

CITYEXPRESS

SERVICE EXPANSION



Rural Transit Planning Study



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Transportation Systems Analysis
Management Information Systems

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EXECUTIVE SUMMARY

The NH Department of Transportation (NH DOT); HCS Community Care, Inc. (HCS); and the City of Keene identified a need and opportunity for expansion of existing public transportation services in Keene. The current single fixed-route bus *City Express* operated by HCS primarily serves daytime trips for area elders between housing, services and shopping. The current service is funded by the Federal Transit Administration (FTA) funds through NH DOT, local match to FTA funds provided by the City of Keene, and operating funds from HCS.

The Southwest Region Planning Commission (SWRPC) undertook a planning study under contract with NH DOT to support the design of the proposed service expansion. The long term purposes of the study are to 1) enhance mobility of those without reliable access to personal transportation, 2) recruit riders from the area's single-occupancy-vehicle trips, and 3) build a Keene-based transit system that can serve as a hub for future regional service. The study involved investigation of the operations of small urban and rural systems elsewhere and review of literature regarding the same, surveys of area employees and employers regarding trip characteristics of employees, research of service area household demographics, and discussions with business and community leaders.

The Study identified three segments of the Keene area population for which to design service expansion and future marketing:

- 1) those participating in society and the economy but without personal transportation - elders and teenagers;
- 2) those participating in the work force and society without reliable access to personal transportation - adults from low and moderate income households and Keene State College students; and
- 3) daytime/workday trips within Keene by both residents and non-residents – area residents working in Keene, other Keene area employees and Keene State College students.

The long term vision for service expansion comprises buses on two fixed-routes serving the City center and adjacent residential and commercial areas and one or more vehicles on high-frequency circulation serving the downtown area. The latter may best be served by rubber-tired trolleys.

First steps during 2000 in the planned expansion will be the addition of a second bus on a second fixed-route and the installation of bus shelters. HCS and NHDOT have arranged for acquisition of an additional bus and one rubber-tired trolley. Geographically, service expansion will serve neighborhoods north of Central Square (Washington, Elm and Court Streets) and east of Main Street and commercial areas of Main, West, and Winchester Streets. Expanded service will continue connections with area human services such as Monadnock Family Services and Cheshire Medical Center. The current hours of 8:30 a.m. to 4:00 p.m. will be expanded to 6:30 a.m. to 8:00 p.m. and the addition of Saturday service to better accommodate trips to and from work, college classes, shopping and socialization. Future capital funding is anticipated from FTA by way of NH DOT – with a required local match. Generation of operating funds for expanded service is anticipated to rely on HCS funds (including fare box and advertising), the City of Keene and other area stakeholders, including businesses and institutions.

The federal transit funding environment under the Transportation Equity Act for the 21st Century expected until 2004 make planning, capitalization and implementation of system expansion timely for Keene and the Southwest Region. Study participants identify the need for future attention to:

- 1) long term capital planning for the *City Express*;
- 2) a centralized intermodal transportation center in Keene;
- 3) understanding the long term costs, system requirements and benefits of integrating transit in the City's system and the Region; and
- 4) consideration of a transit management and policy-making body comprising stakeholders and management resources in the Keene area to share system capitalization and operations.

SWRPC will continue to work with NH DOT, HCS and the City of Keene and integrate transit planning with the SWRPC regional transportation planning program and the biennial 10-Year Transportation Improvement Program process.



SYSTEM EVALUATION & ENVIRONMENTAL ASSESSMENT

Introduction

The *CityExpress* public transit system is operated by Home Healthcare, Hospice & Community Services (HCS) within the City of Keene and is one of eight local transit systems in the State of New Hampshire.¹ This chapter assesses the *CityExpress* system and the existing transportation environment within Keene and the region. Information resources used in this study include the 1990 Census, HCS, local studies and scholarly and professional transportation literature.

The service area is the City of Keene, Cheshire County, New Hampshire. Consideration is also given to transportation corridors and potential travel routes for inter-municipal transportation services in central Cheshire County, western Hillsborough County and the neighboring State of Vermont.

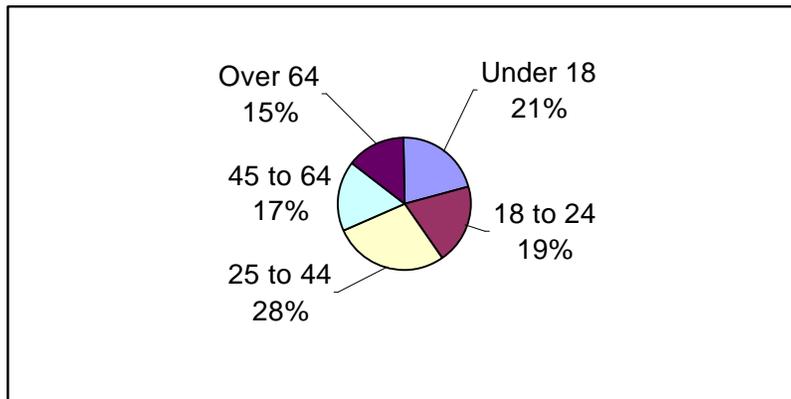
Figure 1: Map of Cheshire County



Demographics

The US Bureau of the Census reported 22,430 persons living in Keene in 1990. The city comprises 37 square miles with 601 persons/square mile or less than one person/acre.² There are 8391 households with 5327 families, 1848 persons in college dormitories, 241 persons in nursing homes and 42 persons in other group quarters. Median age of Keene was 32 years. Over 3257 persons were 65 years of age or older or about 14% of Keene's population.³ Age groups as a percentage of total population are illustrated in the chart on the following page. Persons under 18 and over 65 represent 36 percent of the total population. This group is recognized as an important market segment for public transportation services.⁴

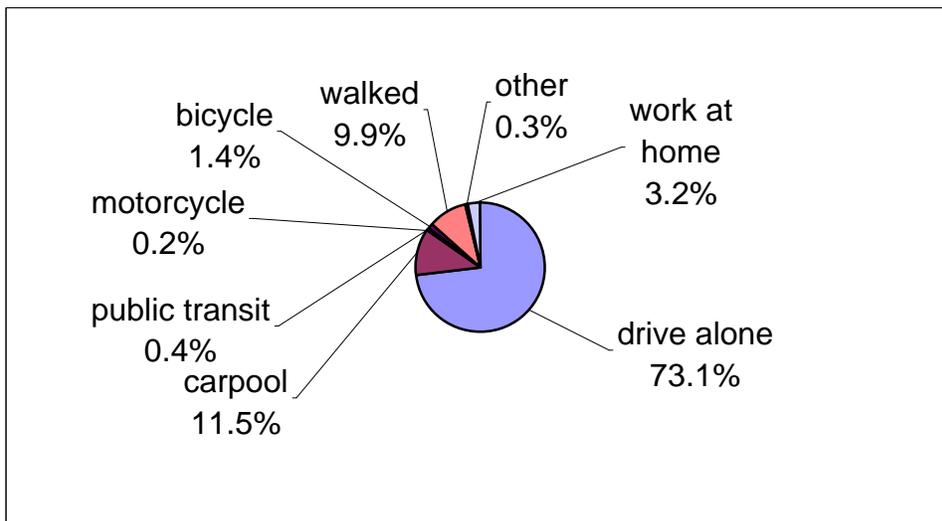
Figure 2: Percentage of 1990 Population by Age within Keene



The US Census reports that of the 14,907 civilian, non-institutionalized persons over 16 and under 65 years of age in Keene in 1990, 7.3% had a work disability, 2.1% were unable to work and 1.5% had a mobility limitation (a physical disability). Of the 2985 civilian, non-institutionalized persons 65 years of age and over, 13.7% reported a mobility limitation (a physical disability). These groups may also be considered as a market segment for public transportation services, albeit specialized services.⁵

The US Census reports that of the 11,322 workers (16 years or over) in Keene, 84.7% use a car, truck or van for transportation to work. Of these, 86.4% drive alone; this represents 73.1% of all workers. In addition, 11.5% of all workers carpool, and 0.4% use public transportation.⁶

Figure 3: Means of Transportation to Work as Reported in 1990



Mean travel time to work is reported as 13.5 minutes; and, 30% of workers who work outside the home depart for work from 7 to 7:59 a.m., 18% before 7 a.m., and 18% from 8 to 8:59 a.m. (35% at some other time).⁷ Figures on the following pages document commuter behavior as reported by the 1990 Census.

Figure 4: Departure Time to Work by Census Tract in Keene and for Commuters

Departure Time	City of Keene Census Tracts					Departure Time	Commuters Out of Keene
	9710	9711	9712	9713	9714		
5:00-6:00am	192	163	83	116	102	5:00-6:00am	656
6:00-7:00am	54	386	86	394	534	6:00-7:00am	1454
7:00-8:00am	824	478	197	408	1385	7:00-8:00am	3292
8:00-9:00am	489	334	93	342	676	8:00-9:00am	1934
other	664	574	127	412	1347	other	3124
Totals	2223	1935	586	1672	4044	Total	10,460

Figure 5: Departure Time to Work by Census Tract in Keene

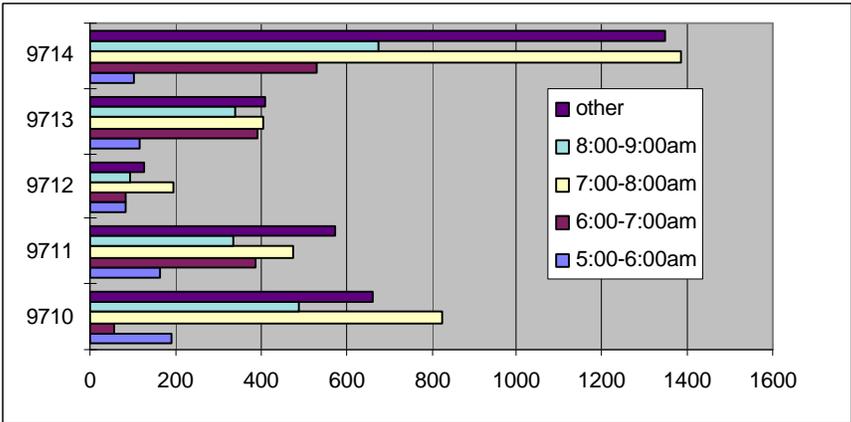


Figure 6: Census Blocks for Keene, New Hampshire

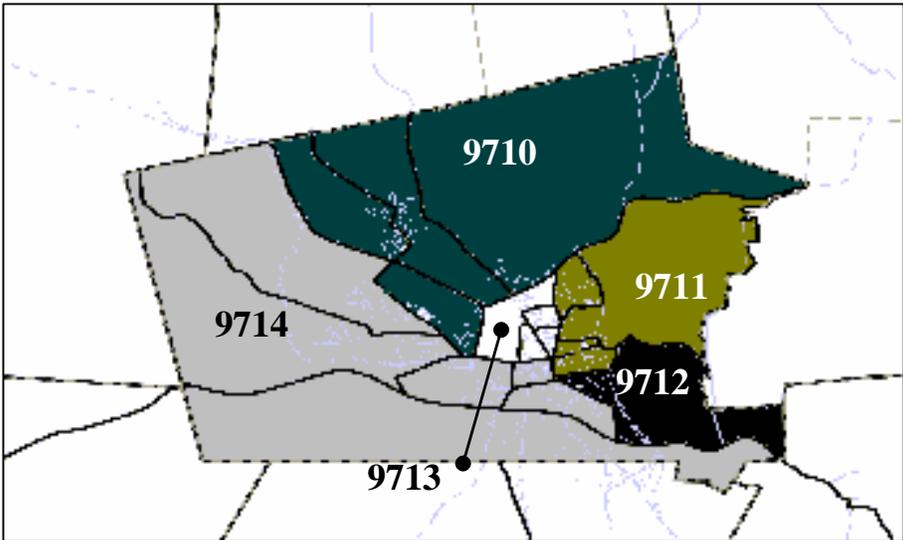


Figure 7: Departure Time by Number of Commuters

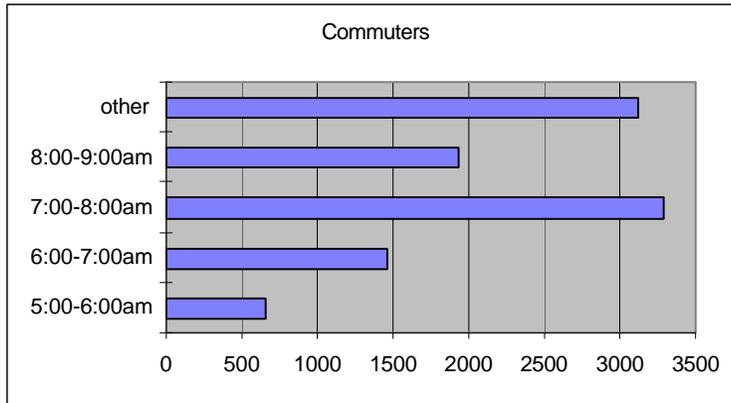


Figure 8: Commuters Traveling Out of Keene

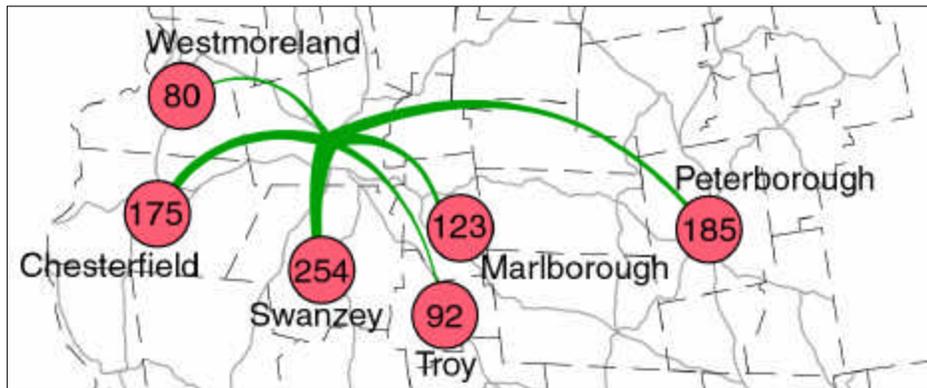
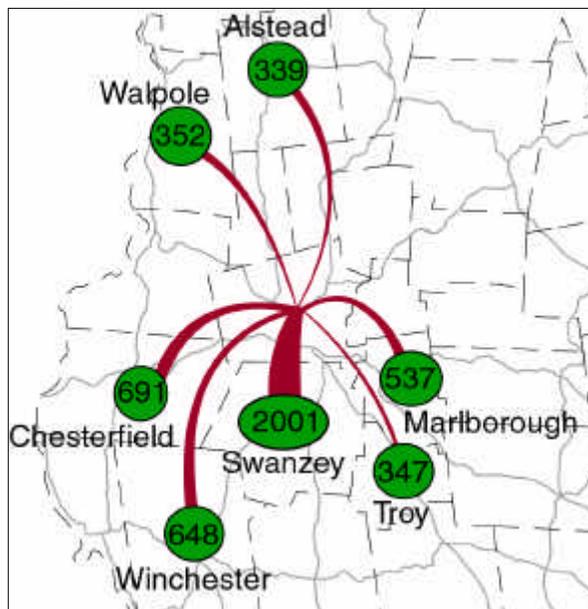


Figure 9: Commuters Traveling Into Keene



Note: Keene's Civilian Labor Force reported as 12, 415 in 1990

Summary of Previous Studies

Use of City Express by the Keene State College Community. 1998. This student research project used an on-campus survey in the spring semester 1998. The study attempted to identify reasons for low ridership by college students on the CityExpress. Flaws in the study design prevented conclusions.⁸

SIMS Portex Employee Survey. 1997. City of Keene surveyed employees (120 out of 550 total) at the SIMS Portex of Keene regarding their trip characteristics. The survey indicated that 100 percent of those surveyed use a car as the mode of travel to and from work at this facility.

Project Care Coalition of the Eastern Monadnock Region. January 1996. Sponsored by Monadnock United Way and led by HCS, two questionnaires surveyed the public and employees of the area's eleven largest employers. Surveys "reveal a need for public transportation services among populations 65 years or older primarily for medical trips within the Peterborough, Jaffrey and Rindge corridor."⁹

Focus on the Monadnock Region, A Study of Human Service Needs. 1995. Sponsored by Monadnock United Way, this report updates similar reports from 1989 and 1992. The findings of this study indicate that "access to public transportation" is perceived as the highest-ranking need that is "not being met."¹⁰

Statewide Transit Coordination Study. 1995. Study by NH OSP reviewed existing transit in the State and recommended: a coordinated system "to better utilize diminishing funds and more efficiently provide services to clients;" a State Coordinating Council to develop guidelines and manage the system; Regional Coordinating Councils (RCC) to evaluate needs/capabilities with State agencies; and implementation by direct sub-contracting with local providers by RCC's.¹¹ A coordinated interregional system is envisioned.

System Design and Marketing Plan. 1994. An overview of CityExpress prepared for HCS and NH DOT by Tom Crikelair Associates, the report recommends changes to the logo, overall image, schedule and route. Problems cited in 1994 were: 1) identity, 2) lack of service to Keene State College and important residential neighborhoods, 3) circuitous routes and long travel times between points in central business district, and 4) service hours limited to 9:00 a.m. to 4:00 p.m. The report recommended: 1) introduction of new name, logo, slogan and graphics, as well as an aggressive brochure distribution effort, 2) route and schedule alternatives with service to new neighborhoods, 3) plan for two-bus system in Keene, and 4) feasibility study of commuter services.¹² Recommendation 1) and 2) were implemented.

Southwest Region Passenger Transportation Study. 1994. Survey by SWRPC and Survey Center of the Institute for Policy and Social Science Research, University of New Hampshire, conducted by telephone (600 interviews; 100,000 total population), shows level of investment in passenger vehicle transportation mode indicated by vehicle ownership (2.2 vehicles/household) and commuter patterns (90% drive alone). Over two-thirds of respondents were not aware transit available in Keene; 95 percent never use transit. Less than three-percent felt employers should be responsible for creating new transit choices. One-third of respondents thought that private industry should provide new transit choices. In addition, "the results suggest that access to car ownership strongly influences [against] the use of public transportation."¹³

Southwest Region Transportation Plan. 1992. Planning document prepared by the SWRPC in 1992, it presents transportation goals for the region based upon analyses of existing transportation systems, state and federal policies and agendas, and regional development needs and goals as identified by professional evaluation and the public hearing process.

Chapter 1

HCS Rural Transit Planning

Review of the Monadnock Region Transportation Systems. October 1, 1990. Prepared by Multisystems, Inc. for Monadnock United Way, this study documents a successful demonstration route sponsored by Chamber of Commerce. A rubber-wheeled trolley looped Keene's downtown. State of New Hampshire did not authorize \$18 funds to continue service; however, three local transportation providers led by HCS cooperated to jointly provide transit service in Keene on eight loops. The effort was known as CARTS or "Community Affiliated Regional Transportation Services." It was succeeded in 1993 by *CityExpress*.

Current *CityExpress* Service

The *CityExpress* transit system offers fixed-route/fixed-schedule service with 16 stops on a 13-mile loop. A single vehicle travels clockwise and counterclockwise with one-hour headways in either direction (two hours for one direction) and service on weekdays from 9:00 a.m. to 4:00 p.m. During winter holidays, service along a modified route on weekends and some evenings provides 30-minute headways.

Figure 10 presents data compiled by HCS for the *CityExpress* transit system. Figure 11 presents the results of analyses based upon the data supplied for Fiscal Year 1990-1991 to Fiscal Year 1997-98.

Figure 10: *CityExpress* Data Reported by HCS

Fiscal Year	Program Cost	Maintenance Cost	Total Cost	Total Miles	Total Trips	Total Days	Total Hours
FY 92-93	\$ 68,658	\$ 6,718	\$ 75,376	20,457	5,107	259	1813
FY 93-94	\$ 66,687	\$ 7,905	\$ 74,592	18,708	8,043	259	1813
FY 94-95	\$ 93,421	\$ 7,803	\$ 101,224	21,280	8,294	257	1799
FY 95-96	\$ 81,188	\$ 5,666	\$ 86,854	22,274	9,917	253	1771
FY 96-97	\$ 82,492	\$ 6,122	\$ 88,614	22,347	10,512	259	1813
FY 97-98	\$ 76,097	\$ 6,064	\$ 82,161	22,442	10,242	259	1813

Figure 11: *CityExpress* Analysis of Efficiency and Operations

Fiscal Year	Trips/ Mile	Trips/ Hour	Miles/ Trip	Cost/ Mile	Cost/ Trip	Cost/ Day	Cost/ Hour
FY 92-93	0.25	2.82	4.01	\$ 0.27	\$ 14.76	\$ 291.03	\$ 41.58
FY 93-94	0.43	4.44	2.33	\$ 0.25	\$ 9.27	\$ 288.00	\$ 41.14
FY 94-95	0.39	4.61	2.57	\$ 0.21	\$ 12.20	\$ 393.87	\$ 56.27
FY 95-96	0.45	5.60	2.25	\$ 0.26	\$ 8.76	\$ 343.30	\$ 49.04
FY 96-97	0.47	5.80	2.13	\$ 0.25	\$ 8.43	\$ 342.14	\$ 48.88
FY 97-98	0.46	5.65	2.19	\$ 0.27	\$ 8.02	\$ 317.22	\$ 45.32

HCS reports 1857 vehicle-miles/month, 149 vehicle-hours/month and 846 passengers/month, generating fare revenues of \$ 7,092 annually from \$1⁰⁰ one-way cash fares. HCS offers discount fare books that are available from Keene Housing Authority, City of Keene and the Keene Chamber of Commerce. These discount fare books provide tickets for ten one-way trips for \$7⁰⁰ (\$3⁰⁰ in savings). Sale of advertising space on bus exteriors generates about \$5,000 annually.¹⁴ Total revenue is about \$ 12,000 annually.

CityExpress service is compared below with other rural and small urban service providers using 1993 & 1994 data reported in the Transportation Cooperative Research Program (TCRP) Report No. 6: *User's Manual for Assessing Service-Delivery for Rural Passenger Transportation* which is published by the National Research Council.¹⁵

Figure 12: CityExpress Service as Compared to Other Fixed-Route Rural Services

FY 1992-93	Total Cost	Total Miles	Total Trips	Cost/Mile	Cost/Trip	Cost/Hour
City Express	\$ 75,376	20,457	5,107	\$ 0.27	\$ 14.76	\$ 41.58
US Average	\$496,463	188,871	85,991	\$ 2.14	\$ 5.32	\$ 30.40

This comparison indicates that the CityExpress system is very efficient. The exceptionally low *cost/mile* reflects the system's efficiency, since overall costs are very low compared to the inelastic standard of the mile. The relatively high figures for *cost/trip* and *cost/hour* indicate the rural nature of the system (low ridership and low stop frequency).

- *Operations & Organization.* Community Care division (CC) operates CityExpress (see Appendix A). CC's responsibilities include Transportation, Congregate Meals, Meals-on-Wheels, Dial-a-Meal, Outreach, Friendly Visitor, Adult Group Day Care, Well Child Clinic, Prenatal Clinic, Adult In-Home Care, Homemaker and Alzheimer's Respite. HCS's budget is \$9,770,676 with 274.2 FTE; CC's budget is \$1,823,793 with 52.5 FTE (19% HCS); and Transportation's budget is \$293,817 with 8.1 FTE (16% CC; 3% HCS). The transportation budget is funded by approximately \$80,000 from NH DOT with a 20% local match of \$16,000 from the City of Keene, NH. HCS funds the remainder.
- *Mission Statement:* "To provide services which enable people to function throughout life at their optimal level of health, well being and independence, according to their personal beliefs and choices." From 1994 to 1998 strategic plans implementing the mission statement established goals requiring the agency to remain current on issues of health care delivery focusing on communication, automation, outreach and education. These goals led to specific and measurable objectives that included assigned responsibility and a calendar of implementation.
- *Safety and training.* CityExpress drivers maintain commercial driver's licenses and participate in Passenger Assistance Training. HCS provides routine, in-house, in-service driver training programs three times annually. Training for management is also provided (see Appendix B). In January 1996, HCS implemented a Drug and Alcohol Testing Program consistent with 49 CFR Part 40, US DTR, using an Evidential Breath Testing Device (EBT). Testing is performed following procedures in the adopted CC Policies and Procedures Handbook for privacy and integrity of the test.
- *Vehicle Maintenance.* HCS adopted policies require vehicles to be cleaned weekly or as necessary. Interiors and windows are cleaned daily; exteriors are cleaned weekly. Vehicle Maintenance Logs and Pre-trip Inspection/Vehicle Maintenance Reports are updated daily.
- *Non-vehicle maintenance.* Administrative facilities are inspected monthly. Identified problems may be corrected by either HCS or the landlord depending on deficiency. HCS' Joint Loss Management and Safety Subcommittees meet to address challenges and opportunities quarterly.
- *Service planning and scheduling.* The 1994 *System Design & Implementation Plan* recommended service and schedule changes were implemented. Service and scheduling are not reviewed regularly.

Chapter 1

HCS Rural Transit Planning

- *Public relations, financial planning and long-range capital program.* These functions are not part of CC's Transportation program but are performed by HCS for the entire organization.
- *Marketing of services.* Marketing includes print media, radio and special events (see Appendix C). Coordinated print media and radio advertisements target four populations: retirees, school children, college students and homemakers. Printed bus schedules, signage and a coordinated logo/graphic image for vehicles are permanent marketing tools. Special events include history tours and expanded service hours and days for holiday shopping: Thursday/Friday evening and Saturday/Sunday.
- *Organizational effectiveness, management processes and decision-making.* HCS uses total quality management for program review annually. The Board of Directors use financial reports and surveys and strives for continuous quality improvement.
- *Interagency coordination.* HCS coordinates with other service providers: bus driver training with Monadnock Family Services; shared vehicles with Retired Senior Volunteer Program (RSVP), Foster Grandparent Program, and Castle Center for Adult Day Care; loaned vehicle to American Red Cross; and, HCS coordinates mandatory reporting to the Federal Transit Administration.
- *Regional service.* Intra-city service is provided for Antrim, Greenville (in development), Jaffrey and Rindge. Inter-city service (to and from Keene) is provided for Fitzwilliam (monthly shopping trip to Keene on second Tuesday), Marlborough (monthly trip for senior lunches on third Monday), and Troy (monthly shopping trip to Keene on second Tuesday).
- *In-Town Express.* Fixed-schedule, fixed-route service using donated vehicle time from other service providers was coordinated with the volunteer "Cars and Neighbors" program in Peterborough. This demonstration project operated weekdays from June through October of 1998.

Private Transportation Providers

Vermont Transit Lines offers service to Montreal, New York and Boston with stops in Greenfield, Northampton and Springfield, Mass.; Brattleboro, Bellow Falls, White River Junction, Ascutney, Montpelier, and Burlington, Vt.; Hartford, Connecticut; and Hanover, NH. Eight trips daily leave from Keene Transportation Center with 48 to 56 riders: mostly Keene State College students and seniors.

Vermont Transit surveyed customers (25% response out of 5,000) and found 38% did not have access to a vehicle, 11% felt drive was too long, 9% responded to discount fare offered, 6% did not like to drive, 5% did not like to drive alone, 4% based their decision on cost, 3% reported that their vehicle was broken (20% reported other reasons; 4% no response). Regarding other modes considered, 42% reported none, 34% reported automobile, 9% reported airplane, and 4% reported train (no response 11%).

Regarding future, Vermont Transit reports expanded service to college campuses elsewhere is successful. In addition, intermodal (taxi, rail, and airports) connectivity considered important for future viability.

Ideal Taxi Service offers intra-city and inter-city service from Keene mainly for seniors, persons without vehicles or licenses and persons in wheelchairs (not wheelchair-bound). In winter, inclement weather increases clientele. Service is used for trips to work and shopping by about 36 to 50 customers daily. Regarding future, Ideal Taxi cited door-to-door service not offered by public transit.

Thomas Transportation Services, Inc. offers service to airports and throughout the Northeast. Service is available 24 hours, including private vehicle service, courier service, charter and connections. Thomas Transportation provides approximately 20,000 round trips annually, employing 45 persons in the region.

Have Car Will Travel offers door-to-door service to any city or airport in the Northeast including limited courier services. Currently 400 to 500 trips are provided monthly. Clients are business and corporate with some medical trips to regional hospitals (Lebanon and Massachusetts General Hospital). Regarding future, demand in low-income market is not served by public transportation or by private carriers.

Laidlaw Transit, Inc. provides service for public schools (6000 children, 68 routes, 90 buses) in Cheshire County (excluding Westmoreland) and special transportation for handicapped students (20 vehicles), sports and extra-curricula activities. Other services for Keene State and Franklin-Pierce Colleges include 12 to 15 trips daily (1600 to 2000 annually). Laidlaw employs 100 persons locally.

Laidlaw also operates fixed-route/fixed-schedule service in Brattelboro, Vermont similar to *CityExpress*. Operating costs are \$ 260 daily; annual costs for 252 days are \$65,520 with 180 miles traveled daily at \$1.44/mile. Ridership levels are steady at 50 to 60 riders/day.

Adventure Limousine offers limousine and mini-van service for corporate clients and special events with 4-5 trips/week (50/50 corporate/special events). Regarding future, Adventure reports increased demand for inter-city service (e.g., Keene to Jaffrey) but is unable to identify cause for increased demand.

Swanson Limousine provides stretch limousines for weddings, special events and airport trips (corporate customers), averaging six trips/month. Demand is highest in May and October, and lowest in January.

Other transit providers including not-for-profit and non-profit agencies are listed in Appendix D. In addition, services by the Salvation Army include approximately 80 trips weekly. Limousine services located outside of Keene provide some service to the region but are not included as part of this study.

Demand for Transportation Service

The following specialized segments of the population are located within the Census Blocks listed below for the City of Keene as measured by the 1990 Census and represent potential market groups for transit as identified in US Department of Transportation's *Guidebook for Planning and Small Urban and Rural Transportation Programs*. Demographic analyses are attached in Appendix E.

Figure 13: 1990 Specialized Population Segments by Census Block in Keene

Census Block	Persons aged 65 or older	Handicapped Persons	Commuters (drove alone)	Persons aged 18 or less
Block 9710	853	227	2,255	1,265
Block 9711	561	170	1,504	809
Block 9712	176	63	454	239
Block 9713	501	181	1,87	904
Block 9714	1,166	306	2,882	1,530
Total Persons	3,257	947	7,282	4,747

Chapter 1

HCS Rural Transit Planning

Opportunity for Transportation Service

Per HCS, there are about 200 persons regularly using services provided by *CityExpress*. Of these, almost all are reported as being persons aged 65 years or older with about a dozen who are 18 years or younger. Handicapped persons use other services provided by HCS but not *CityExpress*.

It may be concluded on the existing route approximately 6% of potential users who are aged 65 years or older actually use the service. Other groups currently do not use the service. An increase in service area, hours of availability and frequency of services should produce a corresponding increase in ridership.

Currently, *CityExpress* system provides 40 to 60 one-way trips/operating day. HCS anticipates an initial increase which would yield 70 to 100 one-way trips/operating day, based on an increase in the length of the operational day and a new route to include areas not currently served by *CityExpress*.

End Notes

¹ 21st Century Transportation Task Force, *Transportation in the 21st Century*, Charles P. O'Leary, Jr., Chairman (Concord, New Hampshire: New Hampshire Department of Transportation, 1993), p. 31.

² US Bureau of the Census, *1990 Census of Population and Housing; Summary Population and Housing Characteristics: New Hampshire* (Washington, DC: US Government Printing Office, 1991), p. 61.

³ US Bureau of the Census, *1990 Census of Population; General Population Characteristics: New Hampshire* (Washington, DC: US Government Printing Office, 1991), p. 165, 122, 114, 2.

⁴ COMSIS Corporation, *Guidebook for planning Small Urban and Rural Transportation Programs: Volume I A Technology Sharing Reprint* (Washington, DC: US Department of Transportation, June 1990), p. II.2.

⁵ Ibid.

⁶ US Bureau of the Census, *1990 Census of Population; Social and Economic Characteristics: New Hampshire* (Washington, DC: US Government Printing Office, 1991), p. 232.

⁷ Ibid.

⁸ Becky Forsberg, Erin Bourassa, Beth Platt and Kevin Williams, *Use of City Express by the Keene State College Community*, (Class project, Geography Semester I, Geography Department, [April 7, 1998]), p. 5.

⁹ Southwest Region Planning Commission, *Project Care Coalition of the Eastern Monadnock Region*, (Keene, New Hampshire: Monadnock United Way, January 1996), p. 2.

¹⁰ Monadnock United Way, *Focus on the Monadnock Region: A Study of Human Service needs*, (Keene, New Hampshire: 1995), p. 3.

¹¹ New Hampshire Office of State Planning, *Statewide Transit Coordination Study*, (Concord, New Hampshire: New Hampshire Office of State Planning, August 1995), p. 1.

¹² Tom Crikelair Associates, *System Design and Marketing Plan: Home Health Care and Community Service December 1994*, (Bar Harbor, Maine: Tom Crikelair Associates, [1994]), pp. 2 - 6, 30 - 33, Appendices.

¹³ Institute for Policy and Social Science, University of New Hampshire, *Southwest Region Transportation Study*, (Durham, New Hampshire: University of New Hampshire, [April 27, 1994]), pp. 1, 5, 6, 15 - 16.

¹⁴ Home Healthcare Hospice & Community Services, *Application: Small-Urban and Rural Transportation Program Section 5311*, (Keene, New Hampshire: Home Healthcare Hospice & Community Services, [1997]), p. 5.

¹⁵ Burkhardt, Jon E., Beth Hamby and Adam T. McGavock, *Transit Cooperative Research Program Report 6: User's Manual for Assessing Service-Delivery Systems for Rural Passenger Transportation*, (Washington, D.C.: National Academy Press for the Transportation Research Board, 1995) p. 9; Appendix D, p. 19.

ANALYSIS OF SURVEY AREA POPULATION

Design of Survey Instruments

Four surveys were used to study trip characteristics of employees and students in Keene. Surveys were prepared by SWRPC and reviewed by Keene Future Search Transportation Sub-Committee, the City of Keene Planning Department, HCS Community Care staff, and the Keene State College Student Assembly. The survey documents were then compared with surveys conducted in the Monadnock Region by Keene State College, the University of New Hampshire, City of Keene, the U.S. Census Bureau, and similar studies reported in the transportation literature. Sources for comparison were from New Hampshire, Texas, New York, Pennsylvania, Colorado and Wisconsin. Unique surveys were specifically designed for (1) employers, (2) employees, (3) Keene State College students, and (4) residents of public housing (see Appendix F).

Survey Implementation

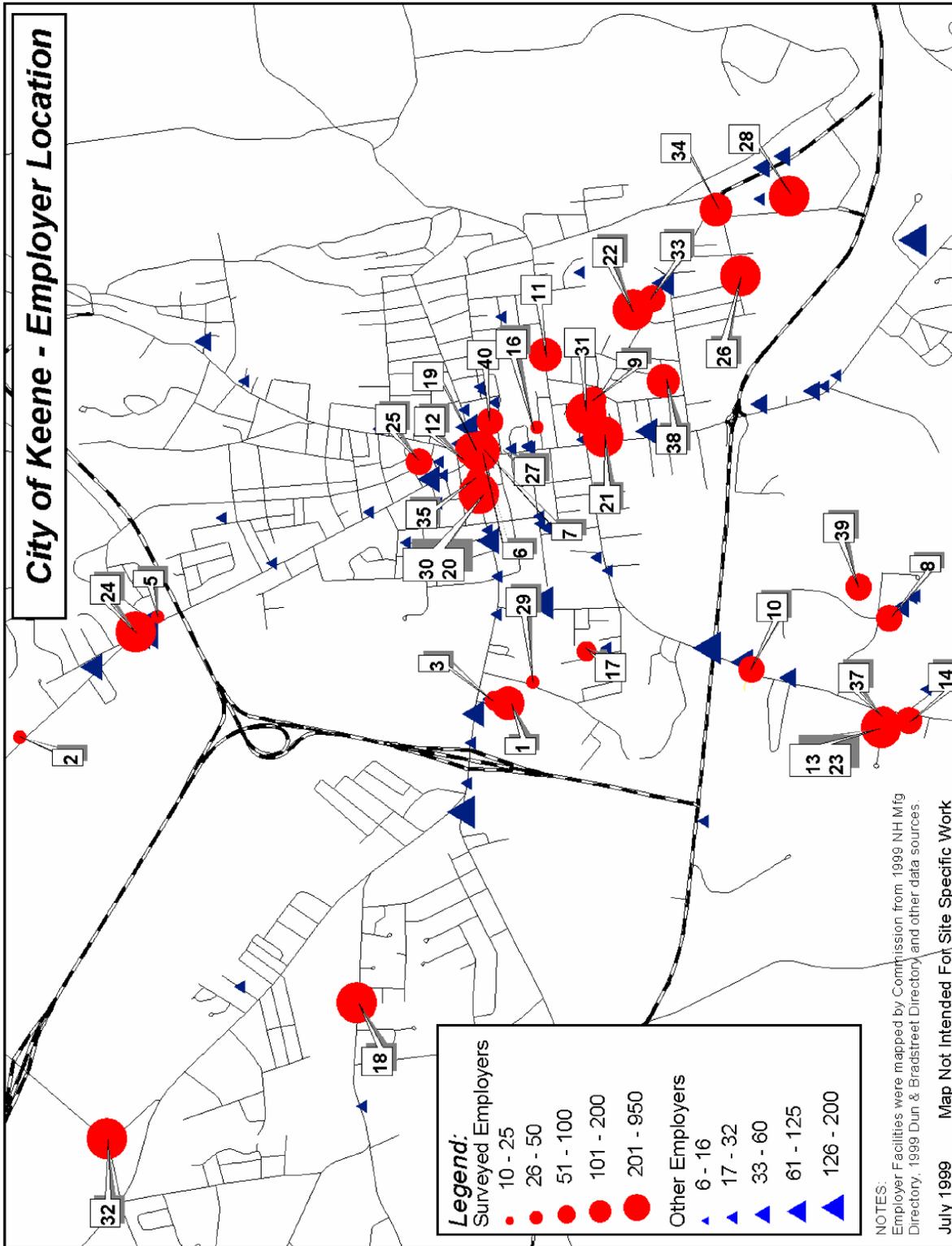
Employer Survey

Forty employers were contacted by Southwest Region Planning Commission. Employers were identified by Greater Keene Chamber of Commerce Top 20 and City of Keene’s Mayor Presidents’ Court. The following employers in the Keene area were contacted. A map indicating the location of the employers listed below is included on the following page.

<u>Employer</u>	<u>Employees</u>	<u>Employer</u>	<u>Employees</u>
1. Antioch New England	180	21. Keene State College	735
2. Bank of New Hampshire	16	22. Kingsbury Corporation	350
3. Baybutt Construction	15	23. Knappe & Koester, Inc.	40
4. Chamber of Commerce	3	24. Lahey Hitchcock Clinic	330
5. Cheshire Medical Center	800	25. MacMillin Company	106
6. Citizens Bank	11	26. Markem Corporation	710
7. City of Keene	230	27. MEDRC	3
8. Douglas Co., Inc.	72	28. MPB Corporation	1,600
9. Federal Express	100	29. New Hampshire Forge	20
10. Filtrine Manufacturing Co.	85	30. NGM Insurance Company	950
11. Findings, Inc.	170	31. PC Connection	232
12. Fleet Bank	12	32. Peerless Insurance Co.	530
13. Franklin-Pierce College	-	33. Precitech, Inc.	114
14. Hamshaw Lumber, Inc.	70	34. Schleicher & Schuell	105
15. Innerpac Northeast, Inc.	60	35. School Admin. Unit #29	600
16. J. A. Wright & Co.	20	36. SIMS/Portex	950
17. Keene Day Care Center	35	37. Tidland Corporation	53
18. Keene High School	155	38. Tilcon-Arthur Whitcomb	24
19. Keene Middle School	120	39. UPS: United Postal Service	79
20. Keene Sentinel	130	40. Whitney Brothers, Inc.	100

Nineteen (47%) employers responded by completing the employer survey. Surveys were completed by either the chief executive officer or a key human resources contact. SWRPC staff interviewed the representative, or the representative returned the survey by mail or facsimile. The cumulative results (all responses) for this survey are presented in Appendix G.

Figure 14: City of Keene Employer Location



Employer Survey

Fifteen employers participated in the implementation of the employee survey within their business. Distribution to employees by employers varied from direct distribution with paychecks to distribution at staff meetings or availability at a central location. Of the 4,064 employees available among those 15 businesses, 633 employees responded (16%).

Keene State College Student Survey

The student survey was implemented with the cooperation of the Keene State College Student Affairs Office and Student Assembly. Surveys were directly mailed to 500 Keene State College students. Sample population was stratified as 50% on-campus addresses and 50% off-campus addresses. Twenty-eight students responded (6%).

Residents of Public Housing Survey

Staff of SWRPC and HCS interviewed residents at two subsidized housing complexes within the City of Keene. Of the 65 units, approximately 62 were occupied, and of these units, 31 respondents were interviewed (50%).

Analysis of Results

Survey results were tabulated using Access™ and Excel™. Based on simple analysis functions such as frequencies and histograms, the following conclusions were drawn from the survey data.

Employer Survey

The 40 responding employers comprised seven business types: seven manufacturers (36%), three service (16%), three professional (16%), two health care (11%), two retail (11%), one governmental (5%), and one publishing (5%). Both for-profit and not-for-profit organizations were represented in the responses. These employers currently employ 4,064 persons in Keene (less than half of whom live in Keene). The employee population is distributed by business type as follows: 1,181 in manufacturing (29%), 1,130 in health care (28%), 935 in professional organizations (23%), 302 in retail (7%), 230 in government (6%), 156 in service (4%), and 130 in publishing (3%). Of those employers who responded, most (58%) operate more than one shift. The hours vary widely and several operations have shifts around the clock: City of Keene, the hospital, and three manufacturers.

No employer cited transportation as a major problem for employees. Minor traffic congestion, availability of on-site parking spaces, and affordability of private automobiles were cited as problems. Five employers indicated that employee transportation is a responsibility of the employer.

Costs to employers to provide employee parking (infrastructure and maintenance), range from \$2,000 to \$8,000 per year with an average of \$4,000. The average total cost per employee per year was \$46; the median and the mode were \$57 per year. The highest cost per employee was \$80 per year and the lowest cost was \$20 per year.

All but one employer provide parking on-site for employees. Two provide additional off-site parking. Most employers (68%) owned their employee parking lots and five lease the lots. Most (53%) employers report that current parking is sufficient. In general, employers believe that transit is the “right thing to do” but express skepticism or uncertainty about the benefits and ridership level attainable in Keene.

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Employee Survey

More than half of employee respondents were from households where household incomes exceed \$45,850 (376 or 59%) with at least a two workers (323 or 51%), and at least two vehicles (322 or 51%), and at least two drivers (309 or 49%) in the household (thus, 49% of households surveyed reported all of these characteristics). Low-income, very low-income and respondents from families below the poverty line represented less than 7% of the surveyed group.

Overall, there is little interest expressed by respondents in using public transportation. Twenty-five percent report that they would use a transit service in Keene. Actual reported use of existing service is two percent. Respondents felt that public transportation might benefit special groups (*e.g.*, elderly), but that they themselves would not use the service.

About half (49%) of the respondents live in Keene. Very few respondents (5%) indicated that they experience any transportation difficulties. Of those respondents with children in day care (12%), private vehicles are the sole means (84%) for transportation to day care. A large majority of respondents report (94%) that they have reliable access to a vehicle for personal use. Almost all (90%) have free parking at work.

A large minority (38%) report frustration during daily driving, citing traffic congestion at specific times of day, driver rudeness and poorly timed traffic signals as causes. The majority (85%) of respondents reported daily commutes at or under 30 minutes.

The “Design Your Own Transit System” section of the survey provided comments and ideas of anecdotal interest to this study. The respondents commenting in this section (170 or 27%) generally advised clean, visually appealing vehicles and time-efficient service.

Keene State College Student Survey

Due to the limited number of responses (28 /500 or 6%), only general summaries are provided.

Responses were equally distributed among sophomores, juniors and seniors and represented both on- and off-campus residents. None of the respondents had children in day care. Sixty-five percent of respondents were employed, 11% full-time.

The trip to campus is 15 minutes or less for about half of the respondents. Most students drive their own vehicle to destinations of which the survey inquired (including campus, work and socializing). The second choice by most students if their own personal vehicle is not available is to ride with a friend or family member. Of seven possible alternatives to driving themselves, students ranked *CityExpress* as second least likely option (taxi ranked lowest).

When asked to agree and disagree with different statements regarding circumstances under which they would use a comprehensive bus service in Keene, students expressed strongest agreement with the scenario if the bus service is free, if the bus would stop on the block where the respondent lived, and if weather is poor. In general, there was no agreement when the bus did not stop near respondents’ home, when there would be a charge for the trip, or when the trip was social in nature.

Just over three-quarters of the students surveyed were aware that public transportation exists in Keene; however, there was no student who indicated that he/she used *CityExpress* as a means of transportation.

Residents of Public Housing Survey

Thirty-five percent of respondents reported they had children in day care. A significant minority (45%) were currently unemployed. Thirty-five percent were employed full-time; 20% were employed part-time.

Respondents reported a mean travel time to work of 10 minutes. Seventy-one percent drove their own vehicle to work; 11% used a bicycle to get to work; and 5% rode with a friend or a family member. For purposes other than work, 65% of respondents drove their own vehicle; 16% rode a bicycle; 5% reported using *CityExpress*; and three percent drove with a friend or a family member.

Forty-four percent reported walking as their second choice for transportation if the usual method were not available; 33% indicated that riding with a friend or a family member would be their second choice; 14% reported that they would use a bicycle; 3% indicated a taxi; and 3% indicated that *CityExpress* would be their second choice.

Regarding use of a proposed “free bus service that would be available throughout Keene,” a large majority of the respondents (83%) indicated that they would use the service if it stopped on their block. This declined to 75% if the bus stopped within several blocks of their home. Bus use for social visits and trips for grocery shopping did not rank high, while bus use in poor weather was indicated by 76% of the respondents. Payment of a fare did not seem to affect potential use for those who reported that they would use the bus. A majority reported that they would not allow their children to use the system on their own due to the very young age of their children.

Eighty-eight percent of respondents are aware of the existence of public transportation in Keene, and as reported previously five percent of respondents use the *CityExpress* as a means of transportation.

General Conclusions

The survey results indicate that most of the respondents move into, around and out of Keene on a daily basis by way of single occupancy personal vehicles. Most respondents seem to be satisfied with the level of mobility available to them today. The surveys also provide a profile of those from low income households, the unemployed and college students as most likely to use means of transportation other than personal automobiles, e.g. ride sharing, walking, bicycles, and public transportation. Respondent opinions about the viability, usefulness and economy of public transportation tend to reflect the habituated reliance on personal vehicles for trips to work, shopping, services, and socializing – a reliance typical of rural communities and regional employment/commercial centers and that has arisen simultaneously from necessity and as a model lifestyle. Perceptions regarding public transportation are relatively uniform among the populations surveyed in that public transportation is a benefit to the community and individuals; however, the prospect of relying on public transportation for daily routine is foreign to the survey respondents.

LITERATURE REVIEW

Relevant transportation and planning literature, regarding programs for employer subsidized public transit and programs for student-related transit participation by college and university systems, reveals that a wide variety of participation models exist in the United States. Examples of employer subsidized systems were reviewed for programs in major cities as well as smaller, rural communities. Examples of student-related transit participation were reviewed which include participation by colleges and universities with public and/or private transit, as well as campus-based transit programs. In addition, selected materials related to the marketing of transit and transit-related services are included in order to provide an inventory of marketing tools and an evaluation of their effectiveness.

Employer Subsidized Public Transit Participation

First, a review of the literature regarding employer subsidized public transit included programs in Texas, New York, Pennsylvania, Colorado, Washington, New Jersey and California, as well as general transportation issues identified as pertinent in the literature. In 1988 Bullard examined employer-distributed transit pass programs in the five Texas cities of Dallas, Houston, Forth Worth, San Antonio and Austin and concluded that the potential employer benefits included reduced parking demand (and therefore expense), a tax deduction, and increased productivity from improved employee morale.

Transit providers tended to market pass programs to employers in “the Central Business District [CBD] or other major centers of employment which currently have *frequent, reliable and efficient transit service available* and limited or expensive parking” (Bullard, p. xi) [*emphasis added*]. Employer levels of subsidy varied widely.

Bullard’s survey of employers in the five aforementioned Texas cities revealed differences between employers located outside of the Central Business District [CBD] and those within the CBD. Employers reported that transit pass purchases represented a much smaller percentage of the work force when located outside of the CBD. Seven percent was reported for employers outside of the CBD, while 23 percent was reported for employers located within the CBD (Bullard, p. 49). In general, employers provided more parking if located outside of the CBD (Bullard, p. 58). This may have had an inverse relationship on the purchase of transit passes. Also, the purchase of passes doubled when some level of employer subsidy was provided (Bullard, p. 63).

Schwenk reported in 1995 that TransitChek programs in New York City and Philadelphia were moving toward established goals for ridership, mobility and economic self-sufficiency (Schwenk 1995, p. xv). Thus, transit service providers were subsidizing the TransitChek programs from general funds, as well as by various grants and those employers who provided TransitChek as a benefit to their employees. TransitChek programs allow employees to purchase public and private transit passes, ticket books or bulk tokens, and such programs require the coordination and cooperation of transit providers and rail operators in both the public and private sectors.

It is interesting to note that the Philadelphia program was established by the Delaware Valley Regional Planning Commission (DVRPC), in order to “demonstrate the importance of transit to economic growth in Philadelphia” with an emphasis on “small employers for whom participation in the pass programs ... [offered by the many individual transit and/or rail providers] was not efficient” (Schwenk 1995, p. xiii). It is also notable that both programs were developed in environments with substantial transit offerings.

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In addition, New York City and Philadelphia are classified as severe non-attainment areas for ozone according to federal regulations. This situation provides strong incentives to employers with 100 or more employees for participation in programs like TransitChek, since these employers must provide for trip-reduction plans (Schwenk 1995, § 2, p. 4); however, as decision-making is often the responsibility of one person in small companies as opposed to many in larger organizations, marketing efforts for TransitChek in New York concentrated on small employers (Schwenk 1995, § 2, p. 21). It was concluded that “in areas such as Philadelphia, where an extensive transit system exists and where the transit market is not saturated, there is great potential for a program such as TransitChek to convert a significant number of employees to transit” (Schwenk 1995, § 3, p. 15).

Schwenk reported in 1993 that the Eco Pass program in Denver and Boulder, Colorado was very innovative and creative but lacked the statistical data needed to evaluate effectiveness (Schwenk 1993, p. 5). The primary goal of the program was to increase transit ridership (Schwenk 1993, p. 10). The rates paid by employers were “a set price for each employee regardless of the degree of transit usage by the employee” (Schwenk 1993, pp. 10-11). Schwenk refers to this pricing structure as being modeled after the insurance industry. Due to an increase in use of the transit system, this pricing structure necessitated an increase in prices to employers. Also, delay of construction for a parking garage was possible due to the potential for reduced parking demand (Schwenk 1993, p. 10). Whether or not a parking garage was actually constructed at a later date is not included in the results reported by this study.

Schwenk mentioned that the program was based upon the Seattle UPASS program which was designed for university students (Schwenk 1993, p. 7). This gives an interesting insight into the origins of this kind of program. Also, Schwenk’s review of the Eco Pass includes a related student program at the University of Colorado at Boulder (CU). All students pay an \$11 fee every semester upon registration. This entitles the student to unlimited bus transportation within Boulder and reduced fares to Denver. The guaranteed ride home program (taxi services) provided for employee participants is not included for students (Schwenk 1993, p. 9).

In 1980 Willet reported that a 50 percent ridership increase was achieved during a one-year period where all bus rides were free. More significant was the retained 20 percent increase in ridership after the conclusion of the one-year period. “While free bus service is impractical in the long run, according to Mercer County [Trenton, New Jersey] Metro Supervisor Roland Quigley, it is an excellent way to introduce public transportation to those who have not taken advantage of it (Willet, pp. 15-16).”

In the 1980 publication *A Guide to Transportation Demand Management Plans for Employers*, Commuter Transportation Services, Inc., a private non-profit ridesharing organization serving the greater Los Angeles area, presented a blueprint for development of a Transportation Demand Management Plan which included (1) assessment of the current employee transportation program, including management’s goals for the program, physical site analysis and transit, (2) a method for measuring vehicle occupancy, *i.e.*, a sample employee survey, (3) strategies for program improvement to address modal split, average commute distance, travel time, work schedule, and employees’ attitude and (4) implementation and monitoring of the transportation program, including the role of an employee transportation coordinator (CTS 1988, pp. 1 - 17). Regarding public transit the text states that “[g]enerally, transit attracts commuters living within 10 miles of their workplace except for express services (CTS 1988, p. 20).”

Regarding the costs for the implementation of programs such as smart cards, Collura gives an example of start-up costs in his report to the Transportation Research Board that exceeds six figures (Collura, p. 19); thus, implementation costs for this technology may be prohibitive.

It is important that the transportation literature indicates in general that ridership on public transit has markedly decreased and continues to decrease as both a percentage of the population and in terms of the actual numbers of riders. The literature also repeatedly cites what is summarized by Higgins:

Increasingly, the impetus for initiating services is a trip reduction ordinance or developer agreements requiring implementation of programs and strategies (Higgins 1992, p. 397).

Higgins strongly cautions the reader regarding circulators, citing numerous failures. Although Higgins is reviewing shuttles and, specifically, circulation service within a small or medium business park, the warning is easily transferred to the small or medium downtown. Higgins refers to federal guidelines on planning shuttles set forth in Batchelder as follows: "A daytime density of at least 20,000 people per square mile may be required to support a circulation transit system (Higgins 1992, p. 406)." This is 32 employees per acre which suggests a relatively dense employment center necessary to support transit.

Regarding employer destinations in rural and small city settings, the Transportation Research Board notes that employer-related transit may need to be designed separately from transit which connects users to services, since employer destinations are often isolated from the downtown center where service providers are most likely to be located (Burkhardt, p. 37).

Teal observed in a study of eight transit agencies that private-sector strategies could decrease the costs of the service. In one example, subsidies could be reduced by 90 percent via contracts with private bus companies. Such savings are possible due to both labor savings and because "private operators are frequently able to interline commuter service with their charter business, thereby using labor and vehicles throughout the day and reducing the unit cost of service" (Teal, p. 35).

Student-Related Transit Participation by College and University Systems

Next, a review of student-related transit participation programs included the Milwaukee County Transit System in conjunction with University of Wisconsin-Milwaukee; the Massachusetts Institute of Technology; six hospital campuses in San Francisco, California; and six pilot projects in Iowa involving public school children and public transportation.

The program implemented at the University of Wisconsin-Milwaukee in 1994, entitled UPASS, provided for unlimited access by students to transit via a pass card. This program was funded by a mandatory, student activity-type fee which was paid by all students at the University. Student surveys, focus groups and surveys by mail were utilized to measure the effectiveness of this program.

Meyer reported that the amount of students who used the transit system doubled after implementation of the program. The number of students who reported driving to campus decreased from 54% to 41% for the year after the program was implemented, while the largest modal shift reported was by those who had previously walked to campus. The percentage of students who utilized the transit system to travel to work doubled after the implementation of the program. Meyer suggested that an employer-based transit program might result in similar increases in ridership by employees. Survey responses after program implementation of UPASS indicated approval rates of over 90% (Meyer 1998). It is important to note that close proximity to transit played a major role in transit use. 57% of students living near transit reported regularly using the service, while only 12% of students who were not in close proximity reported using transit (Meyer 1996, p. ii).

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Another issue raised was that of travel time. According to one survey (prior to UPASS), almost one third of students who no longer used transit had discontinued their use due to the length of travel time, which was the number one reason for cessation of use (Meyer 1996, p. 48). The study also revealed that a transit pass program without marketing and public education would not be successful; and, more importantly, parking is a significant factor in the success of a program. "Free parking at a place of employment discourages employees to ride transit" (Meyer 1996, p. 113).

In addition, it was reported that some employers feared losing good employees to other employers, if free parking were not provided to employees (Meyer 1996, p. 119). An assumption in the transferability of such programs to employer settings is that such programs will offer a "deep discount" to entice new ridership. It was unexamined, however, how deep discounting to specific employers (and thus employee groups) would effect both the public's perception and the actual fair share of the expenses to operate transit for those riders who are not employed by large or targeted companies and, therefore, are not eligible for "deep discounts" and must pay full fare. The text concludes that the program at UWM may be unique, as there are 20,000 students, and campus is served by 11 transit routes (Meyer 1996, p. 129), especially since two of these transit routes are specially designed, express routes for UWM riders.

Regarding pass systems in general, the Center for Urban Transportation Research at the University of South Florida reports that "The all day pass has proven to be highly successful not only in terms of ridership and revenue, but in terms of driver-passenger relations, improved running time, and reduced transfer abuse" (CUTR, p. 44).

In addition, as part of a separate planning activity, the probability of successful implementation of a pass program was rated as "high" in the transportation plan prepared by the Southeastern Wisconsin Regional Planning Council (SEWRPC 1994, p. 391).

Public transit service is not ubiquitous within the Region, nor even within the urbanized areas of the Region. Therefore, if transit routes between subareas of an urbanized area do not exist, trips desired to be made between such subareas may be made by alternatives to transit, by less direct transit routes if available, involving increased travel times and inconvenience, or such trips may not be made at all. If the volume of desired trips between certain concentrations of trip origin and destination is large and these trips cannot be conveniently made or cannot be made at all because of the lack of transit service, the provision of direct and frequent transit service linking such concentrations may be justified. The need for such service becomes particularly acute when its absence contributes to a lack of access to employment ... (SEWRPC 1994, pp. 365-366).

Although the above statement refers to subareas which are separated by suburban sprawl within a large urbanized area, this concept may well be transferable to various rural towns and a central county seat, where such subareas are separated by rural land instead of suburban development.

It is most interesting to note that the Southeastern Wisconsin Regional Planning Council reports that "Between 1963 and 1991, the number of public transit round-trip route-miles provided increased by about 171 percent from 847 [route-miles] in 1963 to 2,296 [route-miles] in 1991." This fact is in sharp contrast with declining ridership where "regionwide, in 1991, 56,700 fewer persons were served by local transit than were served in 1963" (SEWRPC 1994, p. 646). This is a 54 percent decrease in the number of actual riders since 1963 (SEWRPC 1994, pp. 225-226). Therefore, the successfulness of the program studied at UWM should be viewed within the context of a dramatically diminished demand for public transit in an environment where the population has increased by about 13% in the same time period.

Other campus-related systems were cited by Higgins in his review of shuttle operations in 1992. Higgins notes that “because students generally own fewer cars and earn less money than commuters, they probably are attracted more to transit than employees (Higgins 1992, pp. 400-401).” Higgins also concludes that colleges are more easily able to dictate the behavior of their students than employers can with employees. Massachusetts Institute of Technology and the University of California Los Angeles are cited as campuses that utilize proximity to transit as a factor in granting or denying parking permits. For hospital campuses Higgins sites a study of six San Francisco hospitals where he concludes that success of the shuttle systems at these facilities is due to parking management.

Where shuttles serve areas with tight or expensive parking, or where there are rules requiring use of outlying park-and-ride lots, or where groups without other good travel alternatives are the target market, shuttles show some success. But in business parks with abundant free parking, experience suggests that shuttles might attract only a few percent of commuters and a lesser proportion of mid-day travelers.... For service to and from residential areas, shuttle routes must compete with the speed of private autos. Routes must be short, direct and service close-by, high-density residential developments. In all cases fares must be low enough to compete with the perceived cost of traveling by auto. Generally, shuttles should not travel more than 2 to 3 miles from origin to destination (Higgins 1992, pp. 404, 407).

Therefore, conclusions that may be drawn from Higgins do not predict a well-utilized system where the aforementioned conditions are not met.

Kyte reviewed pilot programs in six Iowa communities where public transportation was utilized to transport school children. Four communities in urban settings used the existing public transportation to provide school trips, while two communities in rural settings combined operations, maintenance and purchasing functions of the school board and the transit providers which permitted a cost savings to both. Kyte notes that the “most difficult barrier to coordination is institutional” (Kyte, p. 30).

Marketing of Transit and Transit-Related Services

In addition to employer and university participation, a brief review of marketing of transit and transit-related services is presented. In 1982 Everett explored “those strategies which manipulate price in order to make transit more attractive” (Everett, p. 2). The focus was identified as the concept of promotional pricing. Both successful and unsuccessful projects were reviewed and evaluated in order to provide for a variety of examples. Types of programs included non-fare related programs, such as coupon programs and contests, and fare-related programs such as free pass programs and earned pass programs.

Coupon programs included “coupons or discounts on merchandise offered in cooperation with local merchants” who provided for the support of the incentive program (Everett, p. 3). It was suggested that these programs could be offered on a long-term basis with careful management of discounts, so that discounts would remain effective over time. A program was adapted for school children by offering coupons or tokens towards items that were specifically chosen for the targeted age group (buttons, stickers, compact disks, or concert tickets, *etc.*). A variation on this concept utilized school-based contests in conjunction with a local radio station, where the school group which exhibited the highest ridership won a free concert and a party. Other contest-type promotions for the general public included valuable prizes (*e.g.*, a passenger vehicle).

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One program at University Park, Pennsylvania, increased college student ridership by almost one-third via a token program. Tokens could be accumulated and were redeemable at local merchants for candy, beer, food and music albums. It is important to note that a variety of options were studied and that “no significant difference in ridership can be detected between days on which all riders received tokens and those on which only every third person received tokens.” These results are important due to the savings potential. Also, noteworthy is that merchants were reimbursed for tokens by the university with a deduction for promotional considerations (Everett, p. 25).

Fare-related programs included free pass programs and earned pass programs. Review of free pass programs illustrated that for the most efficient use of free passes (percentage of free passes used) distribution of a few passes which were valid for a long period of time was more effective; however, for the greatest impact on ridership (overall increased ridership) distribution of a large number of free passes which were valid for only a short period of time was more effective (Everett, p. 29). Earned pass programs provided future, free transit usage in exchange for present ridership via passes, punch tickets or other means. Such a program could be as simple as free passes for the purchase of an initial pass. A successful program included the distribution of passes that earned the rider free transit contingent upon the use of transit. The program therefore reinforced the use of transit, as opposed to free-to-all programs.

In general, the text presents incentive programs as a temporary measure to attract new riders who will ride at first by virtue of the special incentive(s) offered and then continue to ride after the incentive program is completed due to a new understanding of the inherent incentives of public transit. It may be inferred that one overall goal of a promotional program might be that of response shaping where riders are given incentives for “successive approximations of being a routine bus rider” (Everett, p. 7).

In addition, promotional programs may have the additional benefit of increasing the public’s awareness and acceptance of the transit system. Everett is very careful to point out that short-term economic incentives and promotional pricing can be successfully utilized only as part of a larger, active, coordinated and mature marketing program. The author repeatedly stresses that the transit service offered and the price of transit must be satisfactory prior to any consideration of promotion. “Promotion is not a substitute for good service” (Everett, p.34).

The following marketing strategies were summarized by Bullard as successful examples from Texas and other cities in the United States for marketing employer distributed transit pass programs: solicit the CEO’s of large employers first and personally, research the business climate, maintain regular and persistent contacts, market continuously via on-vehicle advertising, utilize free advertising via public service announcements, work with local business groups and chambers of commerce, conduct employer and employee communication and information sessions, and provide a wide variety of information and marketing materials to the employer sites (Bullard, pp. 23-27, 73-75).

In 1996 the Center for Urban Transportation Research (CUTR) at University of South Florida identified a wide variety of innovative techniques for savings which are based upon the inspiration of the Small Operators’ Forums held at the American Public Transit Association (APTA) Annual Conferences (CUTR, p. 4). Among these techniques were a number of marketing-related strategies as well as others which may be applicable to marketing transit in general. For example, in San Rafael, California, special promotions prior to Christmas offer “free fashion shows, wine tasting, music, and visit from Santa all provided by restaurants and retailers” (CUTR, p. 16). In Syracuse, New York negotiations with the telephone company yielded revenue-producing pay phones in bus shelters. “In addition the phones are programmed to allow callers to dial ‘*BUS’ for a free connection to ... customer service information...” (CUTR, p. 16). In Lansing, Michigan transit vehicles are available for charter through an arrangements with a local, private

transit carrier, which reduces conflict between the private and public systems (CUTR, p. 14). In Pensacola, Florida the local transit authority has an agreement with two shopping malls to provide service from a military base to the malls when normal bus service is not operating (CUTR, p. 21). In a broad reaching conclusion CUTR states “The more transit systems show they care about others, the more others will show they care about the transit system” (CUTR, p. 62).

It may be important to note, when developing marketing plans for transit services, the results of a 1993 study in Indiana which reveal that ridership is, among other things, a function of the population over age 55 (Black, p. 4). Such an observation will significantly impact marketing, especially in the areas of segmentation and targeting. It would appear that this observation is transferable.

In 1997 McLaughlin reviewed incentive programs specifically directed at transit-dependent populations which he cites as an often ignored source of increased ridership via increased trip-making, where most marketing directives are aimed at non-riders as a source of increased ridership via new riders. McLaughlin identified five areas for marketing efforts as follows: (1) community focused service and attitudes which includes participation in neighborhood events and specific outreach programs as part of a “good neighbor policy;” (2) fare policies such as passes available for short, and thus, relatively inexpensive periods or free passes to special target groups such as the unemployed; (3) frequent rider programs, including such incentives as half-price tickets to sporting events or discount coupons at local supermarkets or restaurants; (4) bus operator approaches, including training programs aimed at improved customer relations, hiring bus drivers from targeted communities and changes in uniforms to promote a more friendly environment; and (5) amenities such as “bus stop shelters, benches, lighting ... ,and air-conditioning” as well as “entertainers at transfer centers, public celebrations ..., and the appearance of the bus itself.” More advanced concepts include electronic advertising (such as interior billboards and television), uniquely appointed interiors, and exterior whole-bus painting and advertising to make the bus a special experience, as opposed to the perception that the customer is on a generic mass transit vehicle. One example is overall bus imaging by private companies, such as Nike to promote their identity instead of a specific product (McLaughlin, pp. 141-143).

In 1998 Silverberg reviewed current advertising practices. One idea being explored in Montreal involves the adoption by corporations of a transit stop where that stop would be completely re-designed with company colors, logos, and thematic elements, including a retail outlet, new product demonstrations and distribution of company information in exchange for revenues (Silverberg, p. 2). This is the next logical step in the development from the whole-bus concept to the whole-station concept. No mention of the whole-transit service concept is suggested by the literature; however, such a scheme may be feasible for certain systems where an advertiser would desire or require exclusive identity on the transit system.

Another marketing-revenue combination is the sales of food and beverages on transit lines by contracted vendors such as the cited “Cappuccino Car” program used in Vancouver, B.C. (Silverberg, p. 26). Also, newspaper vendors, telephone services and other concessions can add amenities to the traveler’s journey and bolster farebox revenues for the transit agency.

Finally, the literature reviewed provides an interesting mix of encouraging news and strong warnings regarding the success of employer-subsidized public transit, student-related transit participation by college administrations and various approaches to marketing transit. Application and transferability may be limited due to a wide range of constraining factors.

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ADDITIONAL FIXED-ROUTE ALTERNATIVES

At the present time, HCS Community Care operates a single *CityExpress* route that operates as a loop connecting a number of Keene locations. This route provides a valuable community service but is limited in terms of service coverage and span of service (mid-day only). SWRPC, working with HCS Community Care, the City of Keene, and the New Hampshire DOT, is undertaking this *CityExpress* Service Expansion Study to determine how to expand *CityExpress* service, and to determine the costs, benefits, and other impacts of doing so.

This chapter describes potential new bus services designed to provide more comprehensive service in terms of routings, projected ridership, and the costs to operate those routes.

Existing *CityExpress* Service

The current *CityExpress* route provides service along a long loop to a large number of widely scattered Keene locations (see Figure 15). The major locations that are served, and average daily ridership, are:

<u>Location</u>	<u>Average Daily Ridership</u>
Cleveland Bldg.	2
Central Square	4
Transportation Center	4
Keene State College	1
Autumn Leaf	1
Shaws/Bradlees	3
Colony Mill	1
Harper Acres	5
West St. Plaza/K-Mart Plaza	10
Park Avenue/Maple Avenue	2
Health & Human Services	1
Clinic/Hospital	2
Recreation Center/ Washington St.	1
Downtown	<u>2</u>
Total	38

As shown, daily ridership is very low, at only 38 trips per weekday, or approximately six passenger trips per one-way bus trip.

The current route is intended to provide a basic level of service to as many destinations as possible. However, because only one bus is used and the service area is so large, service is infrequent and very circuitous (see Figure 15). These two characteristics mean that wait times and travel times are very long relative to the distances involved.

In addition, the span of service is short, from 9:00 am to 4:00 pm. This short span of service means that *CityExpress* service can only be used for mid-day activities, and not for full-time work trips.

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Potential Improvements

The planned acquisition of a “tourist trolley” and two new “regular” transit buses will provide *CityExpress* the opportunity to improve service in a number of ways. With a larger fleet, *CityExpress* can operate multiple routes to provide more direct service, more frequent service, service to more Keene neighborhoods, and service to more job sites, including the Marlboro Street corridor, and Winchester Street south of Route 9. In addition, other opportunities include longer hours of operation in order to better serve work trips and the combination of Keene State and *CityExpress* services to provide better travel opportunities to Keene residents and to Keene State students.

In terms of service coverage, there are four major corridors in Keene, and two secondary corridors (see also Figure 16):

Major corridors

Court Street
Park Ave/West Street
Main Street
Winchester Street

Secondary corridors

Marlboro Street
Washington Street

There are a number of ways in which these corridors can be served. For this study, the approach taken would be to replace the existing loop route with two end-to-end routes, each of which would operate through downtown Keene and the Transportation Center. These two routes could also be supplemented with a loop route that would provide circulation within the downtown area and Keene State College, as well as connections to and from the end-to-end routes. In all cases, individual routes would be structured so that connections could be made at the Transportation Center.

Court Street Corridor Routes

- Route 1A: Health and Human Services – Riverside Shopping Center
- Route 1B: Lahey Hitchcock Clinic – Bradco Industrial Park
- Route 1C: Health and Human Service – West Street Shopping Centers

Park Avenue/West Street Corridor Routes

- Route 2A: Tanglewood – Marlboro Street/Optical Avenue
- Route 2B: Tanglewood – East Keene

Downtown Loop Routes

- Route 3A: Keene State College Loop
- Route 3B: North Loop
- Route 3C: 30 Minute Circulator Loop
- Route 3D: North and East Side Loop
- Route 3E: North Side, East Side, and Keene State University Loop
- Route 3F: East Side, West Side, and Keene State University Loop

Court Street Corridor Routes

Route 1A Health and Human Services to Riverside Shopping Center

This route would operate from the Health and Human Services center on Court Street to the Riverside and Key Street plazas via the Recreation Center, Central Square, and Winchester Street. This route would serve most of the same locations as the eastern half of the current loop (see Figure 17).

The one-way distance for this route would be approximately 5.8 miles. If an average speed of 14 mph can be achieved, the one-way running time would be approximately 25 minutes, and one vehicle could provide service every 60 minutes.

Route 1B Lahey-Hitchcock Clinic to Bradco Industrial Park

As mentioned above, to achieve 60-minute headways on Route 1A, it would be necessary to achieve an average speed of 14 mph. If this average speed cannot be achieved (for example due to slow speed in downtown Keene and in and out of shopping plazas), then the route would need to be shortened; Route 1B is a shorter version of Route 1A. To shorten the route, the northern terminal would be shifted from Health and Human Services to the Lahey-Hitchcock Clinic (see Figure 18).

Ridership to and from Health and Human Services is very low at only one trip per day, so the passenger impact of the shortened route would be small. The one-way distance for this route would be approximately 4.8 miles. With an average speed of 12 mph, the one way travel time would be 24 minutes and one vehicle could provide service every 60 minutes.

Route 1C Health and Human Services to West Street Shopping Centers

This route would be a variation of Routes 1A and 1B, with the following differences (see also Figure 19):

- The southern end of the route would be the West Street shopping centers instead of farther down Winchester Street.
- Because there would be sufficient time in the schedule, the route could begin at Health and Human Services.
- From Health and Human Services, the route would operate directly along Court Street (meaning that it would not make the variation via the Recreation Center that would instead be served by a trolley route).

Route 1C would provide more direct service to the major trip attractors outside of downtown Keene along West Street. In addition, when combined with other routes (as described further below), service could be provided along West Street every 30 minutes.

The one-way distance for this route would be approximately 5.0 miles. With an average speed of 12 mph, the one way travel time would be 25 minutes. As with Route 1A, one vehicle could provide service every 60 minutes.

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Park Avenue/West Street Corridor Routes

Route 2A Tanglewood to Marlboro Street/Optical Avenue

This route would serve most of the area currently served by the western half of the current loop (see Figure 20). It would begin at the intersection of Park Avenue and Maple Street and then follow Maple Street to Route 12, where it would travel north to Wyman Road and the Black Brook Corporate Park. From there, it would return south on Wyman Road and Route 12, back to Maple Street and follow the alignment of the current loop along Park Avenue to the West Street and K Mart Shopping Plazas. It would then travel along West Street to Meadow Road, through the Colony Mill Marketplace to Gilbo Avenue to the Transportation Center, where connections could be made to Route 1A, 1B, or 1C. From there, it would travel south on Main Street to Marlboro Street to the intersection of Marlboro Street and Optical Avenue.

As mentioned above, this route would serve much of the same area as the western half of the current loop, and in this respect, would serve a similar market. In addition, it would serve businesses along Marlboro Street that are not now served.

The one-way distance for this route would be approximately 7.3 miles, including the 2.5 diversion to Black Brook Corporate Park. To be able to operate this route with a 60-minute headway, it would be necessary to achieve an average speed of 18 mph, which may be difficult. If field-testing shows this impractical, options would be to eliminate the Black Brook Corporate Park diversion or the Marlboro Street end of the route.

Route 2B Tanglewood to East Keene

This route would be similar to Route 2A, except that the southern end of the route would serve East Keene instead of Marlboro Street. As shown in Figure 21, it would begin at the intersection of Park Avenue and Maple Street and then follow the alignment of the current loop along Park Avenue to the West Street and K Mart Shopping Plazas. It would then travel along West Street to Meadow Street and then through the Colony Mill Marketplace to Gilbo Avenue to the Transportation Center, where connections could be made to Route 1A, 1B, or 1C. From there, it would travel back up Main Street to Roxbury Street to South Lincoln Street to Water Street to Eastern Avenue to a terminus at Marlboro Street.

As with Route 2A, this route would serve much of the same area as the western half of the current loop. In addition, it would provide service to East Keene.

The one-way distance for this route would be approximately 5.4 miles. If an average speed of 13 mph can be achieved, the one way travel time would be 25 minutes, and one vehicle could provide service every 60 minutes.

Downtown Loop Routes

Route 3A Keene State College Loop

The Keene State College Loop would serve as a substitute for the existing Keene State College services, and would provide connections between Keene State and the Transportation Center, where connections could be made with other routes (see Figure 22). Starting from the Transportation Center, the route would travel down Main Street, turn right on Route 9, and right again onto Winchester Street. On Winchester Avenue, the route would stop at the Riverside Shopping Plaza, and then at the Keene State College parking lot. From there, it would continue along Winchester Street to Butler Court, where the route would loop through Keene State in the same manner as the current shuttles. The route would then return to Main Street and then back to the Transportation Center.

The distance of this loop would be 3.2 miles. At an average speed of 12 mph, the running time for this route would be 16 minutes. With 4 minutes for layover time at the Transportation Center, one bus could make a round trip every 20 minutes. Alternatively, additional circulation could be operated within Keene State, or to the athletic fields, and the headway could be lengthened to 30 minutes.

Route 3B North Loop

A second loop would be one serving the areas north of downtown Keene. As shown in Figure 23, this route would start at the Transportation Center, travel north on Main Street to Central Square, then east on Roxbury Street to the Cleveland Building. From there, it would travel back out to Roxbury Street through East Keene to North Lincoln Street, then along Beaver Street to Washington Street where it would travel north to the Recreation Center.

From the Recreation Center, it would travel north and west on Gilsum Street and North Street to Court Street, travel south on Court Street to Portland Street, to River Street, to Castle Street to Harper Acres. From Harper Acres, it would travel south on Ashuelot Street past the Colony Mills Marketplace to Gilbo Avenue and then back to the Transportation Center.

The length of this loop would be 3.6 miles. At an average speed of 12 mph, this route would have a running time of 18 minutes, which would mean that it could operate approximately every 25 minutes. Alternatively, the route could be made slightly longer and operated every 30 minutes, which would allow it schedule to be coordinated with other services operating on 30 or 60 minute schedules.

Route 3C 30-Minute Circulator Loop

The Keene State and North Loops could be combined into a single “loop” that would serve most areas in the downtown area. Such a loop would have travel and cycle times that would be simply the sum of those for the single routes, which would mean that the round trip running time would be 34 minutes and one bus could operate every 45 minutes (see Figure 24).

However, with the longer routes (the Route 1 and Route 2 variations) operating every 60 minutes, a 45-minute cycle time would not permit the schedules of these routes to be coordinated with the loop route. To coordinate schedules, there would be three options:

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1. To schedule long layovers at the Transportation Center and operate the route every 60 minutes.
2. To lengthen the route to serve more areas and extend the running times.
3. To shorten the loop to provide service every 30 minutes.

There are certain trade-offs involved associated with each option:

- Option 1 would provide faster and more direct service that would be coordinated with other routes. However, it would be less efficient in that the buses would spend relatively long periods of time out of service between trips.
- Option 2 would provide service to more areas, and that service that would be coordinated with other routes. However, it would be more circuitous and thus less convenient for many riders.
- Option 3 would provide more frequent service, but would not serve as much of the Keene State campus.

The 30 minute option would be as shown in Figure 24, and would be the combination of the Route 3A loop with a spur along Main Street and Winchester Streets to the Riverside Shopping Center via Keene State and Keene State's satellite parking lot. The length of the loop would be 5.1 miles and the round trip travel time would be 26 minutes.

Route 3D North and East Side Loop

Route 3D would be a loop that would maximize service to East Keene. It would be similar to Route 3B, but with a different routing through the north and east sides of Keene that would provide more direct service to more densely populated streets. As shown in Figure 25, this route would start at the Transportation Center and travel north on Main Street to Central Square, then east on Roxbury Street to the Cleveland Building. From there, it would travel back out to Roxbury Street through East Keene via Norway and Church Streets to South Lincoln Street, then along Beaver Street to Washington Street where it would travel north to the Recreation Center.

From the Recreation Center, it would travel west on Washington Street, then south on Gilsum Street back to Washington Street, then west on High Street, and south on Court Street to Portland Street. From there it would follow the same alignment as Route 3B, north and west on Gilsum Street and North Street to Court Street, travel south on Court along Portland Street, to River Street, to Castle Street to Harper Acres. From Harper Acres, it would travel south on Ashuelot Street past the Colony Mills Marketplace to Gilbo Avenue and then back to the Transportation Center.

The length of this loop would be 3.7 miles. At an average speed of 12 mph, this route would have a running time of 19 minutes, which would mean that it could operate approximately every 25 minutes. Alternatively, the route could be made slightly longer and operated every 30 minutes, which would allow it schedule to be coordinated with other services operating on 60 minute schedules.

Route 3E North Side, East Side and Keene State Loop

The Route 3E loop would focus service on the North Side and East Side neighborhoods, as well as provide service along Main Street to Keene State University. As shown in Figure 26, this route would start at the Transportation Center and travel north on Main Street to Central Square, then east on Roxbury Street to the Cleveland Building. From there, it would travel back out to Roxbury Street through East Keene via Norway and Church Streets to South Lincoln Street, then along Beaver Street to Washington Street where it would travel north to High Street.

The route would travel west on High Street, then south on Court Street back to Central Square, west on West Street, south on St. James Street, to Gilbo Street back through the Transportation Center. From there, the route would then continue along Gilbo Street to south on Main Street to Davis Street to Blake Street, to east on Winchester Street, north on Main Street, back through Central Square, west on West Street, south on St. James Street, and finally back along Gilbo Street to the Transportation Center.

The length of this loop would be 4.0 miles. At an average speed of 11 mph, this route would have a running time of 22 minutes, which would mean that it could operate approximately every 25 minutes. As with Route 3D, the route could be made slightly longer and operated every 30 minutes, which would allow it schedule to be coordinated with other services operating on 60 minute schedules.

Route 3F East Side, West Side, and Keene State Loop

The Route 3F loop would focus service on the East Side and West Side neighborhoods, as well as provide service along Main Street to Keene State University. This route, which is shown in Figure 27, would start at the Transportation Center and travel north on Main Street to Central Square, then east on Roxbury Street to the Cleveland Building. From there, it would travel back out to Roxbury Street through East Keene via Norway and Church Streets to South Lincoln Street, then along Beaver Street to Washington Street where it would travel north to High Street.

The route would travel west on High Street, then north on Court Street. From there, it would travel west on Leverett St, south on Barket Street, west on Park Street into Harper Acres, then back out and south on Ashuelot Street, then across West Street to east on Gilbo Avenue back through the Transportation Center. The route would then continue along Gilbo Street to south on Main Street to Davis Street to Blake Street, to east on Winchester Street, north on Main Street, back through Central Square, west on West Street, south on St. James Street, and finally back along Gilbo Street to the Transportation Center.

The length of this loop would be 4.5 miles. At an average speed of 11 mph, this route would have a running time of 25 minutes, which would mean that it could operate approximately every 30 minutes.

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Potential Route Combinations

Figures 28 and 29 illustrate two potential sets of route combinations: (1) a three-route system that includes a trolley circulator route, and (2) a two-route combination. Of the two options, the three-route option would provide more frequent, more direct, more convenient, and more comprehensive service. As described in the next sections, the three-route option would attract the highest ridership, but would cost 50 percent more to operate than the two-route option.

The two-route option would be provide more direct and more convenient service than the current *CityExpress* route, and similar service coverage as the three route options, but without a downtown trolley circulator route. As described below, the two route options would cost one-third less to operate than the three-route option, but ridership would be 50 to 33 percent lower.

Ridership Projections

Typically, transit systems in small areas predominantly serve a transit dependent population—those that for one reason or another do not or cannot drive. This is the case with the current *CityExpress* service, and the surveys conducted by SWRPC as part of this study indicate that there is not a large demand for transit among employers or employees. Therefore, expanded services would likely serve a similar market. One exception in Keene, however, would be Keene State College students, who would represent a market for transit that does not exist in many small cities.

For the purposes of this study, local corridor ridership was estimated using two methodologies. The first methodology was developed by the Transit Cooperative Research Program (TCRP) for local rural transportation.¹ The second is an analog methodology using ridership rates per vehicle hour of other small city U.S. systems. As described in the following sections, the use of these methodologies resulted in a range of ridership projections:

	Low <u>Estimate</u>	High <u>Estimate</u>
Two-Route System	125	234
Three-Route System	253	351

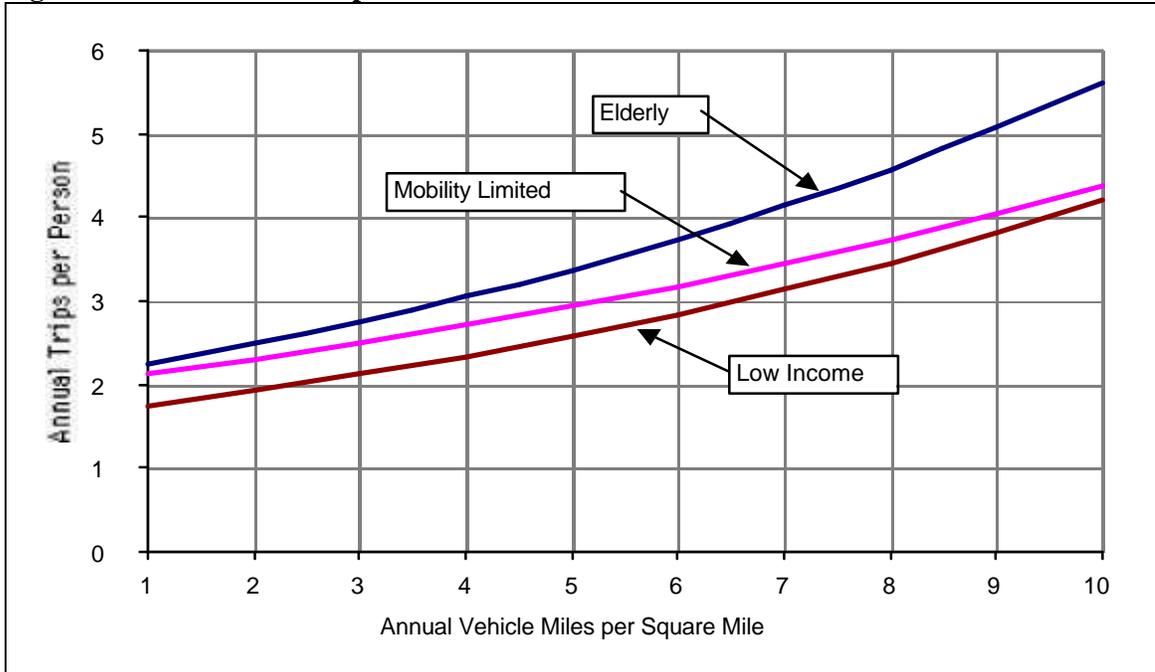
Ridership Projections Using TCRP Methodology

TCRP's methodology for local rural transportation is considered to be appropriate for rural areas, which are defined as "those that are outside of a Metropolitan Statistical Area (MSA) and have a population density of less than 1,000 persons per square mile. It projects demand as a function of:

1. The size of the three population groups most likely to use transit services in a rural area:
 - The elderly
 - Persons with mobility limitations
 - Persons living in poverty
2. The size of the service area.
3. The amount of service to be provided.

This information is related to the trip rates shown in Figure 30 below, which are then used to project local demand for the proposed services.

Figure 30: Local Service Trip Rates



It should also be noted, that, although the methodology focuses on three specific population groups that would make up the large majority of all trips, there would also be additional riders that would not belong to one of these three groups. To the extent that this would be expected to occur, projected trip rates for these groups are slightly higher than they would be otherwise. Therefore, the total estimates include “general public” demand.

However, the methodology does not account for other “special” ridership such as university students making school-rated trips. To account for this market, projections of Keene State College ridership were developed and added to the base estimate.

Base Estimate

As shown in Figure 31, the size of “typically transit dependent” populations are relatively small in Keene. Because of this, local transit ridership would also be low, at approximately 115 trips per day for a two route system that operated five days a week and 14 hours per day, and 203 trips per day for a three route system. These ridership projections are low, but do not appear to be unreasonably low. If the same methodology is applied to the current service, average daily ridership is predicted at 56 trips, compared to current actual average ridership of 38 trips.

Figure 31: Keene Socio-Economic Characteristics (1990)

	Total <u>Population</u>	Aged 60 <u>and Older</u>	w/ Mobility <u>Limitations</u>	Living in <u>Poverty</u>
Keene	22,430	3,916	240	1,384

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Keene State College Ridership

While it is expected that an expanded *CityExpress* system would continue to operate separately from the Keene State University shuttle, expanded *CityExpress* service should attract a certain number of Keene State students. However, this number is expected to be small. The Keene State College survey indicated only limited interest in transit service among students, with *CityExpress* listed as the second least-popular alternative (behind taxi). Given these results, a range of 10 to 50 trips per day by Keene State University students was used.

Projection of Total Ridership

As detailed in Figure 32, the use of the TCRP methodology, with the adjustments for Keene State College, resulted in ridership estimates 125 trips per weekday for a two route system, and 236 trips per weekday for a three route system.

Figure 32: Ridership Projections Using TCRP Methodology

	<u>Existing Route</u>	<u>Two Route System</u>	<u>Three Route System</u>
<i>Service Availability</i>			
Annual Vehicle Service Miles	18,750	69,300	108,500
Annual VSM/Square Mile	540	1,997	3,127
<i>Annual Ridership Forecast</i>			
Persons Aged 60 and Over	10,470	21,955	38,920
Persons w/Mobility Limitations	587	1,049	1,645
Persons in Families below Poverty Level	2,852	5,813	10,085
Total Projected	13,909	28,818	50,650
<i>Average Weekday Ridership</i>			
Persons Aged 60 and Over	42	88	156
Persons w/Mobility Limitations	2	4	7
Persons in Families below Poverty Level	11	23	40
Keene State College Ridership	0	10	50
Total Projected	56	125	253
Current Actual	38		

Ridership Projections Using Analog Methodology

Using the analog method, ridership was projected using ridership rates from other small U.S. systems. In this case, systems with four or fewer buses in service that report service statistics to the Federal Transit Administration were used.² As shown in Figure 33, ridership on these systems ranges from 20 to over 1,200 trips per weekday, with average ridership of 247 trips per weekday.

On a per vehicle hour basis, ridership on these systems ranges from 2.2 to 39.2 passengers per vehicle hour, with an average of 9.8 passengers per vehicle hour. By comparison, there is an average of 5.4 trips made per vehicle hours on the current *CityExpress* route. With an expanded span of service, *CityExpress* services will be able to serve work trips, which indicates that a higher trip rate than the current 5.4 trips per hour should be possible. Applying the 10.1 trips per vehicle hour of the other small systems, and assuming 14 hours of service per day per route (from 6:00 am to 8:00 pm), ridership would be approximately 284 trips per day for a two route system and 426 trips per day for a three route system.

Figure 33: Ridership Estimate based on Projected Level of Service and Other Small Systems

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Operating Costs

Operating costs for new *CityExpress* services will be based on four variables:

- The number of routes that will be operated.
- The level of service on each route.
- The span of service (the time from the beginning of service until the end of service).
- The number of days that service will be operated (Monday - Friday or Monday - Saturday).

From these service characteristics, HCS' operating cost per hour can be applied to the total number of vehicle hours of service that will be provided. HCS Community Service's current operating costs are approximately \$43.19 per vehicle service hour, and for the purposes of this study, this rate has been used. However, it should also be noted that there will likely be savings of scale, and the incremental costs to expand the system may be lower.

At this stage of the study, a number of route options and possible combinations have been presented, but specific route combinations have not yet been determined. For the purposes of providing operating cost estimates, the two and three route options presented above have been used:

Two Route Option:

- Route 1B Lahey-Hitchcock Clinic – Winchester Street
- Route 2B Tanglewood – East Keene

Three Route Option

- Route 1B Lahey-Hitchcock Clinic – Winchester Street
- Route 2A Tanglewood – Marlboro Street
- Route 3F East Side, West Side, and Keene State Loop

Note, however, that all of the conceptual routes have been designed to be operated with one bus. This means that other routes could be substituted and that costs would remain the same.

In terms of the levels of service, all of the routes have been designed to operate on headways of 60 minutes (for the longer routes), and 30 minutes (for the loop routes). These headways were used to:

- Provide a basic level of convenience.
- Allow schedules to be coordinated to facilitate transfers from one route to another at the transportation center.
- Match customer demand to the level of service provided.
- To minimize unproductive vehicle time.

On this basis, and using this approach, this would mean that the cost of service for each route would be \$43.19 for each hour of service operated. For the hours and days of service, the base operating estimates presented herein are for services that would operate from 6:00 am to 8:00 pm from Monday to Friday, and over the same span of service from Monday through Saturday. In addition, estimates have also been provided to reflect the cost of adding or subtracting an hour of service. The cost of adding or subtracting more hours of service would be simply a multiple of the hourly figure.

As shown in Figure 34, the cost of a two route system operating from 6:00 am until 8:00 pm from Monday to Friday would be approximately \$350,000 per year, and the cost of Monday to Saturday service would be approximately \$421,000 per year. The cost for a three-route system would be approximately \$525,000 for five days per week service, and \$631,000 for six days per week service.

Figure 34: Operating Cost Estimates

	Daily Cost	Annual Cost Mon - Fri Service		Annual Cost Mon - Sat Service	
		Base Cost	Add'l Hour	Base Cost	Add'l Hour
Two Route Option					
Rt 1B Lahey-Hitchcock - Winchester St	\$675	\$174,825	\$11,655	\$210,600	\$14,040
Rt 2B Tanglewood - E Keene	\$675	\$174,825	\$11,655	\$210,600	\$14,040
Totals	\$1,350	\$349,650	\$23,310	\$421,200	\$28,080
Three Route Option					
Rt 1B Lahey-Hitchcock - Winchester St	\$675	\$174,825	\$11,655	\$210,600	\$14,040
Rt 2B Tanglewood - E Keene	\$675	\$174,825	\$11,655	\$210,600	\$14,040
Rt 3C E & W. Side, Keene State Loop	\$675	\$174,825	\$11,655	\$210,600	\$14,040
Totals	\$2,025	\$524,475	\$34,965	\$631,800	\$42,120

Notes: All costs based on a cost per vehicle hour of \$43.19. Hours of service include one additional hour for service start-up and shutdown (30 minutes in the morning plus 30 minutes in the evening). Annual cost of Monday through Friday service based on 259 days of service per year. Annual cost of Monday through Saturday service based on 312 days of service per year. Base cost is the cost for the span of service from 6:00 am to 8:00 pm. Additional hour is the cost to add or subtract one hour of service per day.

Operating Cost per Passenger

Based on the operating costs presented above, and the ridership estimates presented in the “Ridership Projections” document, the operating cost per passenger for expanded services would range from \$4.76 to \$10.78 per passenger (see Figure 35). The \$4.76 cost is reasonably low, while the \$10.78 figure is relatively high.

Figure 35: Operating Cost per Passenger

	Daily Ridership	Daily Operating Cost	Operating Cost/ Passenger
Two Route Option			
Low Ridership Estimate	125	\$1,350	\$10.78
High Ridership Estimate	284	\$1,350	\$4.76
Three Route Option			
Low Ridership Estimate	253	\$2,025	\$8.02
High Ridership Estimate	426	\$2,025	\$4.76

¹ TRCP Report 3, Workbook for Estimating Demand for Rural Passenger Transportation, Transit Cooperative Research Board, 1995.

² As reported in FTA’s National Transit Database.

MARKETING STRATEGY

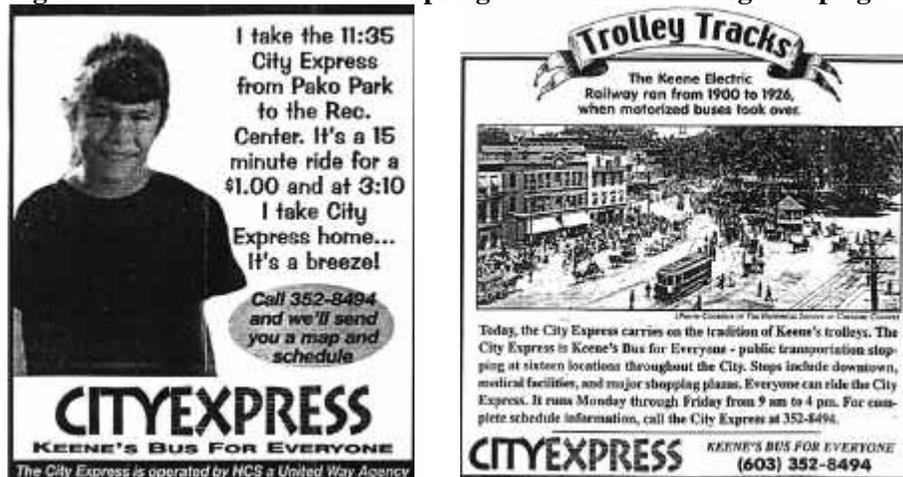
Existing Market Strategy

CityExpress, using funding provided by the New Hampshire Department of Transportation, instituted a three-month marketing program in April 1999 designed to increase awareness of CityExpress service. The specific objectives of the program were to:

- Increase the name recognition of CityExpress
- Increase an awareness that CityExpress is “Keene’s Bus for Everyone”
- Develop a greater awareness of the stops along the route
- Develop an awareness of the convenience of the service

The advertising campaign consisted of newspaper and radio advertising, as well as a number of special events. The advertising campaign was well executed, but was limited in that it ran for only a short period.

Figure 36: Advertisements from Spring/Summer Advertising Campaign



For the future, CityExpress will need to undertake two additional types of marketing efforts:

- A special effort designed to introduce the expansion of the system to area residents and workers.
- A sustained marketing program that will keep awareness of the system high.

In these respects, this marketing plan outlines a program designed to:

- Inform area residents about available transit services and upcoming program changes.
- Increase the visibility of the CityExpress system in order to attract new riders and increase fare revenue.
- Generate increased support and interest in transit service.

Considering the small size and operating budget of CityExpress, this plan generally focuses on low cost/low cost marketing efforts.

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Marketing Goals and Objectives

There are three major goals of the marketing plan, both of which are directly related to the purpose of the plan. These are to:

- Introduce the expanded system to Keene residents and employees.
- Keep awareness of the system high.
- Increase community support for *CityExpress* services.

Description of Target Market

CityExpress operates entirely within the City of Keene. Therefore, *CityExpress*' target market is persons who are travelling within the City of Keene. This market would include:

- Keene residents
- Keene workers
- Keene State College students
- Visitors to Keene

Types of trips that each of the groups would make using *CityExpress* would be as shown in Figure 36.

Figure 37: *CityExpress* Target Markets

Keene Residents	Keene Employees	Keene State College Students	Visitors
Work trips	Shopping trips	Work trips	Shopping trips
Shopping trips	Meals	Shopping trips	Sightseeing trips
School trips	Appointments	School trips	
Appointments		Appointments	
Meals		Meals	
Social trips		Social trips	

The market with the largest potential will be Keene residents, since residents make the largest volumes of trips within the city. The residents that will be most likely to use *CityExpress* trips will be those without access to an automobile:

- Senior citizens
- Disabled persons
- Low income residents
- Teenagers and children

Keene State College students, especially those who are residents (including part-time residents) also represent a market that would make use of *CityExpress* for a variety of trip types. Workers from outside of Keene are a potential market, but a more difficult market to attract since most of the workers from outside of Keene drive to work and thus have an automobile available for mid-day trips. Visitors would use *CityExpress* for limited number of purposes, but may be particularly attracted to the downtown trolley service.

While the current service is very limited, the proposed expansion of service to three routes will mean that *CityExpress* will provide service to most of Keene, which should significantly increase the attractiveness of service. To maximize the potential of the new services, *CityExpress* needs to maximize its overall level of visibility, both to generate greater community support for its services, and to create additional ways to publicize its services (for example, if more businesses are knowledgeable about available services, they can tell their employees and customers about them). In this respect, the target audience for the marketing plan also includes:

- Keene businesses and institutions
- Public officials and community leaders
- Local news media

Description of Proposed Marketing Efforts

Marketing Concept

The expansion of service provides *CityExpress* an opportunity to generate publicity for the system. The general concept of this plan is to take advantage of these changes to strengthen the overall image of the system, to attract attention to the system, and to develop ongoing marketing efforts.

Products to be Marketed

To start, *CityExpress* needs to define what “products” will be marketed. In the short-term, these products should be the improvements that will be made to *CityExpress*’ services, as well as some of the marketing materials themselves:

Expanded services

The availability of new information, such as a new map, new schedules, and other informational items such as brochures, flyers, and a web site.

These short-term efforts should be directed toward educating riders and the public about the availability of services and the new changes.

Over the longer term, *CityExpress* will need to shift its marketing focus toward efforts aimed at keeping the visibility of *CityExpress* services high. This will be necessary, at a minimum, to attract new riders on an ongoing basis just to offset ridership losses that will occur through natural ridership turnover—as existing riders move, change jobs and schools, etc. Beyond this, an ongoing marketing program is also needed to maintain community support for *CityExpress*, as well as to produce long-term ridership increases.

In more detail, the products are as follows:

Expanded Services

The recommended service changes, which are summarized below, are designed to make *CityExpress* services more convenient and more attractive.

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- The expansion of service from one route to three
- More comprehensive service coverage
- The operation of the new trolley
- Longer service hours
- Saturday service (if implemented)

CityExpress' services are its core product, and these services and planned improvements need to be marketed so that potential new riders will know about them.

Maps, Schedules and Other Information

To provide a clear understanding of planned changes for existing riders, and to increase overall understanding of available services among potential customers, CityExpress should produce:

- An updated system map.
- Updated schedules (either included in the system map, or separate).
- Updated informational brochures.

The new information should replace existing materials. In addition, the new materials should describe where and how additional information could be obtained.

How Products Should Be Marketed

Transit systems typically use a number of methods to market themselves. The lower cost methods most applicable to CityExpress include:

- News media
- Paid advertising (on limited basis)
- Special events
- Direct mail
- Distribution of CityExpress information by businesses, governments and social service organizations
- Distribution of CityExpress information through schools
- Joint marketing
- Bus advertising
- Painted buses
- Bus stop signs
- World Wide Web site

In some cases, CityExpress can reach all or most of its target markets through a single effort. For example, program changes or special events that get widespread media attention will reach existing riders as well as those who do not use CityExpress services. However, for the most part, the different methods have different degrees of effectiveness with different markets, and as a result, transit systems need to use multiple methods.

The only market that is "easy" to reach is existing riders, and these riders are easy to reach because CityExpress has regular contact with them. Through this regular contact, CityExpress can inform these

riders of service and other changes by distributing brochures on-board vehicles, and by posting announcements at bus stops and on buses.

Reaching potential new riders is more difficult, and requires the use of a variety of strategies. The following are low cost efforts that *CityExpress* can employ:

News Media

CityExpress should use the news media to generate free publicity for its programs by routinely producing press releases on newsworthy events, and by being available for interviews on program events. In some cases, newsworthy events will occur through the normal course of *CityExpress*' business. In other cases, they can be created.

When implemented, the planned changes to *CityExpress*' program will in themselves will be newsworthy "events" for which *CityExpress* should be able to generate news coverage, especially in community newspapers. To do this, *CityExpress* needs to write press releases, and use local press contacts. HCS / *CityExpress* representatives should also make themselves available for press and local radio interviews.

On an ongoing basis, *CityExpress* can also use special events to attract media attention (see Special Events section).

Paid Advertising / Public Service Announcements

CityExpress can also publicize its services through paid advertising and through public service announcements. The need for paid advertising is probably small, but in certain cases, would be preferable to the other methods described herein. This would be the case when *CityExpress* needs to control the information being presented—for example, when service changes are implemented, *CityExpress* will need to ensure that consistent and comprehensive information is presented.

Special Events

Special events can be used to generate media attention, to attract the attention of specific groups, and to generate community support for transit. Some common examples of special events are:

- "Senior Days," where seniors could ride for free.
- "Bring a Friend for Free" days.
- APTA's "Try Transit Week"
- Tie-ins to Earth Day.

In many cases, special events also provide an opportunity for tie-ins with local businesses and community groups. As shown in some specific examples in Appendix H, many special events involve incentives and contests, and are sponsored by a number of different parties. All of the parties contribute to the incentives and/or prizes, and all also publicize each other in their publicity of the special event. In this respect, *CityExpress* can multiply its own efforts by becoming more involved in community events in the Keene area.

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Direct Mailings

Direct mailings can be made to potential riders such as residents that live along *CityExpress* routes, as well as to the elderly and disabled population of the area. With the cooperation of local businesses and/or social service agencies, flyers and brochures on *CityExpress* services could be included as part of other mailings (such as electric bills, property tax bills, and various newsletters).

Distribution of CityExpress Information by Businesses, Government and Social Service Organizations

CityExpress can work with local businesses, governments, and social service agencies to distribute transit information to customers, employees, and new residents.

Customers and Clients

Many of *CityExpress*' riders use the service to get to a relatively small number of locations in Keene (for example, the West Street shopping centers and the Lahey-Hitchcock Clinic). *CityExpress* should request that these businesses and institutions post information on *CityExpress* services at their locations.

In the case of local business and institutions, many may be willing to publicize the availability of public transit in their advertising (for example, supermarkets could include in their newspaper flyers that customers can get there via *CityExpress*). *CityExpress* should approach local business that can be reached by *CityExpress*' fixed route and special transit services to request that they publicize the availability of *CityExpress* services in their advertising.

Employees

CityExpress should also request that major employment centers along its routes distribute transit information to their employees, either directly, in employee newsletters, and/or by posting it in common areas.

New Residents

CityExpress should request that Welcome Wagon distribute transit information to new residents.

Distribution of Transit Information through Schools

To reach students, *CityExpress* can request schools (Keene public schools and Keene State College) to publicize the availability of service. This can be done through the posting of transit information in schools, and by including information on transit in newsletters and mailings.

Joint Marketing

CityExpress can initiate joint marketing efforts with businesses along its routes. For example, downtown businesses and businesses along West Street and Winchester Streets could offer special discounts to transit riders. In return, *CityExpress* would distribute coupons and publicize the special offers on its buses.

New Design Scheme for Buses

CityExpress uses an attractive stylized logo on its printed materials and in its advertising. However, the logo is not used on the buses, which are very plain and nondescript. With the expansion of the fleet, *CityExpress* should design and implement a new paint scheme for its buses that will generate and attract attention to the system.

Figure 38: CityExpress Logo

CITYEXPRESS

A new design scheme for *CityExpress* buses can range from simple to elaborate. Depending upon the availability of sufficient financial resources, *CityExpress* could paint buses to either increase its own visibility and/or to generate advertising revenue. (Even if painted buses are used for advertising, they also attract attention to the bus service.)

Three examples of professionally painted buses are shown below, and an extensive collection of bus advertising examples can be seen on LYNX's web site at "www.golynx.com/gallery."

Figure 39: Columbus, Ohio COTA Bus with Logo and Slogan



Figure 40: Columbus, Ohio COTA Bus with Logo and Slogan



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Figure 41: Columbus, Ohio COTA Bus with "City Express-theme" Advertising



It should be noted however, that the costs to paint a bus are relatively high, at approximately \$2,000 for a simple scheme applied by the manufacturer to over \$7,000 for a complex scheme applied to an existing bus, plus design fees. A less expensive and less professional method that has been used by other transit systems is to have the community or students paint buses as part of a special project or special event. Two New England transit systems that have used this approach are RIPTA in Providence, Rhode Island, and the MOOver, in Deerfield Valley, Vermont:

Figure 42: Providence, RI RIPTA bus painted by high school students



Figure 43: DVTA MOOver Bus painted as part of a special event



Bus Stops

CityExpress has bus stop signs at many of its stops along its route, but these signs are generic and are easy overlooked. To increase the visibility of the system, *CityExpress* should replace these with more visible signs that include the *CityExpress* logo. Information on *CityExpress* services, such as maps and schedules, can also be posted at bus stops.

World Wide Web

CityExpress should implement a web site. At the current time, much of *CityExpress*' target market (low-income residents and the elderly) may not have Internet access. However, one important market segment, students, generally now does have widespread Internet access, either at school or at home.

With volunteer labor, the development and maintenance of a web site would be inexpensive and relatively easy (and often generates newspaper articles). One person¹ with an interest in transit has already set up an unofficial *CityExpress* web site (www.geocities.com/CapitolHill/6488/Keene.htm), and he may be willing to assist *CityExpress* in creating its own official web site (see Figure 43).

If *CityExpress* develops a web site, it should also request other Keene sites (such as the City of Keene web site) to include links to it.

Implementation

This section presents an action plan that recommends the specific actions that *CityExpress* should undertake to implement the marketing plan.

1. Develop informational materials:

- System map.
- System map posters.
- Route schedules.
- Program brochures/fliers.
- Newspaper ads.
- On-bus car cards.

2. Distribute the informational materials:

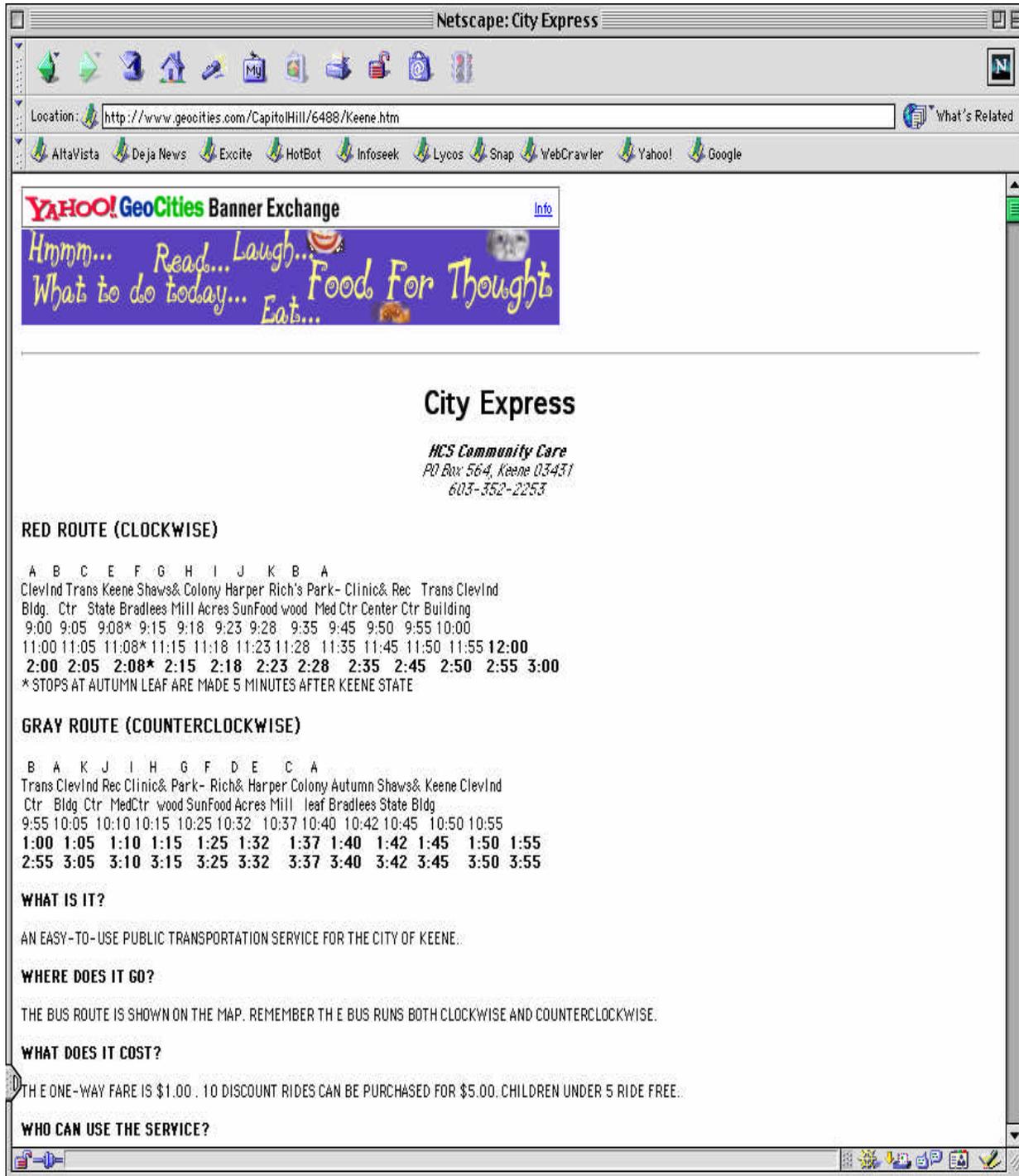
- Send press releases to local and community newspapers.
- Request local radio stations to run public service announcements.
- Request major employers, shopping centers, social service providers and other institutions along *CityExpress* routes to post system map posters and distribute *CityExpress* fliers.
- Request Keene State College to distribute *CityExpress* fliers to students.
- Request Keene public schools to distribute *CityExpress* fliers to students.
- Advertise program changes on the inside and outside of *CityExpress* buses.

[Continued on page 51]

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Figure 44: Unofficial CityExpress Web Site



3. Attract attention to *CityExpress* and its services:

- Conduct a series of special events.
- Paint *CityExpress* buses to include new logo and slogan.
- Pursue joint-marketing opportunities.

The total cost of the marketing efforts in this action plan would be approximately \$20,500, excluding costs for the painting of *CityExpress* buses (see Figure 44).

Figure 45: Marketing Action Plan Cost Estimates

	<u>Design</u>	<u>Printing</u>	<u>Postage</u>	<u>Other</u>	<u>Total</u>
<i>1. Develop informational materials.</i>					
System map	\$400	\$2,500			\$2,900
System map posters	\$120	\$700			\$820
Route schedules	\$400	\$900			\$1,300
Program brochures/fliers.	\$200	\$1,000			\$1,200
Newspaper ads	\$80	NA			\$80
Bus advertising cards	\$80	0 ²			\$80
Subtotal	\$1,280	\$5,100			\$6,380
<i>3. Distribute informational materials</i>					
Press releases				\$0 ³	\$0
Public service announcements					\$0
Through employers, shopping centers, etc.				\$0 ²	\$0
Through high school				\$0 ²	\$0
Direct mail to para-transit riders			\$150		\$150
In and on buses				\$0 ²	\$0
Subtotal				\$150	\$150
<i>4. Attract attention to CityExpress services</i>					
Conduct special events				\$6,000	\$6,000
Pursue joint-marketing opportunities				in-kind	\$0
Subtotal					\$6,000
Total Cost	\$2,280	\$5,100	\$150	\$6,150	\$12,530

Develop Informational Materials

Once decisions about program changes have been finalized, HCS will need to update its program materials. These include:

- System map
- System map posters
- Route schedules
- Program fliers (fixed-route and para-transit)
- Newspaper ads

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HCS Rural Transit Planning

- Car cards (for the inside of buses)

If HCS does not have any internal design or graphics capabilities, it should hire a design firm to assist in the production of these materials.

Costs for design and printing of informational materials would be as shown in Figure 45 and Figure 46. Note that these costs assume that *CityExpress* would provide all of the substantive information that needs to be included in these materials (such as the text for schedules and program descriptions).

Figure 46: Design Costs for New Program Materials

	<u>Hours</u>	<u>Hourly Rate</u>	<u>Total Cost</u>
System Map	10	\$40	\$400
System Map Posters	3	\$40	\$120
Route Schedules (3)	10	\$40	\$400
Program Flier	5	\$40	\$200
Car Cards	2	\$40	\$80
Total	30		\$1,200

Figure 47: Printing Costs for New Program Materials⁴

	<u>Size</u>	<u>Quantity</u>	<u>Total Cost</u>
System Map	11x17	2500	\$2500
System Map Posters	17x22	250	\$700
Route Schedules	5.5x8.5	7500	\$900
Program Flier	8.5 x 11	5000	\$1000
Car Cards		20	\$0 ⁵
Total			\$ 4,520

2. Distribute the Program Materials.

As described above, there are a large number of ways in which *CityExpress* can distribute information on its services and upcoming program changes. For the first year, the following methods of distribution are recommended:

- Send press releases to local and community newspapers.
- Request local radio stations to run public service announcements.
- Request major employers, shopping centers, social service providers, and other institutions along each route to post system map posters, and distribute fliers to their employees, customers, and clients.
- Request Keene State College to distribute *CityExpress* fliers to students.
- Request Keene public schools to distribute *CityExpress* fliers to students.

These efforts will not involve any significant additional direct costs except for postage for mailings to existing para-transit riders, at approximately \$150. However, they will involve a significant amount of staff effort to write press releases, determine the specific parties to be contacted, to contact them, and to deliver informational materials.

3. Attract Attention to *CityExpress* and Its Services.

CityExpress should initiate efforts aimed at attracting attention to itself and raising its visibility within the community. To do this, *CityExpress* should:

- Conduct a series of special events throughout the year.
- Repaint its buses to include the new logo and slogan, as well as to present a more eye-catching visual effect.
- Pursue joint-marketing opportunities

Conduct Special Events

A number of examples of special events used by other systems are included in the marketing plan. *CityExpress* can use similar events, develop its own, and take part in joint events and co-sponsorships.

HCS and SWRPC should brainstorm to develop new events, and *CityExpress* should contact the city, the Chamber of Commerce, and organizers of major events about participation in other events and co-sponsorships.

Pursue Joint Marketing Opportunities

CityExpress should attempt to initiate joint marketing efforts with businesses along its routes. To begin this effort, *CityExpress* should start with stores that are along its routes that are heavily patronized by its riders and that compete for the business of these riders (such as downtown businesses, and businesses along West and Winchester Streets). In this respect, *CityExpress* should attempt to trade advertising of its services and special offers for transit riders for advertising on its buses.

Costs for special events are highly dependent upon the event. Many can be accomplished for no or low cost while others will require higher expenditures. For the first year, a budget of \$6,000 is recommended and is based on one event per month at an average cost of \$500 per event.

Joint marketing should be pursued as an in-kind activity, with no significant additional costs.

Internal Implementation Actions

The above sections define each of the recommended marketing actions. To implement these efforts, *CityExpress* also need to develop an implementation plan that defines internal responsibilities. This internal plan needs to:

- Identify the marketing activities to be undertaken.
- Estimate in specific terms the time and resources (personnel and costs) required.
- Prioritize the individual activities (based on the time and resources required, and *CityExpress*' abilities and resources).
- Assign responsibility for each specific action.
- Provide a schedule for each action.



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End Notes

- ¹ Kenyon Karl, whose email address is Kenyon.Karl@ConnRiver.net.
- ² It is assumed that on bus advertising cards would be printed through CityExpress' existing process.
- ³ It is assumed that these functions would be performed by current HCS personnel and that no additional costs would be incurred.
- ⁴ Printing costs are all for two-sided, four-color brochures, with the exception of the system map posters, which would only be one-sided.
- ⁵ It is assumed that the car cards would be produced through CityExpress' existing process and that no additional expenditure would be required.

CONCLUSIONS

Preferred Route - KKO & Associates

Expanded *CityExpress* services could significantly improve service for existing *CityExpress* riders and attract new riders to the system. Current plans for a three-route system would provide the most attractive service and attract the highest ridership levels. The three-route system would also be the most expensive, but if the upper range of projected ridership is attracted, the cost per passenger would be less than \$5⁰⁰, which is a reasonably low cost for a small city system.

Study Conclusions - SWRPC

Findings of the study indicate a strong opportunity for increased transit ridership among three segments of the Keene population for which to design service expansion and future marketing:

- 1) Those participating in society and the economy but without personal transportation - elders and teenagers;
- 2) Those participating in the work force and society without reliable access to personal transportation - adults from low- and moderate-income households and Keene State College students; and
- 3) Daytime/workday trips within Keene by both residents and non-residents – area residents working in Keene, other Keene area employees and Keene State College students.

Accordingly, ultimate system design would include two fixed-routes served by one or two buses each circulating in the larger downtown area (radiating from Main Street up Washington, Court, Marlborough Streets and Park Avenue) and one or more high-frequency fixed-routes serving the commercial areas of Main, Winchester and West Streets. The high-frequency circulators may best be served by rubber-tired trolleys. Future service should also operate on extended hours during the day to accommodate trips to and from work and evening shopping and include Saturday service.

First steps during 2000 in the planned expansion will be the addition of a second bus on a second fixed-route and the installation of bus shelters. HCS and NH DOT have arranged for acquisition of an additional bus and one rubber-tired trolley. Geographically, service expansion will serve neighborhoods north of Central Square (Washington, Elm and Court Streets) and east of Main Street and commercial areas of Main, West, and Winchester Streets. Expanded service will continue connections with area human service organizations or institutions, such as Monadnock Family Services and Cheshire Medical Center. The current hours of 8:30 a.m. to 4:00 p.m. will be expanded to run from 6:30 a.m. to 8:00 p.m. with the addition of Saturday service to better accommodate trips to and from work, college classes, shopping, and social functions. Future capital funding is anticipated from FTA by way of NH DOT – with a required local match. Generation of operating funds for expanded service is anticipated to rely on HCS funds (including fare box and advertising), the City of Keene and other area stakeholders, including businesses and institutions.

Chapter 6

HCS Rural Transit Planning

The federal transit funding environment under the Transportation Equity Act for the 21st Century expected until 2004 make planning, capitalization and implementation of system expansion timely for Keene and the Southwest Region. Issues identified for consideration by study participants include transit shelters, enhanced and sustained marketing, and a centralized transportation center as outlined below.

- 1) Long-term capital planning for the *CityExpress*.
- 2) Development and dissemination of a quantitative analysis regarding the integration of transit in the City's transportation system. Such an analysis will be basic to public discussions and decision-making about system advancement. The analysis should address the public costs and benefits associated with the demand for roadway and parking capacity expansion in comparative discussions of the continuum from "no transit involvement" to "high transit involvement" in the local transportation system.
- 3) Development of the City of Keene's Transportation Center for use as an intermodal hub for both the City and the Region.
- 4) A feasibility study is needed to examine the design and development of a transit management and policy-making body inclusive of stakeholders and management resources in the greater Keene area to share the burden of system capitalization and operations.

The need to address these planning issues is elevated by the dramatic change underway in the State highway system that intersects at Keene with the Keene-Swanzey Bypass Improvement Project scheduled to begin in 2000. SWRPC will continue to work with NH DOT, HCS and the City of Keene and integrate transit planning as a component of the SWRPC regional transportation planning program and the biennial 10-Year Transportation Improvement Program process.

