** - and help preserve the character of area communities.
- **Reduce local and regional air pollution** - by offering an alternative means of travel while implementing environmentally sound solutions in operations.

What makes AT truly unique is its high level of ridership, serving many more passengers than most rural transit agencies in other parts of New Hampshire and Vermont.

Increased traffic congestion throughout the area, limited access to parking, and gas prices soaring to over \$4 a gallon has prompted more area residents to use AT as a convenient and reliable alternative to driving. In the twelve months ending June 30, 2011, there were 515, 266 riders on AT’s fixed-route service. (See graph below). Total ridership, including shuttle services and paratransit, exceeded 838,000.



Even before the cost of gasoline sky rocketed, studies by Advance Transit and the Upper Valley Transportation Management Association (UVTMA) concluded that regional transit service is very much in the public interest, supported by the increase in transit ridership and demand for new services. The UVTMA sees further increase in demand in reaction to higher gasoline prices, higher rental and real estate costs, and increased awareness of the transit service. In addition, local employers, such as Resource Systems Group, are providing financial incentives to employees to use public transit.

Not only do riders save money, but each person who chooses to travel via an AT bus instead of driving in a car contributes to a cleaner environment by causing fewer greenhouse gas emissions and less air pollution. In twelve months, AT reduces airborne pollutants and gases by an estimated 6 tons and results in a reduction of 244,000 local auto trips, translating into well over 1.3 million car miles saved! Airborne pollution will be reduced even more with AT's new buses that cut nitrogen oxide by 60.2%.

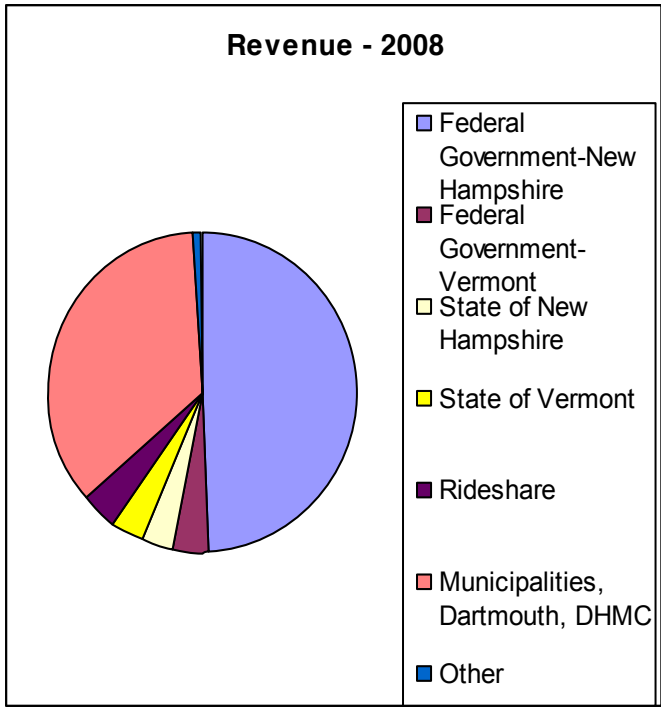
*“I think it is very important to decrease the number of cars on the road and reduce America's carbon footprint. Mass transit should be in everyone's future. That's why I think the service should be free, to reward and encourage those who are willing to use mass transit.”*

## Why is AT “Fare Free”?

When it was established in 1984, Advance Transit, like most transit systems, charged fares for its services. Fares provided less than 10% of AT’s operating expenses. In 1994, a fare free zone was established to encourage public transit use between Hanover and the Dartmouth-Hitchcock Medical Center. In response to community and business concerns over parking and traffic, AT expanded free fares throughout its system between September 2000 and January 2002. Since January 2002, AT has been totally fare free. AT was able to institute its fare free system in part because there were sufficient revenues from other sources to cover the modest loss in fares. Revenues from Dartmouth College and Dartmouth-Hitchcock Medical Center, and municipalities including Lebanon, Hanover, Enfield and Canaan, NH and Norwich and Hartford, VT in particular were linked to provision of AT’s services.

The compelling reasons for establishment of AT’s fare free program were to promote increased ridership as a transportation demand management (TDM) measure (decrease traffic) and to reduce parking demand and the eventual need for a major capital expenditure for parking facility construction. AT’s ridership statistics quickly demonstrated that free fares produced the desired result, with 2002 ridership 32% higher than 2001. Nearly ten years later, would the imposition of a fare reduce ridership and jeopardize the original traffic and parking strategies? To answer that question a study by the Community Transportation Association of America (CTAA) was commissioned in 2008. The analysis projected a significant decrease in ridership of 62,400 with the introduction of a one dollar fare, an initial capital cost of \$441,000 for fare collection equipment and additional annual operating cost of \$53,350 to process fares. The imposition of a one dollar fare would generate \$91,000 in additional net revenue for AT, only 2 % of AT’s operating expenses, after the five years necessary to repay capital expenses.

How, then, will AT sustain operations without fares? Most public transit systems in the United States are financed through a combination of Federal and local funding and fares. Fare box revenues for smaller, rural transit programs are normally 4 -10% of total expenses. Advance Transit’s operations are funded through Federal, State of New



Hampshire, State of Vermont, and local funds. The local funds include municipal contributions as well as private sector revenue from Dartmouth College and Dartmouth-Hitchcock Medical Center (see chart at left) AT encourages voluntary donations by riders on its buses and continues to identify new ways to promote such donations. In addition, AT has developed some of the most innovative and diversified philanthropy and corporate sponsorship programs to support its operations; AT’s growing list of donors now exceeds 1000.

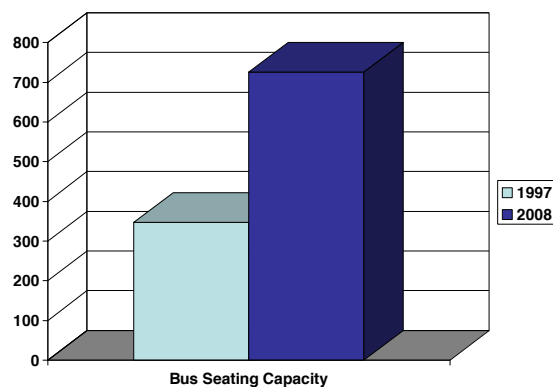
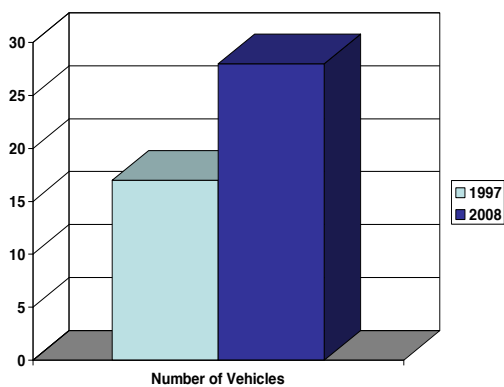
*“I’m a student with limited finances. I don’t yet have a license, and my husband is physically unable to drive (legally blind). These buses have enabled me and my husband to continue school, do our grocery shopping, and get to the doctors, which are all very important. “*

## **Challenges & Opportunities**

AT's transit system is a vital part of the region's fabric, providing a pioneering business model that stimulates economic growth, while discouraging sprawl and motor vehicle traffic. Over three years AT is undertaking two strategic initiatives that will support current and future transportation needs and lead the way to protect our local environment – the purchase of new, lower emission buses, including three diesel-electric hybrid buses, and the expansion and renovation of the AT Operations Center.

AT plans to replace many of its current buses with low-emission diesel buses. The new buses will meet the rigorous 2007 EPA emission standards for heavy duty diesel engines, reducing nitrogen oxides by up to 95% and particulate matter by up to 90%. AT will also purchase three diesel-electric hybrid buses, the first in the Upper Valley. To ensure the most effective use of the new fleet of buses and superior customer service, AT prepared a new transit development plan that evaluated AT's services, identified unmet transit needs and recommended improvements that address performance deficiencies. Changes to the AT service plan were introduced throughout 2009.

Although ridership has increased a remarkable 278% since fiscal year 2000, the AT Operations Center has not had any major renovations or upgrades since 1994. While the custom of “taking the bus” in the Upper Valley is booming, AT's need for increased space is at a critical stage. The following charts indicate the significant growth that AT has experienced in both vehicle count and bus seating capacity:



The renovation and expansion of the Operations Center will allow for the following improvements:

1. Permit AT to house its buses indoors -- Currently, more than half of the bus fleet sits outside making it particularly difficult during months of heavy snow and ice for drivers to inspect buses and a longer amount of time to bring the bus temperature up to a comfortable standard.
2. Provide for a 12,000-gallon fuel tank --The current tank capacity is only 1,000 gallons, requiring costly daily deliveries. AT will be better able to purchase fuel in more economic truckload quantities and have the flexibility to consider adopting bio-diesel fuel.
3. Provide for enhanced maintenance and equipment storage facilities for the enlarged and increasingly sophisticated fleet of buses. AT has progressively assumed more maintenance capability, reducing costs and time out of service.

AT will incorporate many green building technologies, leading to LEED<sup>2</sup> Silver Certification for the building. Examples of the green technology include:

**Rain-water harvesting system:** collection of rainwater from the new roof for use in the bus washing facility.

**Solar Photo-Voltaics:** The new roof addition is designed with an extra 20 pound dead load capacity to accommodate the subsequent installation of a photo-voltaic system on the roof. Through a Vermont Electric Power Producers program AT will sell electricity to the electric grid, generating additional income of \$10,000 per year.

**No Irrigation for Landscaping:** The landscaping, shrubs and ground cover proposed are native to the area and require little or no irrigation throughout their life (with the exception of the initial planting season).

**Building Thermal Envelope:** The building will have increased “R” value for reduced transmission of heat through the outside building envelope. Air infiltration will be better controlled through sealing and taping of all joints.

**Waste Oil Burners:** Waste oil from the bus maintenance operations will be stored during summer months and used in special waste oil burners within the bus storage area of the building as supplemental heat.

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<sup>2</sup> LEED (Leadership in Energy and Environmental Design) certified buildings lower operating costs and increase asset value, reduce waste sent to landfills, conserve energy and water, are healthier and safer for occupants, reduce harmful greenhouse gas emissions and demonstrate the owner's commitment to environmental stewardship and social responsibility. (from the U.S. Green Building Council)

**Night-Flushing:** Controls will be installed which monitor indoor and outdoor temperature and relative humidity. These controls will operate high-bay clerestory windows to open up when appropriate to cool the building naturally (by stack ventilation) in the summer months.

**Reflective Roof Surface:** The Roofing membrane proposed will have a high Solar reflective Index (SRI) The reflectivity of the roof will reduce the amount of heat gain developed inside the building during the summer months.

**High Efficiency Equipment:** The boilers and heating system will be upgraded to more energy efficient systems.

**High Efficiency Lighting and Sensing:** Highly efficient light fixtures will be used to reduce the watts per square foot required to light a space. Occupancy sensors will switch the lights on when a person enters the space and will deactivate the lights after a pre-determined time is reached.



The new buses and the new Operations Center together demonstrate AT's commitment to a greener Upper Valley. The buses not only remove vehicles from congested highways but they are also cleaner operating, substantially reducing pollutants. The new Operations Center will be one of the first green transit centers in the country. The commitment to the environment makes good business sense while AT contributes to the improved environment of the community.

*"I like that it provides a free service, an important service given all the people that either don't own a car or who can't drive. It is also more economical and environmentally friendly."*

## **The Funding Plan**

Purchase of new, lower emission and hybrid buses and the expansion and renovation of AT's Operations Center require a capital investment of \$8.31 million. AT has received combined federal/state grants totaling \$7.64 million, for these planned capital projects. The federal grants include \$1.88 million from the American Recovery and Reinvestment Act 2009 (ARRA), recognition of the project's enhancement of public transit, support of the environment and ability to provide employment during construction. These grants require a significant local match to be provided by AT. To secure the required matching funds, AT is launching a Capital Campaign.

Over the past two years, AT has worked to develop a comprehensive philanthropy program. Via direct mail appeals to individuals, an on-the-bus appeal, foundation grant applications and a recently launched corporate sponsorship program, the philanthropy program has over 1000 donors who support our mission.

In order to realize the required matching funds, AT is launching a Capital Campaign to raise a minimum of \$350,000. Continued support from individuals, businesses and foundations will ensure AT's commitment to making a major contribution to the economic development of the region -- and in a world which is more aware of the negative impact of climate change -- create a healthier environment for us all.

The greatest and most positive impact of AT is on the residents that use our services, including those with individual needs such as students, senior citizens, people with disabilities, and low-income families. Our community needs a robust public transit system to strengthen the economic vitality of the region. This Capital Campaign will ensure AT's viability for many years to come.

*"I was surprised and impressed by the punctuality, professionalism and courteousness of the drivers. They care about their riders, providing personalized service by communicating with each other to make sure transfers occur smoothly and by meeting the needs of the people with disabilities"*

## Profile of Advance Transit Riders

- Riders of all ages use AT

Under 18	3%
18-25	22%
26-40	29%
41-65	41%
Over 65	5%

- Most riders have used AT for several years

Within 1 year	33%
1-5 years	45%
More than 5 years	22%

- The majority of riders use AT to commute to work

Work	69%
Shopping	9%
School or college	11%
Medical	4%
Recreation/Social	4%
Other	3%

- Riders are from throughout the Upper Valley

Lebanon	44%
Hartford	18%
Hanover	11%
Norwich	6%
Canaan	6%
Enfield	6%
Other	9%

- Most riders are employed

Employed full-time	66%
Employed part-time	16%
Retired	6%
Unemployed	6%
Other**	6%

\*\* Student, disabled, medical leave, volunteer, mother, visitor, and underage.

- If you have a car available for your use, where is that car now?

No car available	47%
Home	29%
DHMC Lot	1%
Dartmouth or Hanover lot	3%
Someone else is using it	7%
Garage for repairs	1%
Near AT bus stop	10%
Other	2%

Forty-seven percent of respondents said they had no car available. This compares with 57% who said they had no car available in 2004 and 75% who had no car available in 1999.

Stated differently, the percentage of Advance Transit riders who chose to ride instead of drive increased from 25% in 1999 and 43% in 2004 to 53% in 2008

Source: 2008 AT Rider Survey