

# Life

Get on Board!

## The Northern Virginia Transportation Commission's Public Transit Travel Instruction Program for Seniors



**FINAL REPORT:** April 24, 2008



EXECUTIVE SUMMARY: Life: Get on Board!



## **Project Synopsis**

The Northern Virginia Transportation Commission (NVTC) obtained from the Virginia Department of Transportation (VDOT) a grant for a pilot demonstration of senior public transit travel training. The target duration of the program was approximately 15 months (to meet strict grant requirements) but in actuality it has taken about two years. **Figure 1** shows a chronology of the project.

The geographic scope of the project included NVTC's six jurisdictions (1,000 square miles and 1.6 million population) as well as Prince William County (which is a member of the Potomac and Rappahannock Transportation Commission). See **Figure 2**.

At least 10 distinct transit systems operate in this territory (more if the systems in suburban Maryland and the District of Columbia are considered), making design of the training program complex. See **Figure 3**.

NVTC completed a research study in 2006 documenting trends of sharply increasing senior populations juxtaposed with declining use of fixed-route transit by such persons. That Phase I study is available on NVTC's website at [www.thinkoutsidethecar.org](http://www.thinkoutsidethecar.org).

This Phase II report contains the findings of a demonstration of the senior public transit travel training program NVTC designed to test the proposition that carefully targeted training, attractive information materials, and most importantly individual trips with skilled travel instructors can boost the confidence of potential senior transit customers and give them a lasting incentive to use transit more often.

Paratransit costs are high and the costs of social isolation are immense. Thus, the rewards of encouraging greater transit use by seniors are potentially great. Devising and demonstrating a cost effective senior transit travel training program may prove to be the impetus for worthwhile ongoing public investment.

First, NVTC competitively procured the trainers and then trained them over an intensive week. This "train the trainers" seminar featured complex public transit trips requiring pre-trip planning and transfers among several transit systems. Next, participants were recruited for two-day group training (one day of classroom sessions and one day of trip taking). Next, individual trips were offered to many participants with a travel trainer. Finally, evaluation surveys were completed at three and six-month intervals after training to determine whether the training had a lasting impact on seniors' use of fixed-route public transportation. Key variables examined included the impact of individual training, age of trainees, residence by land use community type, and how the length of time after training affected transit use.

NVTC completed this project at a cost of \$135,000, including VDOT grant funds and donated NVTC staff time.

## Figure 1

### NVTC Senior Mobility Studies: Chronology

<u>Activity</u>	<u>Date</u>
Phase I Senior Mobility Study Initiated	Fall, 2004
Phase I Final Report	March, 2006
VDOT Phase II Grant Awarded	May, 2005
VDOT/NVRC Grant Contract Executed	January, 2006
RFP Issued for Travel Trainers	June, 2006
RFP Re-Issued	August, 2006
Travel Trainers Contract Executed	January, 2007
Orientation for Travel Trainers	January, 2007
Group Training Sessions	February–March, 2007
Review of National Travel Training Programs Complete	March, 2007
Individual Travel Training	April – July, 2007
Three-Month Follow-Up Surveys	October, 2007
Six-Month Follow-Up Surveys	January, 2008
Draft Final Report Presented to NVTC Board	April 3, 2008
Final Report Complete and Grant Project Closed	April 30, 2008

Figure 2

Map of NVTC and PRTC Jurisdictions






Figure 3

Transit Systems Serving Northern Virginia

<u>System Logo</u>	<u>System Name</u>	<u>Jurisdiction</u>	<u>FY 2007 Ridership</u>	<u>Estimated % Trips by Persons 65+</u>
	Arlington County Transit	Arlington County	1,060,441	3.9%
	CUE	City of Fairfax	1,135,758	1.6%
	DASH	City of Alexandria	3,743,449	4.5%
	Fairfax Connector	Fairfax County	9,717,392	Not Available
	Loudoun County Transit	Loudoun County	652,347	Not Available
	Metrobus Metrorail	All NVTC	21,011,434 94,161,019	3.5% 2.2%
	Virginia Railway Express	All NVTC All PRTC	3,453,561	2%
	OmniRide OmniLink	Prince William County	1,738,556 870,206	2% 3%

Note:  Falls Church George included with Metrobus

## **Project Team**

NVTC staff designed and managed the project. NVTC staff was primarily responsible for planning, oversight, instruction of the travel trainers, grant accounting, logistics, graphics and compiling the final report.

NVTC competitively procured the services of the Partnership Transportation Management Association of Montgomery County, Pennsylvania as travel instructors. WB&A Market Research of Crofton, Maryland carried over as prime contractor from the Phase I study and was responsible for design and implementation of surveys for screening participants and evaluating the program. KFH Group, of Bethesda, Maryland, a sub-contractor to WB&A from Phase I, provided research expertise on travel training programs elsewhere.

VDOT provided funding and that agency as well as the Northern Virginia Regional Commission (NVRC) executed contracts with NVTC and processed grant reimbursements.

Finally, a lengthy list of local, regional and state staff gave generously of their time to review work products, comment on project design and implementation, help recruit participants, assist in group training and provide training rooms and transit vehicles free of charge. They are listed in the Acknowledgements section below.

## **Project Objectives**

Two primary objectives motivated this project:

- 1) Focusing on persons at least 75 years of age, demonstrate how to increase seniors' confidence in independently using fixed-route public transportation by providing access to relevant information;
- 2) Test the effectiveness of targeted investments in travel instruction and of specific tools and approaches, as measured by participant evaluations and by the continued use of fixed-route public transit after training (and whether seniors will encourage others to do so).

Other secondary objectives included:

- 1) Design and test products and techniques to accomplish travel training of seniors, including motivational games such as Bus Bingo, comprehensive travel brochures, and individualized trips accompanied by travel trainers;
- 2) Help transit systems tap a potentially bountiful market niche of seniors;

- 3) Examine whether training could reduce transit system costs by encouraging the use by seniors of fixed-route services versus paratransit;
- 4) Determine if travel training varies in effectiveness by land-use type (urban, suburban, exurban);
- 5) Identify other characteristics that may influence the benefits of training (demographics, health, etc.);
- 6) Weigh the benefits versus costs of training to help transit systems decide whether ongoing investments are warranted;
- 7) Understand and respond to the travel goals of seniors to tailor training to meet their needs;
- 8) To the extent possible encourage individuals who work with seniors to continue to promote transit use;
- 9) Experiment with travel instruction in multiple languages for participants from diverse cultures;
- 10) Actually train at least 50 seniors to use public transit and encourage them to recruit others to take public transit trips.

### **Phase I NVTC Senior Mobility Study**

NVTC's initial research revealed distinct trends including greatly expanding senior populations and declining use by seniors of public transit. A survey of over 1,600 seniors in Northern Virginia 75 years of age or older revealed a lack of knowledge by seniors about how to use transit and about how to discover relevant transit information. Currently NVTC estimates persons 65 years of age and older take less than four percent of all public transit trips in Northern Virginia, while they comprised almost eight percent of the region's 2000 Census population.

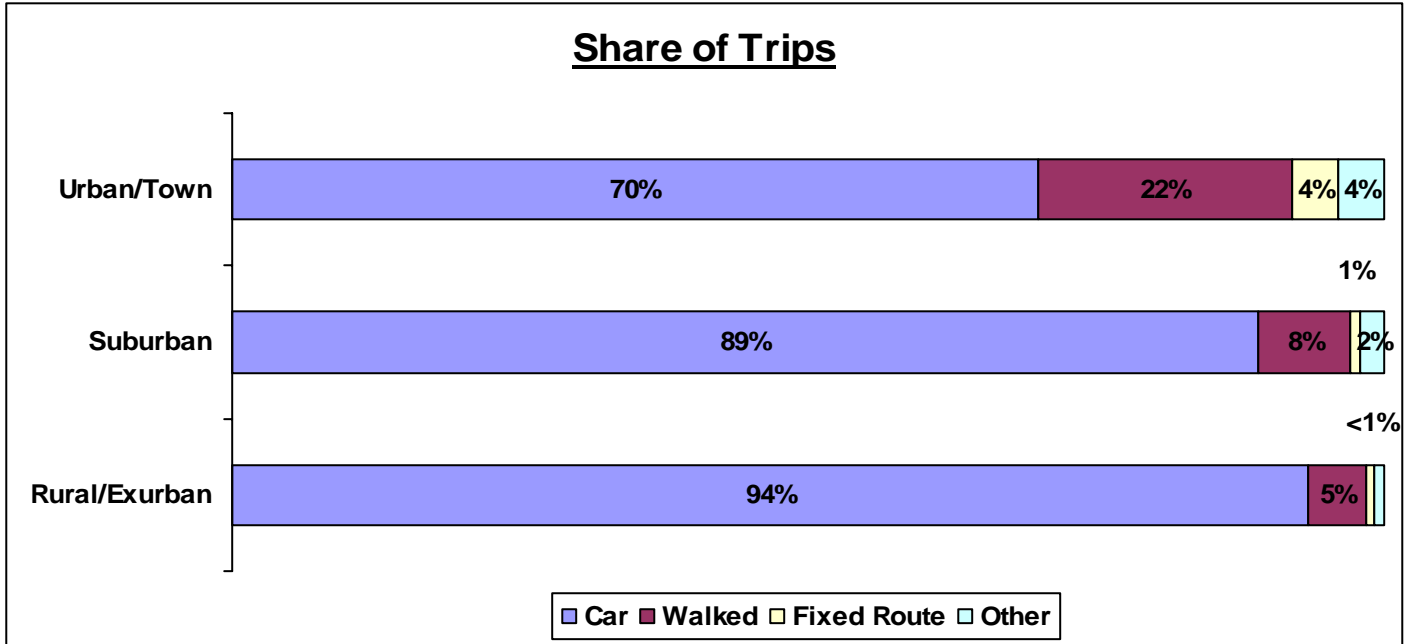
Significantly, NVTC showed how trip-making by seniors is related to land use patterns. Seniors living in dense urban areas (about 9 percent of Northern Virginia's senior population) take more overall trips per capita, as well as more walking and transit trips, than do seniors residing in suburban (82 percent) or exurban (9 percent) communities. Trips outside the home are believed to deter social isolation and depression.

In NVTC's survey, 20 percent of seniors residing in urban communities used public transit in the previous month, compared to 14 percent in suburban areas and 5 percent in rural/exurban areas. Use of automobiles was greatest in the exurban areas and least in urban areas (although still substantial). See **Figure 4**.



Figure 4

Use of Transportation Modes by Seniors Varies  
With Community Land Use Type



The Phase II training was designed to follow-up on the findings of NVTC's Phase I research. Phase II was a test of whether a permanent training program would be cost-effective in proactively responding to the major demographic trends identified in Phase I.

## **Training the Trainers**

As the Phase II demonstration began, during an intensive week the two selected trainers from Partnership TMA were drilled in the objectives of the program with emphasis on safety and documentation of performance. Most of the week was spent riding the several transit systems. Independent field assignments required the trainers to access route and schedule information from multiple sources and transfer repeatedly to complete complex trips. Also, audits of pedestrian safety issues at various intersections were required.

A detailed notebook was prepared for the trainers by NVTC staff to be used during this intensive period of training. It was packed with schedules, fare information and best practices suggestions. Copies of these materials and of the very detailed itinerary for the week-long training session for trainers are attached in **Appendix E** to the Phase II final report.

## **Recruiting Senior Participants**

Initially, NVTC was cautious about notifying potential participants given its limited budget (for about 50 trainees). However, given a condensed schedule, it became necessary to aggressively seek participants through senior centers, social service agencies and media notices. Ultimately about 120 seniors called to sign up over a four-month period and 56 were trained in group sessions. WB&A screened potential participants (primarily for health issues affecting safety but also so that the program could be tailored to individuals' interests and needs).

While 30 slots were budgeted for up to two individual training trips per person, ultimately 22 participated in this portion and only four took two trips.

## **Group and Individual Training**

Two hours of classroom instruction occurred on the first day at five locations during late February through March, 2007. At these sessions, NVTC's unique Bus Bingo game was very effective as an instructional tool. Prizes were contributed by the participating transit systems. Also, NVTC distributed comprehensive travel guides of its own design. On the second day, a group trip was taken using regular-route transit service. Participants and trainees filled out evaluation forms. Fifty-six seniors were trained.

After group training, participants were screened for individual training. Twenty-two persons took these one-on-one trips with a trainer.

WB&A Market Research conducted evaluation surveys at three and six-month intervals following the individual trips.

## **Evaluation**

Recognizing that small sample sizes make survey findings qualitative and limit the validity of statistical inferences, evaluation results are promising.

Participants liked the program: 79 percent strongly agreed they would recommend it to others; 85 percent found the training helpful and 83 percent said it was fun. Immediately after training, about 70 percent of participants said they were very likely or likely to use public transit in the future. Three months later, that percentage dropped to 60 percent and six months later to 51 percent. However, considering those who actually used transit, after three months, three quarters of all trainees now using transit would continue to do so and after six months, 100 percent would do so.

After completing group training, 91 percent would strongly agree or agree that they would feel comfortable continuing to use transit.

Prior to training almost a third had never used Metrorail and only 6 percent had used it in the past month. Also, 25 percent had never used a public bus while 23 percent had used one in the past month.

In its three-month follow-up evaluation survey administered by WB&A during September, 2007, the percentage of seniors using public transit before and after training was compared. As measured by use during the past year, Metrorail and bus user percentages both tripled. Adding user percentages in the past month and past year produced a tripling of Metrorail use (to 78 percent from 27 percent) and a doubling of bus use (to 70 percent from 35 percent). Even auto use grew somewhat to 81 percent from 75 percent (reflecting increased trip-making which combats isolation among seniors).

After six months, the use of transit declined slightly compared to the three month mark. Metrorail use in the past month and year fell to 58 percent (still twice the pre-training level) and bus use declined to 65 percent (still almost twice the pre-training level). Auto use remained at 81 percent (up from the pre-training level of 75 percent).

The most common use of Metrorail/VRE was for entertainment (69 percent), for buses it was shopping (50 percent) and for car it was doctors (65 percent) and groceries/drug store (50 percent).

For those using transit, after three months 45 percent overall were taking new types of trips following training (and 55 percent of those receiving individual training). A third get out of the house more frequently and many report a reduced need to ask family and friends for help.

Several key variables were of primary interest. Specifically, NVTC wanted to determine the effects of individual training, age and land use community type on increased transit ridership following training, and the extent to which any gains from training persisted through time. Small sample sizes ruled out accurate statistical inferences, but the following indications seemed to support the commission's hypotheses:

- Individual training has a very positive effect on transit ridership (over 50 percent greater transit use over the past year compared to the overall sample) which seems to be stronger after six months.
- Regarding age, those 75 years and older showed very similar responses to the overall sample.
- Looking at the influence of land use community type, as expected urban area residents displayed a more positive response to training (approaching 50 percent greater use of public transit after training) than residents of suburban and exurban areas.
- While training boosted transit use overall, the benefits of training do seem to erode somewhat with the passage of time, as measured by use of transit in the three months between the three-month and six-month follow-up surveys.

To summarize:

- Participants enjoyed the training, found it to be worthwhile and would recommend it to others.
- Participants boosted transit use significantly after training and held most of the gains up to six months after training.

- Many participants took new trips and a greater variety of trips after training, reflecting increased confidence, and got out of their homes more frequently.
- Of those who had previously asked family and friends for transportation assistance, over half were less dependent after training.
- After training, virtually all of those who actually used transit say they will continue to use transit.
- Those receiving both group and individual training are much more likely to use transit than those receiving only group training.
- Those 75 years of age and older show no significant differences from the entire sample.
- Residents of urban communities show much more positive response to training in terms of increased transit use than do residents of suburban and exurban communities.

## **Lessons Learned**

Among the many findings described in the report are:

- Allow ample time to design an effective training program (at least nine months—NVTC only had 7 months).
- Allow ample time to procure and train travel instructors (NVTC had to hire from outside its own metropolitan area and compress training into a hectic week just before the first group training session).
- Maintaining an accurate relational database of potential/actual participants can save a great deal of time for administration of the training.
- Streamline the recruiting process so potential participants have one-stop shopping to be screened and accepted (many found the screening questions to be intrusive).
- Pedestrian improvements around bus stops are vital for safety as is teaching pedestrian safety skills at the senior training sessions.
- Participants come from many cultures and speak many languages and translations can bog down the entire presentation (more separate sessions are desirable if budgets permit).

- Given large differences in initial experiences with transit, classroom instruction should be divided into at least two levels of difficulty.
- Only one individual trip with a trainer after group training is needed.
- SmarTrip farecards are popular with participants.
- Liability insurance for trainers can be difficult to arrange.
- The key to success is to make the training fun and exciting.

## **Conclusions**

NVTC regards the demonstration as successful in a number of ways. First, the costs fall at the low end of the typical range of travel training programs. Replicating the NVTC approach would now be even less costly given the lessons learned and training materials developed.

Participants enjoyed and valued the program; they felt more confident in using transit after training and actually substantially increased their use of transit after training. Six months after training they continued to do so. The trip purposes were more varied also, which reflects increased confidence. They also took more overall trips after training, which suggests reduced risk of social isolation.

The final report on NVTC's Phase II study describes in detail the extent to which the two primary and 10 secondary objectives of the study were met.

For more information, please feel free to contact NVTC at [nvtc@nvtdc.org](mailto:nvtc@nvtdc.org) and go to NVTC's website at [www.thinkoutsidethecar.org](http://www.thinkoutsidethecar.org) to learn more about NVTC and examine its other research reports.



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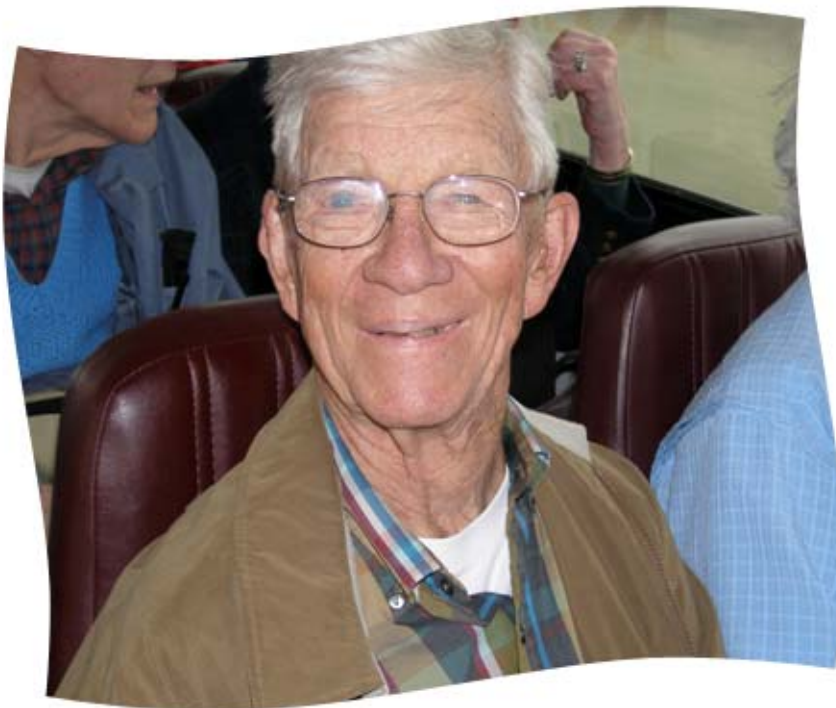
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## ACKNOWLEDGEMENTS



The Phase II project team was led by Jana Lynott, formerly Director of Planning for NVTC (and now a senior advisor with AARP). Elizabeth Rodgers of NVTC provided research and graphic design expertise. Rick Taube of NVTC wrote the final report using some materials prepared by Jana Lynott and Rhonda Gilchrest assembled and typed it.

NVTC's lead consultant was WB&A Market Research of Crofton, Maryland. Kevin Pullis and Christine Leggett performed the survey design, processing and analysis.

Peggy Schmidt and Brenda Zellar from The Partnership Transportation Management Association of Montgomery County, Pennsylvania, were the travel trainers.

Buffy Ellis and Dorothy Hersey provided research support and advice from the KFH Group of Bethesda, Maryland.

Funding for Phase II came from the Virginia Department of Transportation through the Northern Virginia Regional Commission. Randy Hodgson of VDOT and Linda Tenney of NVRC were primarily responsible for processing reimbursement requests. VDOT district and central office staff negotiated and approved grant contracts and were lenient in extending the strict time limits for the grant when NVTC brought extenuating circumstances to their attention.

The following list contains the names of many individuals from several agencies that took time from their busy schedules to advise the project team on such matters as consultant selection, survey design, participant recruitment and training materials. Many also attended training sessions and/or provided materials, tours, buses and other assistance, without charge to the project.

None of the individuals or agencies listed should be held responsible for any errors, as NVTC assembled and approved the final report. Please feel free to offer comments and corrections to NVTC at [nvtc@nvtc.org](mailto:nvtc@nvtc.org). This report will also reside on NVTC's website at [www.thinkoutsidethecar.org](http://www.thinkoutsidethecar.org).

Contributors to NVTC's Life—Get on Board! Senior Travel Instruction Program

NVTC wishes to thank the following individuals and organizations for their contributions to this project.

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FINAL REPORT



# 1. INTRODUCTION



This research report describes the planning, implementation and evaluation of a demonstration of public transit travel training for seniors in Northern Virginia.

The Northern Virginia Transportation Commission obtained grant funding from Virginia Department of Transportation to test some of the findings of the commission's earlier study on senior mobility (Phase I).

NVTC is a 1,000 square-mile regional district with six jurisdictions, 20 board members of local and state elected officials, and a population of 1.6 million. More information about NVTC is available on the commission's website at [www.thinkoutsidethecar.org](http://www.thinkoutsidethecar.org), including an extensive portfolio of transit research and demonstration reports.

The format of this report provides first a brief executive summary (above) and then a description of NVTC's Phase I Senior Mobility Study, an exposition of the objectives and methods of this Phase II study, a detailed examination of the integral components of the senior travel training demonstration, the results of survey evaluations by participants, and an extensive set of lessons learned and conclusions to guide others who may wish to initiate a similar senior travel training program.

Several appendices contain work products such as a summary of the Phase I report; report by NVTC's market research firm WB&A; materials developed by NVTC for the program such as the unique Bus Bingo game, screening and evaluation forms, training agendas and the regional transportation guide for seniors; references to recent related research studies; summaries of 10 travel training programs prepared by NVTC's consultants KFH Group and evaluated by NVTC as it designed its Phase II approach; and a PowerPoint presentation summarizing the study.

As explained below, NVTC undertook this demonstration using a VDOT grant because senior populations are rapidly growing while use of public transit by seniors is shrinking. To improve senior mobility and quality of life, help public transit systems tap a potentially bountiful market niche, and conserve resources by encouraging more use of fixed-route transit versus more costly paratransit, NVTC undertook this demonstration.

Two primary objectives drove the study:

- 1) Focusing on persons at least 75 years of age, demonstrate how to increase seniors' confidence in independently using fixed-route public transportation by providing access to relevant information;
- 2) Test the effectiveness of targeted investments in travel instruction and of specific tools and approaches, as measured by participant evaluations and by the continued use of fixed-route public transit after training (and whether seniors will encourage others to do so).

Other secondary objectives included:

- 1) Assign and test products and techniques to accomplish travel training of seniors, including motivational games such as Bus Bingo, comprehensive travel brochures, and individualized trips accompanied by travel trainers;
- 2) Help transit systems tap a potentially bountiful market niche of seniors;
- 3) Examine whether training could reduce transit system costs by encouraging the use by seniors of fixed-route services versus paratransit;
- 4) Determine if travel training varies in effectiveness by land-use type (urban, suburban, exurban);
- 5) Identify other characteristics that may influence the benefits of training (demographics, health, etc.);
- 6) Weigh the benefits versus costs of training to help transit systems decide whether ongoing investments are warranted;
- 7) Understand and respond to the travel goals of seniors to tailor training to meet their needs;
- 8) To the extent possible encourage individuals who work with seniors to continue to promote transit use;
- 9) Experiment with travel instruction in multiple languages for participants from diverse cultures;
- 10) Actually train at least 50 seniors to use public transit and encourage them to recruit others to take public transit trips.

To accomplish the demonstration, NVTC procured transit trainers, trained them, prepared classroom materials for group training, recruited participants, conducted five group sessions for 56 seniors, continued with individual training for 22 seniors, and analyzed the results of evaluation surveys of participants and reactions of the trainers.

Results are promising. Participants liked the program with 90 percent strongly agreeing that they would recommend it to a friend. About 70 percent of participants said they were very likely or likely to use public transit in the future.

Many lessons were learned about how to streamline the training and focus on its most effective components. These were summarized in the Executive Summary and are described in greater detail in a subsequent section.

Persons interested in more information about the study should contact NVTC at [nvtc@nvtc.org](mailto:nvtc@nvtc.org).

# 2. PHASE I STUDY FINDINGS





Starting in the fall of 2004, with a \$118,000 grant from the Virginia Department of Rail and Public Transportation, NVTC's consultants (WB&A) interviewed more than 1,600 Northern Virginia residents, age 75 and older, as well as conducting focus groups with seniors and professionals who serve them. NVTC staff analyzed Census 2000, Census Migration and National Household Travel survey databases using Arc GIS mapping and analysis tools. The purpose was to understand the transportation needs of Northern Virginia's seniors now and in the future, with emphasis on public transit improvements.

A summary of this Senior Mobility study appears as **Appendix A**, and the entire report is available at NVTC's website at [www.thinkoutsidethecar.org](http://www.thinkoutsidethecar.org).

Several recommendations came from that study upon its conclusion in March, 2006. Among these were measures to encourage and support seniors' use of fixed-route public transportation, including centralized information and referral services, low-floor buses and redesigned routes. Also, supplemental transportation services for seniors unable to use fixed-route transit would include volunteer transportation services and shared-ride taxis. Finally, several measures would increase seniors' travel options through attention to the built environment, such as transit-oriented, mixed-used development and pedestrian-friendly streets.

After obtaining additional grant funding from the Virginia Department of Transportation, it was possible for NVTC to test one of the primary recommendations from the Phase I study. That is: Will a well-designed program of public transit travel training, including the unique features of individualized trips with skilled travel instructors, lead to a continuing increase in public transit trip-making by senior participants with a resulting improvement in their quality of life?

The Phase I study was timely because of the projected surge in residents of Northern Virginia who will be 65 years of age or older. That demographic is expected to more than double by 2030, growing by 225,000. The number of non-driving seniors will also double. Most growth is expected to occur in suburban and exurban areas that are not well served by public transportation and often lack safe sidewalks. Currently 85 percent of persons 65 or older live within a quarter mile of a transit route in Northern Virginia. But 37 percent report difficulty in walking a quarter mile.

NVTC discovered that seniors living in walkable, mixed-use urban and town areas of Northern Virginia are more mobile, taking 20 percent more trips each week (and four times as many transit trips) than those living in suburban or exurban areas. Twice as many seniors in urban areas reported walking to a destination in the past week compared to suburban seniors, and five times as many as in exurban areas.

Compared to the nationwide average, Northern Virginia's seniors are more educated (48 percent completed college versus 21 percent nationwide), better off financially (50 percent have household incomes of \$30,000 or more versus 18 percent nationwide), and take more trips.

As explained below, NVTC's follow-up study (Phase II) was designed to provide additional information about the relationship between public transit trip-making, land development patterns and the effectiveness of public transit travel training for seniors. It sought to identify how training could be used in a cost-effective manner to boost the number of seniors taking trips on regular route transit services. NVTC's estimates from its own 2001 on-board survey suggest that about 16,000 persons age 65 or above ride transit in Northern Virginia, taking about 3.7 percent of all weekday transit trips. However, only two percent of all trips taken by Northern Virginia seniors are on public transit.

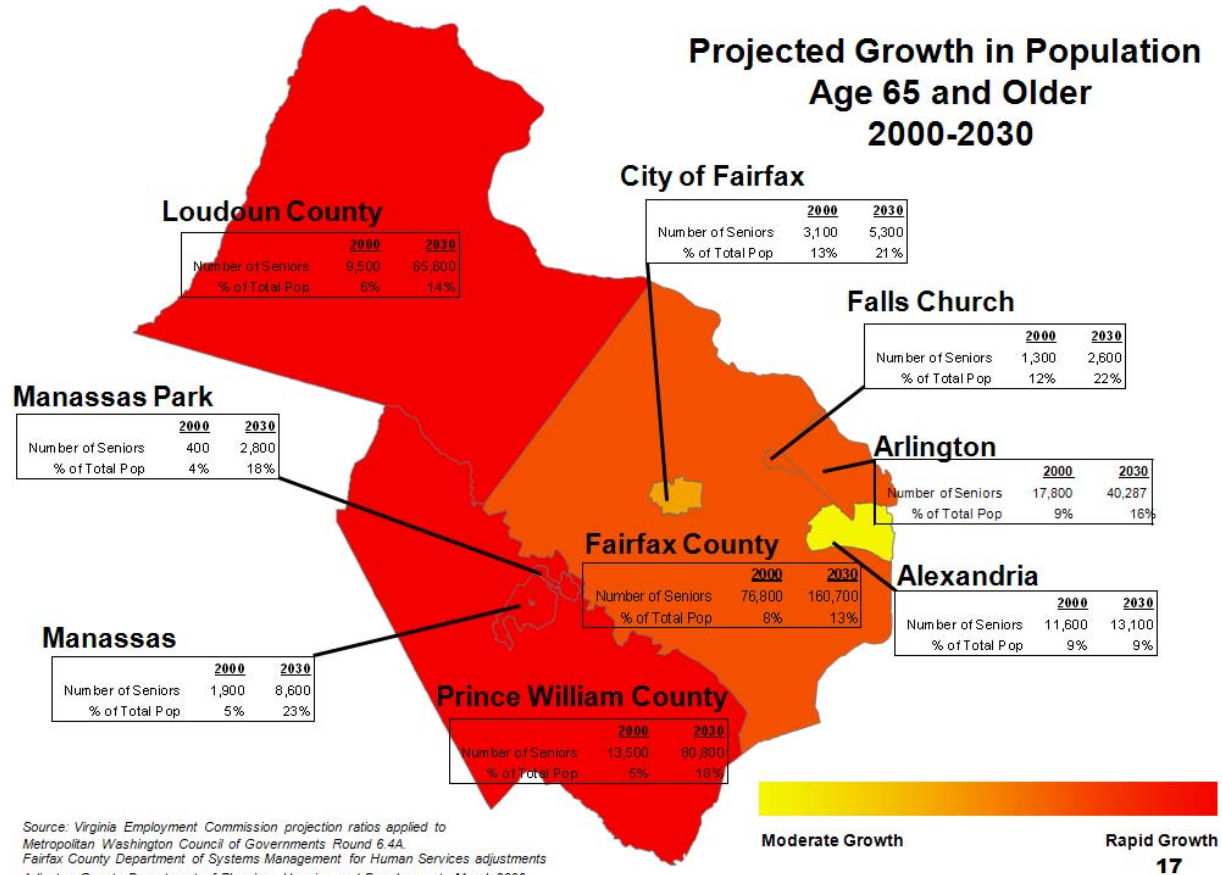
This may be a relatively small share but the growth of the senior population is expected to be rapid (in 2000 about 7.7 percent of total Northern Virginia population is 65 years or older with growth expected to 14.2 percent by 2030, and in transit-accessible locations the projected shares are even higher, reaching over 20 percent by 2030 in the cities of Falls Church and Fairfax). See **Figure 5**.

Also, paratransit costs are high and the costs of social isolation are immense. Thus, the rewards of encouraging greater transit use by seniors are potentially great. Devising and demonstrating a cost effective senior transit travel training program may prove to be the impetus for worthwhile ongoing public investment.

NVTC staff presented its Phase I study results to many agencies and associations throughout the region and around the country, including gatherings of the American Planning Association, American Public Transportation Association, Virginia Transit Association, and AARP, among others. At the Northern Virginia Transportation Authority, consideration of this report led to a discussion of the growing need to rethink local budget priorities, since in one case 63 percent currently goes to schools and programs for persons 18 and under, compared to 1.3 percent for persons 65 and above. Given differences among the community land use types, careful attention to the best environment to facilitate walking and public transit is warranted.

Figure 5

Current and Projected Shares of Senior Population by Northern Virginia Jurisdictions



Source: Virginia Employment Commission projection ratios applied to Metropolitan Washington Council of Governments Round 6.4A.  
 Fairfax County Department of Systems Management for Human Services adjustments  
 Arlington County Department of Planning, Housing and Development, March 2006

### 3. PHASE II STUDY OBJECTIVES



## **Designing the Program**

NVTC used a grant awarded in January, 2006 by the Virginia Department of Transportation to follow-up on NVTC's detailed study of senior mobility needs for improved access to public transit. Travel training had been identified in Phase I as a potential means to overcome two obstacles to use transit by persons 75 years of age and above. First, seniors needed a better understanding of how to access information about transit and second, they needed reassurance to venture out to use these services.

## **Summaries of Travel Training Programs Nationwide**

A summary report is attached as **Appendix G**. The report was prepared by NVTC's consultants, KFH Group. This research helped to shape NVTC's approach to its senior travel training demonstration.

Ten travel training programs were researched. Conclusions from this examination of successful (and unsuccessful) programs included:

- Group classroom training is useful for general orientation, but individual training and actual use of transit service are more effective;
- Encouraging off-peak travel is less stressful for seniors;
- Ongoing outreach with human service agencies is vital to recruit a continuing stream of participants;
- Pre-tests of group and individual trips by trainers is necessary to identify potential problems and make trips with trainees as smooth as possible;
- Using volunteers requires very careful screening (Including criminal background checks);
- Potential participants also should be carefully screened so the program can be tailored to their needs;
- As with any publicly funded program, senior public transit travel training should be continually evaluated by maintaining and analyzing performance data.

The programs that were evaluated were:

- Fairfax Connector Mobile Accessible Training
- WMATA Metro System Orientation
- Lane Transit District (Eugene, OR) Bus Buddy
- Ride Connections (Portland, OR) RideWise
- Special Transit (Boulder, CO) Easy Rider
- Execunet Consulting for B.C. Transit (Victoria, BC) Community Travel Training
- Delaware Transit Corporation Statewide Travel Training
- The Rapid (Grand Rapids, MI) Travel Training
- Palm Tran (West Palm Beach, FL) Seniors in Motion
- Chatham Area Transit (Savannah, GA) Travel Training

For each of these 10 programs, the following categories of information are provided:

- Type of organization
- Training focus
- History of program
- Issues with implementation
- Description of program
- Type of training staff (in-house, contractors, volunteers)
- Training staff qualifications
- Insurance
- Training materials
- Budget



- How is success measured?
- How many are trained?
- Insights from program
- Contact information

For example, the Fairfax Connector began its Mobile Accessible Travel Training program in 2002 and added a specially equipped training bus in 2004. Travel training for seniors is also available on local access cable. Initially there was difficulty recruiting sufficient participants and now there are language barriers and staff availability issues to overcome. For the future, senior mentors (volunteers) are being considered.

The Fairfax Connector demonstration bus can carry 30 passengers and has a classroom area in the rear with audio/visual components. The bus is used to transport participants on a field trip to a destination of their choice. At the time of this review, two full-time county employees managed the program and contracted with training staff to operate the bus. Since then, a third employee has been added.

The cost per senior trained is estimated at \$25, including fares on regular route services. Use of the dedicated bus costs \$58 per hour for a four-hour minimum.

Success is defined in terms of participants' ability to use transit services on their own. Each session has three to 10 participants and 35 to 40 seniors are trained annually.

At WMATA, seven full-time staff are involved in travel training for seniors, persons with disabilities and others. Of these about 2.5 full-time equivalents perform travel training. Outside contractors also provide system orientation for persons with visual impairments. Workshops and individual trip assistance are offered. The estimated expenditures for outside contractor training as of FY 2006 were about \$15,000. About 20 orientation sessions are held annually, with almost 100 persons trained per year.

Further review of the 10 case studies reveals that in these programs:

- The number of in-house staff devoted to training is very modest (typically less than three);
- The number of seniors completing training in a typical year is also quite modest (typically 200 or less for the largest systems, and usually closer to 30);
- The budgets assigned to training are low (often less than \$100,000 annually);

- Measurements of performance rarely include follow-up after training (exceptions include Portland—with three and six month surveys—and Boulder, Victoria and Delaware).

With the insights provided from these other travel training programs, NVTC paid close attention to screening travel trainers and participants; emphasized a combination of classroom instruction, group travel and individual trips with trainers; conducted pre-tests of planned group and individual trips to discover potential pitfalls; and performed detailed follow-up at three and six-month intervals.

### **Life: Get on Board!**

The Phase II program was christened “Life” Get on Board!” It was designed to demonstrate whether senior participants could be taught to rely more on public transportation, which aspects of training are most effective, and the extent to which training would permanently alter travel behavior. These benefits would be compared to the costs of training to reach a conclusion about the overall effectiveness of the program and the most beneficial aspects.

The program was designed to boost senior confidence with:

- 1) Two hours of classroom instruction to cover basics of riding public transportation (reading bus schedules, safety, paying fares).
- 2) A group trip using regular transit service in the company of a travel trainer.
- 3) An individual transit trip to a destination chosen by each participant in the company of a travel trainer.

NVTC examined many other travel training programs. Many of them focus on persons with disabilities (e.g. WMATA’s). The most helpful model was Ride Connections of Portland, Oregon. Other training programs that were particularly instructive in designing NVTC’s approach (in addition to the 10 described above) included Paratransit Inc. (Sacramento, CA), Chariot’s (Salem, OR) and Southwest, CT.

While many travel training curriculums feature classroom instruction with access to buses, few involve follow-up group trips and rarely, if ever, individual trips. NVTC’s hypothesis was that developing an individual’s confidence to the point that they would continue to use transit after training required tailoring the program to each individual’s needs and interests.

Northern Virginia’s environment features many cities and counties. At least ten distinct bus and rail transit systems serve that region, which encompasses the jurisdictions of NVTC as well as Prince William County, Manassas and Manassas Park. Northern Virginia is contiguous to the District of Columbia and suburban Maryland with

more governments and transit systems. The population for the entire metropolitan region exceeds three million.

Within that region, as documented in NVTC's Phase I Senior Mobility Study, residents are scattered among high density urban neighborhoods often well-served by frequent bus service and close to Metrorail stations; suburban locations with infrequent bus service, cul de sacs and destinations set back from bus stops by huge free parking lots; and exurban/rural areas with few bus routes and no sidewalks. Those seniors living in urban areas take transit four times as frequently and travel two to five times more than those seniors living in suburban or exurban areas. NVTC's Phase II study would also seek to document whether training was measurably more effective in each of these three land-use types.

Before the start of group training, an initial "train the trainer" session was conducted in January, 2006. NVTC staff developed a very detailed binder of materials as well as a Life: Get on Board! transportation guide for the trainers and subsequently the trainees. It is in a convenient Velcro snapped booklet containing maps, instructions and a detachable personal travel plan, all with attractive color photos and sharp graphics. See **Appendix C** for the transportation guide and **Appendix E** for train the trainer agendas and materials.

Recruiting of trainees consumed several weeks. Then five separate two-day group travel training workshops were conducted:

- 1) Herndon Harbor House  
Fairfax County  
February 5-6, 2007                      4 trainees (very cold weather affected attendance)
  
- 2) Walter Reed Community Center  
Arlington  
March 13-14, 2007                      15 trainees
  
- 3) Nanny J. Lee Recreation Center  
Alexandria  
March 15-16, 2007                      9 trainees
  
- 4) Potomac and Rappahannock Transportation Commission  
Prince William County  
March 19-20, 2007                      15 trainees
  
- 5) Loudoun County Government Center  
Loudoun County  
March 26-27, 2007                      13 trainees

Each participant was eligible to receive a senior SmarTrip card with \$10 of fare value. At the first day of each group session, participants learned how to plan a trip, find schedules, get transit information, board the bus, pay fares, signal their stop, etc. A local bus was available for hands-on training. Of significance, situations were rehearsed in which things don't go exactly according to plan. This classroom instruction lasted up to two hours and lunch was provided.

On the second day, a group trip was taken on regular route transit vehicles.

Ultimately 56 seniors completed group training and were evaluated for subsequent individual trips with a travel trainer. After the group sessions, participants and trainers completed evaluation forms.

From April to June, 2007, individual transit outings were conducted to destinations chosen by the participants. Most required transfers to/from Metrorail and/or other buses. Participants and trainers completed evaluation forms at this stage also.

Finally, follow-up surveys were administered by WB&A Market Research three and six-months after individual training to measure the extent to which the participants continued to use transit. Among the questions to be answered by these surveys were:

- To what extent do senior participants continue to use transit after training;
- Do they encourage others to do so (thereby providing leverage for the investment in training);
- What characteristics (demographics, residence location, health, etc.) are associated with increased transit use?

The final six-month evaluation surveys were completed in January, 2008. **Appendix B** contains the detailed survey results for the series of evaluations performed by WB&A Market Research. These results are described later in this report.

## 4. DEVIL IN THE DETAILS



## **The Public Transit Environment**

The Metrorail and regional Metrobus routes of the Washington Metropolitan Area Transit Authority form the spine of the regional transit network. Each of NVTC's six member jurisdictions has its own local bus system (and Loudoun County has a commuter service and a local service). In the neighboring PRTC, both commuter and local bus service are available. NVTC and PRTC co-own the Virginia Railway Express commuter rail service. Together those systems serve 138 million trips annually in Northern Virginia. See **Figure 2** for a complete list.

Adding to the complexity are individually branded bus services, such as Reston's RIBS, Fairfax County's REX, and the Transportation Association of Greater Springfield's TAGS. And trips to tourist destinations of Washington, D.C. could utilize the new Circulator bus routes while visits to suburban Maryland might use Ride-On, The Bus and private commuter bus options plus MARC commuter trains.

Connections to Amtrak's intercity trains are available at several stations also used by VRE and Greyhound intercity buses can be accessed at Franconia-Springfield, Rosslyn and Vienna Metrorail stations. Roundtrip buses to New York City are available for as little as \$50, leaving from the Rosslyn Metrorail station.

Clearly travel trainers from outside the area as well as senior participants had a lot to learn, and of necessity the group training sessions focused on local bus connections in order to conserve participants' energy and attention.

## **Recruiting Trainees**

NVTC began its recruiting with its survey database from the Phase I study of over 1,600 seniors age 75 and above. WB&A identified a subset of persons considering themselves to be healthy and who lived near a fixed-route bus or rail station. However only five participants were obtained through these calls.

Consequently, the age restriction was relaxed (to as low as 50 years old) and active recruiting began at senior centers, through newsletters and bulletin board notices, and via ads in publications commonly read by seniors (e.g. Senior Beacon, Golden Gazette, Prime Time in the Alexandria Gazette, Arlington Seniors in Action, ProAging.com). Paratransit managers also posted announcements in their vehicles. A press release went to NVTC's media list. It is attached in **Appendix E**.

Persons responding were screened by WB&A. Ultimately about 120 persons expressed interest and 56 completed group training at the five locations. Of the 56, 20 resided in the dense urban areas of Alexandria, Arlington and the city of Fairfax. Another eight were from Fairfax County (pockets of dense urban communities but generally suburban) and the remainder were from Prince William and Loudoun counties (some suburban and some exurban). Of the 56, 19 were foreign-born, including 11

from Ethiopia. One individual required sign-language interpretation and one was visually impaired.

## **Detailed Planning for Success**

**Appendix E** contains several of the forms that NVTC developed to be certain that no important matters were overlooked in recruiting and evaluating trainers and participants prior to, during and after training. These were prepared following a careful review of materials obtained from other senior travel training programs. Examples include:

- For Participants:
  - Individualized Travel Instruction Plan (on which preferred destinations are requested and dates for group and individual instruction are reserved)
  - Travel Instruction Consent Form (includes waiver of liability for NVTC)
  - Release (consent for NVTC to use photos)
  - Travel Training Intake (to be filled out at group training)
  - Program Evaluation Form (following group trip)
  - Application for Senior Citizens Reduced Fare Program (WMATA)
  - Application for PRTC Reduced Fare Program
  - Life: Get on Board! Letter (April, 2007 confirming participation in individual instruction).
- Forms Used by WB&A Market Research Surveyors:
  - Screening Survey (November, 2006)
  - Call Back Screener (November, 2006)
  - Post-Training Questionnaire (January, 2007)
  - Three-Month Follow-Up (August, 2007)
  - Six-Month Follow-Up (January, 2008)

- For Trainers:
  - Train the Trainer Week's Agenda (January 8-12, 2007)
  - Travel Training Code of Ethics and Confidentiality Agreement
  - Trainer 2 Independent Field Work Assignment (January 10, 2007)
  - Barrier Analysis
  - Pedestrian Safety Analysis
  - Transit System Analysis Forms (Metrorail and Bus)
  - Travel Skill Identification (definitions)
  - Trainer Assessment of Travel Skills (at completion of training for each trainee)
  - Trainer Evaluation of Trainee Travel Skills (very detailed checklist with plan for individual training)
- For the Media:
  - Recruitment Announcement (January 29, 2007)

Travel trainers also were required to produce detailed trip documentation including an evaluation of each participant's travel skills. As part of the evaluation, the trainer would identify a specific goal to accomplish for each individual trip. Trainees were assessed on their skills in obtaining route and schedule information, reading schedules, demonstrating safe pedestrian habits, etc. A copy of this form is also included in **Appendix E**.

As part of the media recruiting announcement shown in **Appendix E**, agendas for each of the five group training sessions were attached.

## **Bus Bingo**

To spice up the classroom instruction at the first day of group training, NVTC staff produced its own Bus Bingo game. It proved effective in recruiting participants. It also provided an introduction to the many area transit systems and travel destinations, since the group sessions were limited in scope to focus on the local transit system at each site. This was done to avoid overwhelming participants with too many details about that complex regional public transportation system. Bus Bingo provided a means for participants to stick a toe in the water without diving into the pool.



A large game board was set on an easel. Each participant had 8 ½ x 11 inch game boards. The “B” column of the board featured the different transit systems in the region; “I” contained different ways to pay for transit; “N” listed travel information; “G” showed Metrorail transfers; and “O” presented accessible destinations.

The moderator drew a card at random and read the detailed message. For example, if “O – Kennedy Center” was the card drawn, the moderator would go on to explain how one could take the Orange Line Metrorail train to the Foggy Bottom station and hop on a free Kennedy Center shuttle bus to see a performance.

**Appendix D** shows the components of this game, which received very high ratings from trainers and trainees alike. Transit systems donated prizes.



## 5. EVALUATION RESULTS



## **Summary of Key Findings from the Survey**

As described below, based on three rounds of surveys of participants:

- Participants enjoyed the training, found it to be worthwhile and would recommend it to others.
- Participants boosted transit use significantly after training and held most of the gains up to six months after training.
- Many participants took new trips and a greater variety of trips after training, reflecting increased confidence, and got out of their homes more frequently.
- Of those who had previously asked family and friends for transportation assistance, over half were less dependent after training.
- After training, virtually all of those who actually used transit say they will continue to use transit.
- Those receiving both group and individual training are much more likely to use transit than those receiving only group training.
- Those 75 years of age and older show no significant differences from the entire sample.
- Residents of urban communities show much more positive response to training in terms of increased transit use than do residents of suburban and exurban communities.

## **Pre- and Post-Training Review**

WB&A provided an initial report in July, 2007 on the characteristics and attitudes of 52 of the 56 participants in group training. The firm emphasized that the results are qualitative and based on an extremely small sample from which generalizations to the population as a whole are perilous. See **Appendix B**.

The following characteristics are noteworthy:

- Gender: 90 percent female/10 percent male
- Residence: 69 percent own apartment or home/19 percent independent living facility/12 percent other
- Overall health: 56 percent excellent or very good/31 percent good/13 percent fair or poor

- Impairments: 19 percent difficulty walking ¼ mile/10 percent sight/6 percent hearing

Participants were asked about their travel prior to training:

- 31 percent had never used Metrorail/6 percent had used it in past month.
- 25 percent had never used a public bus/23 percent had used it in the past month.
- 87 percent were very or somewhat comfortable traveling in a strange neighborhood.

After completing the group training, 40 participants responded to an evaluation survey. On a scale of 1 to 5 with 5 being excellent, 80 percent rated the training “5” excellent, 12 percent rated it “4” and 8 percent “3.” Ratings were very high for the preparation of instructors (93 percent “5”); ability of instructors to answer questions (88 percent “5”); group training helpful (85 percent “5”) and fun (83 percent “5”). See **Figure 6**.

A bottom line question was whether participants would feel comfortable after training in continuing to use public transit, and here 48 percent responded with “5,” 43 percent with “4,” 7 percent with “3” and only 2 percent with “2.” Thus, at least 91 percent reported they were comfortable continuing to use public transit.

Of a similar nature, 70 percent responded that they were very likely or somewhat likely to use public transit in the future by themselves. While only 5 percent answered “2” or “1” (very unlikely), another 15 percent would only travel on public transit with someone else.

Eighty-nine percent would recommend the training program to others, answering “5” or “4.” Suggestions for greater emphasis included local routes, how systems work together, how to transfer and how to use Metrorail.

Regarding the group trip, 69 percent thought its length was just right but 23 percent thought it was too long.

Suggestions to improve the overall training included more advertising and outreach to attract participants and providing transportation to access the training center.

## **Three-Month Review**

Next, WB&A Market Research conducted three-month follow-up interviews with participants. Of the original group receiving training, 26 were deemed eligible for individual travel with their trainer. Eventually 22 actually completed such training.

Between September 17 and 30, 2007, WB&A administered follow-up telephone surveys with 27 participants in the group and individual training. Of the 27, 12 (44 percent) had participated in an individual trip. Of the 27, 78 percent were 75 years of age or more. And, of the 27, 15 percent lived in urban land use communities. Significant results are shown in **Figure 6, 7 and 8**.

As can be seen in **Figure 7**, after training the percentage of seniors using Metrorail/VRE in the past month or past year almost tripled (78 percent versus 27 percent), use of public buses doubled (70 percent versus 35 percent) and even use of cars increased somewhat (81 percent versus 75 percent). The training seems to be having the intended effect on increasing mobility within this very small sample.

The most common use of Metrorail/VRE was entertainment (69 percent); for buses it was shopping (50 percent); and for the car it was doctors (65 percent) and groceries/drug store (50 percent).

For those using public transit, 45 percent said they were taking new types of trips. Focusing on those with individual training, 55 percent were taking new types of trips, while a third of those receiving only the group training reported such new trip types.

Thirty-five percent of participants report getting out of their homes more frequently after training (with no difference between group and individual trainees).

Of those participants that needed to ask family and friends for travel assistance prior to training, half report that they need to do so less frequently now.

When asked to rank the best aspects of public transportation, features listed were: less worried about parking, better for the environment and saving gas. Being better informed through training was a positive feature mentioned along with increased social independence. The worst aspects of public transit were waiting for buses, reaching bus stops to meet the bus on time and inconvenient bus schedules.

The biggest reason for not using public transit was access to automobiles (57 percent) although 14 percent reported not traveling at all anymore and 14 percent also cited lack of bus shelters.

**Figure 6**

**Selected Survey Results: Percentage Strongly Agreeing/Agreeing**

<u>Characteristic</u>	<u>Immediately After Group Training March 2007</u>	<u>Three Months After Training September 2007</u>	<u>Six Months After Training January 2008</u>
<b>Quality of Training:</b>			
Instructors Prepared	93%/5%		
Group Trip Helpful	85%/10%		
Fun	83%/14%		
Worthwhile	79%/14%	74%/7%	65%/29%
Recommend Program	79%/10%		
Training Class	-	78%/15%	77%/19%
Group Trip	-	81%/11%	65%/26%
Individual Trip	-	75%/17%	86%/7%
<b>Willingness to Use Transit:</b>			
Comfortable	48%/43%		
Likely to Use	50%/20%	41%/19%	35%/16%
Those Having Used	-	55%/20%	75%/25%
Recommend to Others	-	74%/26%	65%/26%
<b>Used Public Transit:</b>			
Taking New Trips After Training	-	45%	58%
Get Out of Home More	-	35%	33%
Asked Family/Friends For Rides Before	-	40%	43%
Less Dependent After	-	50%	56%
<b>Why Not Used Transit:</b>			
Still Drive	-	57%	26%
Don't Travel at All	-	14%	5%
Inconvenient Bus Stops	-	29%	26%

**Figure 7**

**Use of Public Transit Before and Three- and Six-Months After Training**

	<u>Before Training</u>	<u>Three-Months After Training</u>	<u>Six-Months After Training</u>
Used Metrorail/VRE			
Past Month	6%	11%	13%
Past Year	21%	67%	45%
Never	31%	15%	29%
Used Public Bus			
Past Month	23%	33%	13%
Past Year	12%	37%	52%
Never	25%	22%	26%
Used Car			
Past Month	71%	74%	68%
Past Year	4%	7%	13%
Never	6%	4%	3%

**Figure 8**

**Comparisons of Key Variables:  
Changes in Transit Use in the Past Year**

	<u>Before Training</u>	<u>Three Months After Training</u>	<u>Six Months After Training</u>
Overall Sample			
Rail	21%	67%	45%
Bus	12%	37%	52%
Individual Training			
Rail	45%	75%	78%
Bus	9%	50%	78%
75 Years and Older			
Rail	21%	61%	47%
Bus	-	39%	42%
Urban Resident			
Rail	-	75%	67%
Bus	-	50%	67%



Looking to the future, 60 percent said they would be very or somewhat likely to use public transportation. Three-quarters of those who used transit since training said they would continue. Also, three-quarters of those with individual training would do so in the future, whether or not they actually had done so since training, compared to 47 percent who received only group training.

Three-quarters of the entire sample said they would be very likely to recommend transit to others and the remaining 25 percent would be somewhat likely to do so.

Over 90 percent of those receiving either individual or group training would recommend the NVTC training for others. To examine whether perceptions of training changed over time, participants were asked three months after training about the amount of information received during training. Responses indicating just the right amount of information were 78 percent for group classroom training, 89 percent for group trips and 100 percent for individual trips. At the end of group training 88 percent stated the amount of information was just right.

At the end of group training, 79 percent rated the training “5” or very worthwhile and 14 percent “4.” Three months later the shares had dropped slightly to 74 percent and 7 percent, respectively. Group and individual trainees showed no discernable differences on this point.

## **Six-Month Review**

In the six-month follow-up survey, completed in January, 2008, WB&A interviewed 31 trainees (24 of which had also responded to the three-month survey). Of the 31, 65 percent were 75 years of age or more, 45 percent had completed individual training and 10 percent lived in an urban land use community.

WB&A found that the percentage of seniors using Metrorail/VRE in the past month and past year declined to 58 percent (from 78 percent at the three-month mark). Compared to pre-training, such rail transit use doubled (to 58 percent from 27 percent). See **Figure 7**.

As for the use of public buses, at the six-month interval, combined use in the past month and past year was down slightly to 65 percent (from 70 percent at three months). Compared to pre-training, bus transit use still almost doubled (to 65 percent from 35 percent).

Finally, the use of automobiles at six months stayed at 81 percent (the same as three months, and up slightly from the pre-training percentage of 75).

Of significance, those who reported using transit in the six-month survey were much more likely to have taken trips they would not have taken in the past (58 percent) versus 45 percent in the three-month survey. See **Figure 6**. A greater variety of trip purposes was cited in the six-month survey as well.

In the six-month survey, a third (33 percent) of the respondents using transit reported more trips outside the home following training, virtually unchanged from the three-month percentage (35 percent).

In the six-month survey, 43 percent said they had to ask family and friends for transportation prior to training, and more than half (56 percent) of those respondents reduced their reliance on friends and family after training.

As a result of rising gas prices, 26 percent are driving less and 10 percent are using public transit more.

Regarding the likelihood of using public transit in the future, at six months 51 percent of the entire sample are very likely or likely, compared to 60 percent at three months. Among those who have used transit in the past three months, the percentages jump substantially to 100 percent very likely or likely to use transit in the six-month survey and 75 percent in the three-month survey.

The percentage of persons very likely to recommend transit use to others did fall off somewhat in the six-month survey (65 percent) versus the three-month survey (74 percent). Combining very likely with somewhat likely, the respective shares of 91 percent at six months versus 100 percent at three months are both strong.

As shown in **Figure 6**, the value of the individual training seemed more apparent after six months. Fully 86 percent of those trained individually would be very likely to recommend the training to others in the six-month survey, compared to 75 percent in the three-month survey. On the other hand, the group trip rankings displayed the opposite pattern, with 65 percent very likely to recommend the training in the six-month survey versus 81 percent in the three-month survey.

In the six-month survey, respondents were asked about their overall health to determine if any significant changes might have contributed to different public transit choices. Only a modest deterioration was noted. During training, about 64 percent reported excellent or good health and disability status and 36 percent fair or poor. At the six-month mark, the respective percentages were 58 percent and 42 percent.

## **Comparisons of Key Variables**

The primary characteristics of interest are individual training, age, land use community type, and whether the value of training is permanent. Extremely small sample sizes make it impossible to make statistical inferences with any confidence, but the following relationships in the survey data are indicative:

- Individual training has a positive effect on continued use of fixed-route public transit. In the overall sample, at six months after training, 45 percent reported using Metrorail or VRE in the past year, while 78 percent who received

individual training did so. Similarly, in the overall sample, 52 percent reported using a public bus in the past year measured at six months after training, while the corresponding percentage was 78 percent for those receiving individual training.

- In both the overall sample and individual training samples, use of public bus in the past year increased when measured at the three- and six-month marks after training (jumping to 52 percent from 37 percent in the overall sample and to 78 percent from 50 percent in the individual training sample).
- The use of Metrorail/VRE in the past year declined in the overall sample to 45 percent at six months from 67 percent at three months after training but increased in the individual sample to 78 percent from 75 percent.
- As shown in **Figure 8**, those receiving individual training were twice as likely to have used rail transit before training than the entire sample (45 percent versus 21 percent). However, the opposite was true for previous use of buses (9 percent versus 12 percent). Thus it is not clear whether those receiving individual training had a pre-disposition to use transit more frequently.
- Regarding age, those 75 years of age or above showed very similar responses to those seniors who were younger. For example, three months after training, 61 percent of older seniors had used rail in the past year (up from 21 percent before training). The corresponding shares in the overall sample were 67 percent and 21 percent, respectively. As for use of bus, 39 percent of older seniors reported travel in the past year measured at three months after training, up from zero before training. In the overall sample, those shares were 37 percent and 12 percent, respectively.
- Looking at the influence of land use community types, as expected the urban community residents displayed a more positive impact of training than those residing in suburban or exurban areas. Measured at three months after training, 75 percent of residents of urban areas used rail transit in the past year (versus 65 percent in suburban and exurban areas); 50 percent of urban area residents used bus (versus 35 percent). At the six-month survey, 67 percent of residents of urban areas used rail transit in the past year (versus 43 percent); 67 percent of residents of urban areas used public bus (versus 50 percent). More information is provided on the land use transit relationship in the next section.
- Finally, the benefits of training measured by transit use do seem to erode somewhat as time goes by. Examining use of public transit in the three months between training and the three-month follow-up survey, 59 percent used Metrorail or VRE and 59 percent used public bus, compared to 21 percent using rail and 12 percent using bus in the previous year before

training. Training increased public transit use substantially after three months.

- Asking about transit use in the three months between the three-month survey and the six-month survey, transit use tapered off. Only 23 percent used rail transit in the past three months and 29 percent used public buses. As that three-month period coincided with the onslaught of colder weather, that could have influenced the reported reduction.

## **Proximity to Transit Routes**

As shown in **Figure 9**, a plot of seniors from a WB&A database in relation to proximity to bus or rail routes, reveals that transit routes are densely packed in the urban areas of Arlington, Alexandria, Falls Church, Reston and the city of Fairfax. It is difficult to live in those jurisdictions and not be close to transit. The red dots in **Figure 9** represent each senior not residing within a quarter-mile of a transit route (one mile in Prince William County, Manassas and Manassas Park). Black dots represent seniors who do live close to transit. The white strands in **Figure 9** represent the bus routes with quarter-mile boundaries (and one mile boundaries in the outlying jurisdictions).

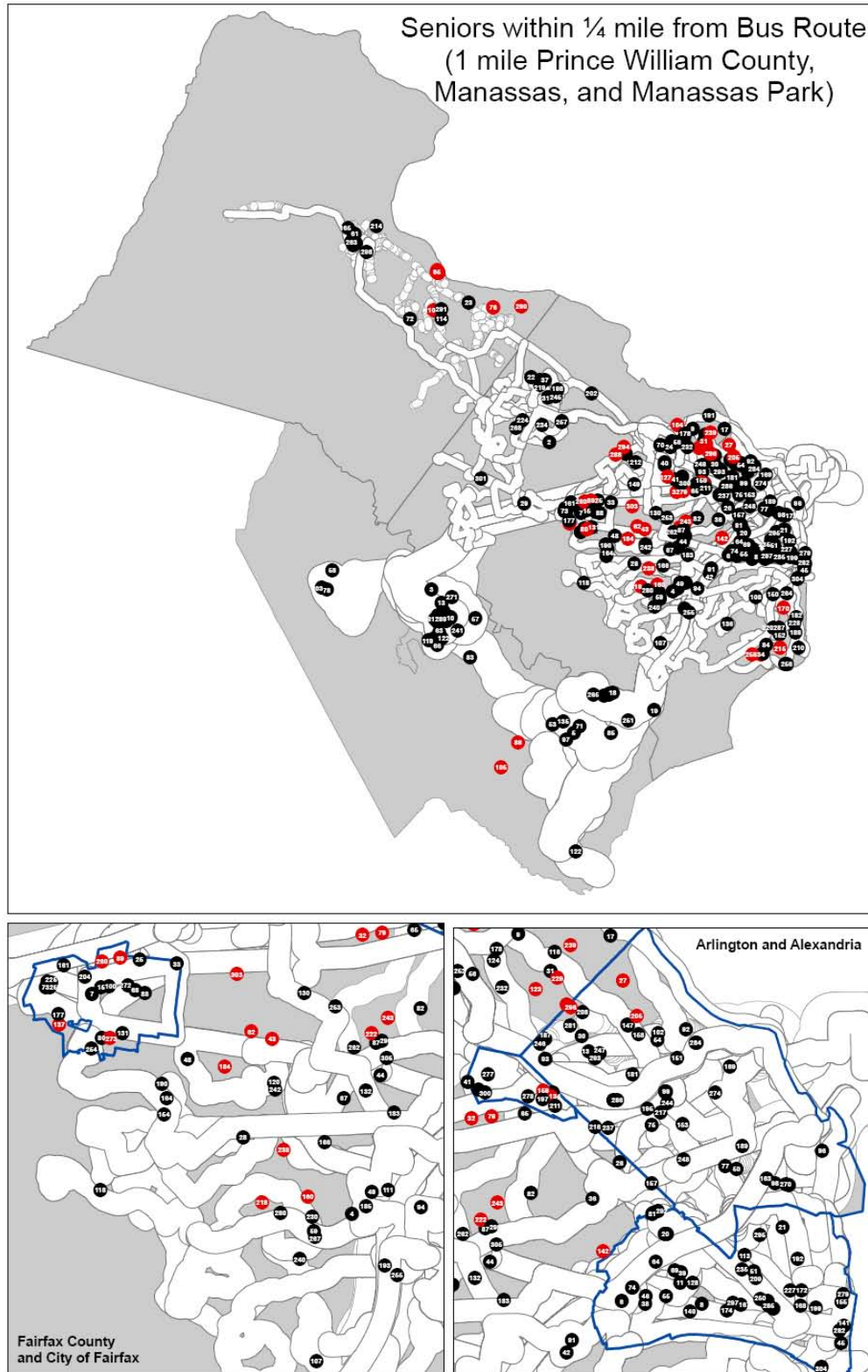
On the other hand, seniors residing in many parts of Fairfax, Loudoun and Prince William counties are not directly served by transit. The greatest growth of senior population will occur in those outlying jurisdictions.

As stated above, NVTC's Phase I study found that 85 percent of Northern Virginia's seniors live within a quarter-mile of a transit route. Yet, 37 percent report difficulty walking a quarter-mile. Consequently, use of this traditional transit standard may be unwarranted when considering access by seniors.

An obvious hypothesis is that seniors residing near a transit route will be more inclined to seek training and use transit after training. Given NVTC's extremely small Phase II sample size, unfortunately precise inferences about the effectiveness of transit travel training by land use community type were not possible. However, as explained above, there were indications that transit use following training was greater among those residing in urban areas compared to those living in suburban or exurban communities.

Figure 9

Proximity to Transit Routes



# 6. LESSONS LEARNED



## **Observations of the Travel Trainers**

NVTC invited proposals from interested groups to serve as travel trainers. The Partnership Transportation Management Association (PTMA) of Montgomery County, Pennsylvania was selected. Two trainers from PTMA attended a week-long orientation in Northern Virginia conducted by NVTC.

The trainers reported that the intention of their orientation was sound: to fully understand the multiple transit systems in Northern Virginia. But they characterized the experience as being “bombed” with information, some of it about the transit systems they never used. They reported that they “endured” a one-day transportation scavenger hunt (whose intended purpose was to instruct, test and entertain). They preferred to receive only information they would actually have to use in the upcoming group training sessions.

They then commented on the group training sessions they led. Group training consisted of up to two-hour sessions of basic transit information such as how to board the bus, pay the fare and read the schedule. A bus was usually available for the pre-trip training. On the second day, participants took a transit trip together.

Cold weather deterred participation. Attendance dropped on the second days of the sessions and many participants declined subsequent individual trips, because of inclement weather during January and February (even though the individual trips occurred during warm weather months).

Lack of language skills and difficulty walking by some participants also impinged on the effectiveness of some of the sessions. On a group trip a lengthy walk was needed between the bus stop and the mall. Crossing streets to reach bus stops also posed safety risks for many. Trainers had to stop traffic on busy streets as a group tried to cross. Thus, the trainers recommend that pedestrian skills be part of the training program. Also, cultural differences were apparent, as some participants said that in their culture they do very little walking and those persons were certainly unaccustomed to crossing busy streets.

Enthusiastic bus drivers and the Bus Bingo game were hits with participants. The trainers said that Bus Bingo was “a fantastic training tool” that should be continued. On the other hand, the trainers from PTMA felt that observers from social service agencies occasionally upset the trainers’ plans somewhat by suggesting alternative destinations during the group trips.

When the groups undergoing training were more homogeneous (language, skills, interests), the sessions seemed to run more smoothly.

At each separate group location (there were five), the local transit system offered various inducements, the most generous of which was a free transit pass good for over four months. In some cases the bus used for the pre-trip instruction was defective (no heat, pull cords didn’t work, destination signs inoperable). Also, on the group trips,

buses operating in regular service were sometimes delayed which discouraged participants.

The travel trainers did not do the recruiting of participants and they believed this was a mistake. They felt it would be more effective for them to recruit at senior centers, evaluate mobility and offer appropriate measures to ensure the best possible mix of participants. Also, if the trainers determined during training that a participant could not continue safely, they recommend that they have the ability to drop such a participant.

The travel trainers also believed there was “way too much paperwork” for trainers and seniors to fill out.

Mixed language sessions are problematic because the trainers tended to rush their presentation and cut it short to ensure that those not needing translations were not bored. At one session, trainers needed to pause for two separate translations.

Given varying levels of familiarity with transit, it would be more effective to separate the groups into at least two levels (beginning and intermediate).

About 56 persons participated in group training and at least 26 trainees were invited to receive individual training. Those not asked to continue had mobility, health and significant language issues. Twenty-two elected to continue. Trainers met participants at the nearest transit stops to participants’ homes, because the trainers were concerned with liability if they entered the homes. Many chose to travel with spouses or classmates. Those traveling with others seemed to have more success with less help from the trainers. The participants chose their destinations (e.g. art museums, monuments, performance venues, churches, shopping malls). Participants created trip itineraries which trainers checked (finding many errors made by trainees). Some seniors simply wanted to ride around on the bus without a specific destination.

Seniors in outlying jurisdictions were especially challenged since most buses were scheduled for the convenience of long-distance all-day commuters. On one transit system some of the seniors commented that the system seemed to care only for commuters, since the drivers weren’t helpful.

Ultimately, some of those planning trips did not do so due to illness and did not want to reschedule. Many trainees who were offered second trips declined, stating they believed that they were sufficiently trained.

The trainers recommended that testing the itinerary in advance is essential, because they found that websites and customer agents did not always have the current information. Also, trainers could discover travel tips to help the seniors overcome obstacles. For example, an individual with severe vision issues was given instructions to count bus bays rather than reading signs. For those with mobility issues, the shortest pedestrian routes to/from elevators could be located. For suspected high crime areas, the safest route could be scouted.



Seniors loved the SmarTrip card once they learned how to use it. That saved them the anxiety of figuring out the exact fare for each leg of their trips.

In preparing their budget, the trainers underestimated the length of time it would take to test and conduct the individual training trips, because many originated from remote locations (e.g. Loudoun and Prince William counties).

In conclusion, the trainers emphasized that after an individual trip, all seniors participating were “extremely capable” of riding transit. The key to training success was making the sessions fun and exciting.

## **Observations of NVTC Staff**

There was little disagreement on the part of NVTC staff with the conclusions of the travel trainers from PTMA just described. Training sessions were planned despite bad weather because of the limited time during which grant funds were available. The orientation session for PTMA travel trainers was packed with information because they were not familiar with the area, the region’s transit network is complex (10 distinct bus and rail systems), and one cannot anticipate exactly which combination of systems the seniors will want to use. But it was accepted that too much travel on too many different systems was packed into the orientation week.

The extensive use of forms was necessary to reduce risk of liability and primarily because this project was a demonstration and test of training effectiveness. Results needed to be analyzed and be capable of being replicated and that necessitated very careful record keeping.

NVTC was assisted by personnel from many social service agencies and transit systems, and given levels of interest and enthusiasm there could have been a little of the “too many cooks spoil the broth” syndrome as noted by the PTMA trainers, but if so it was certainly in good faith. The vast majority of the help from these outside agencies was helpful and, indeed, indispensable.

NVTC learned that it is difficult to identify seniors who are interested in training. Recruiting at senior centers and retirement communities was time consuming and required developing relationships with senior center directors, activity coordinators and paratransit operators.

Also, logistics for each of the group sessions were daunting given the strict time constraints, requiring securing a venue, coordinating with the local transit systems, arranging snacks and gifts as well as identifying and screening sufficient participants.

In retrospect, the time required to design and implement the training program is greater than NVTC anticipated. It took seven months and at least nine months are needed to develop necessary relationships (unless significant staff and budget resources are deployed).

Insurance posed another difficult hurdle. NVTC's employees could not obtain affordable liability insurance given the risks of escorting frail seniors on transit trips. They therefore could not serve as travel trainers. Also, NVTC's prime contractor could not obtain such insurance coverage. The contract travel trainers NVTC employed from PTMA had their own insurance and indemnified NVTC.

It proved to be difficult for NVTC to identify a group to serve as travel trainers. The initial Request for Proposals was sent on June 9, 2006 to over 30 individuals, agencies and firms, including the Association of Travel Instruction, the Community Transportation Association of America and AARP, to help publicize the request. Websites, journal and newspaper ads and word of mouth were also used. NVTC sent the RFP to over 50 firms on its vendor list. By the July 7<sup>th</sup> deadline no responses were received.

NVTC regrouped by adding a one-week train the trainer workshop (to overcome a perception that only firms familiar with Northern Virginia transit could qualify). The second RFP was released on August 10, 2006 with more active outreach through a conference of the Association of Travel Instruction and telephone calls. Three proposals were received.

Negotiations were protracted due to differences over the number of seniors to be trained and mandatory audits of labor rates required by the funding agency (VDOT). By the time the contract was approved, the Christmas holiday season had arrived and workshops were pushed back into the new year (with the consequence of inclement weather).

Another consequence of the condensed schedule was the need to conduct the train the trainer week-long workshop only one week prior to the first group session. Thus, the trainers struggled to understand the complex route and fare interrelationships of Northern Virginia's 10 distinct transit systems while also preparing for the looming group sessions.

Screening of potential participants was unwieldy because recruiting was undertaken by several entities (NVTC staff, senior centers) while screening and selection was the responsibility of NVTC's prime contractor, WB&A. Only healthy seniors living near transit routes were included because they were believed to have the greatest likelihood of continuing to use public transit after instruction. Seniors were required first to express interest and then after screening, to confirm participation. A one-stop streamlined process would be less burdensome to potential participants. Also, the evaluation process occurred close to the workshop dates, necessitating overnight letters to the participants that were selected.

Age-related health issues were believed to limit the effectiveness of public transit training so a form was used to screen potential participants via telephone (see **Appendix E**). But in some cases the self-evaluation via survey form did not prevent those with serious health issues from participating. In one case a woman with severe arthritis suffered substantial pain on the group trip. Another woman wouldn't use her

wheeled walker on the bus because she feared it would require her to use the lift and thus burden the other passengers. Another woman brought a cane for that reason but needed her walker. Another person did not exhibit clear thinking.

Some potential participants were offended by the screening questions, which were patterned after those in other senior training programs. There needs to be a balance between the intrusiveness of the questions in order to identify serious safety issues (such as Alzheimer's) and being sensitive to privacy concerns of respondents.

In working with individual transit systems, those that provided one-stop shopping with a single individual were the most effective with which to work. Excellent cooperation was received from all transit systems but requests were handled more quickly and easily with a single point of contact.

To reduce the paperwork burden somewhat at group sessions, half the group would be asked to fill out forms while the other half visited the bus outside. Also, allowing forms to be filled out at home overnight and returned the next day reduced grumbling somewhat.

In theory a well designed relational database would track each participant through the entire process from initial contact through final evaluation survey. In practice, database problems made the administrative portion of the demonstration more difficult for NVTC than it should have been. An ideal database would include participant contact information, photographs, consent forms, screening results, post-workshop evaluation forms, trainee intake forms, travel trainers' assessments and three- and six-month post-training interviews.

While worrying that widely publicizing the training demonstration would produce too great an influx of interested seniors, NVTC learned that it is in fact quite difficult to attract volunteers. A mid-course correction was needed to begin visiting senior centers and requesting help from social service providers in order to recruit.

Recruiting seniors to be trained required very active outreach. Posters tacked to bulletin boards are not sufficient. Calling reporters to encourage news media coverage of recruiting proved to be effective. See the media release in Appendix E. In retrospect, employing the parts of training that proved to be most fun for participants would also be effective in recruiting. For example, Bus Bingo played at senior centers with prizes would very likely stimulate interest.

In Northern Virginia, one in four persons is foreign born (as of 2005). Recruiting and training in foreign languages are necessary. However, on a limited budget, conducting separate sessions in foreign languages is not practical. On the other hand, simultaneous translation is distracting for all participants (one group training session was conducted in English with translations into Amharic and Spanish).

As stated above, cultural differences and lack of pedestrian skills can pose serious safety challenges. In NVTC's group trips, several participants jay walked to reach bus stops via the shortest path. One woman jumped off the bus and darted

across four lanes of traffic in mid-block. Travel trainers were unable to intervene quickly enough, although she made it unscathed.

NVTC was able to minimize the costs of the project in several ways, including:

- Performing many of the tasks with NVTC staff, including recruiting, designing and conducting train the trainer sessions, and writing the final report;
- Obtaining all training venues free of charge;
- Receiving Bus Bingo prizes free;
- Encouraging donated buses and staff time from transit systems;
- Getting free transit to/from workshops from some paratransit providers;
- Accomplishing graphic design with NVTC staff;
- Using Spanish translating by NVTC staff.

The use of free lunches as an inducement to participate was not cost-effective. Participants appeared highly motivated to learn without a free lunch. On the other hand, the prizes in Bus Bingo were very well received (neck pouches, pens, reflective wrist bands, etc.).

Finally, the grant program providing the funding required a complex procedure for budget approval and reimbursement of expenses. NVTC retained the same lead consultant from Phase I for survey research and the same subcontractors for research and analysis. Because of liability insurance issues, NVTC had to issue a separate RFP for travel trainers instead of the prime contractor hiring the trainers. Expense invoices had to find their way to NVTC from these contractors and then to NVRC, Northern Virginia's DOT district office and VDOT's central office in Richmond. Thirty days after receipt in Richmond the check would be cut and swim back downstream, arriving at the contractor weeks (or sometimes months) after milestone payments were due. With great goodwill on the part of the key links in this supply chain the delays eventually were minimized with practice. Contractors showed great restraint in coping with this cumbersome process.

## **Observations of the Participants**

The participants were formally surveyed immediately after training and at three- and six-month intervals. Those results are described in detail in **Appendix B** and were summarized in **Section 6** above. The following are suggestions gleaned from one in four of those surveyed:

- More emphasis needed on the SmarTrip card

- More about local transit service
- More time to digest material
- Larger print schedules
- More information about weekend travel
- More on transferring among systems
- More information on how to get to the nearest bus stop
- Provide transportation to access the training sites

## 7. SUMMARY AND CONCLUSIONS



## **Costs of the Program**

The VDOT grant for Phase II was up to \$150,000. Ultimately NVTC accomplished the scope of work for \$135,000 including donated NVTC staff time, although the services provided without charge by the transportation and social service agencies were essential.

Examining only the portion of project expenses devoted to setting up the program and accomplishing the group and individual training, it is clear that NVTC's approach falls at the low end of the typical range of travel training programs, with one full-time equivalent employee, a budget of less than \$100,000 for recurring expenses and over 50 participants successfully trained over a six-month period.

If NVTC's program were to be replicated, the costs would now be considerably lower given the lessons learned. Also, it is likely that less elaborate follow-up surveying would be employed, thereby reducing ongoing expenses. For example, NVTC learned that it is more effective to split participants by language instead of conducting simultaneous translations. But more sessions are more costly for trainers.

## **Benefits of the Program**

Among the demonstrated benefits of NVTC's travel training program for seniors are survey-derived data showing that the participants enjoyed and valued the program, they felt more confident in using transit after training, and they actually substantially increased their use of transit after training (and continued to do so six months thereafter). They also took more overall trips after training, which suggests reduced risk of social isolation. Many intend to recommend the use of transit to others.

## **Were the Study Objectives Met?**

NVTC began with two primary and at least 10 secondary objectives. Results are generally very positive:

Primary objectives:

### **1) Increase seniors' confidence in independently using fixed-route public transportation by providing access to relevant information.**

Participants received transit information tailored to their specific trip-making desires and also were taught where to go for additional information. At least 91 percent reported they were very comfortable or comfortable continuing to use transit after training and immediately after training 70 percent said they were very likely or likely to use public transit in the future. Six months later, of those actually using transit, 100 percent said they would continue.

**2) Test the effectiveness of targeted investments in travel instruction and of specific tools and approaches, as measured by the continued use of fixed-route public transit after training.**

Participants rated training very highly, with 92 percent feeling it was worthwhile and 89 percent very likely or likely to recommend training to others. Of greatest significance, three months after training the percentage of participants actively using Metrorail tripled and using bus at least doubled compared to before training. Six months later, both percentages remained about twice as high. There was some evidence, however, that use of transit following training begins to taper off.

Secondary objectives:

**1) Design and test products and techniques to accomplish travel training.**

Bus Bingo was a smash hit and has great potential as a recruiting tool as well as a training aid. Individual training trips proved to be effective, and those receiving such training were much more likely to use rail or bus than those receiving only group training. On the other hand, feedback on some other techniques showed specific improvements that should be made in recruiting, screening and train the trainer orientation.

**2) Help transit systems tap a potentially bountiful market niche of seniors.**

Seniors comprise about 8 percent of Northern Virginia's current population and are expected to double by 2030. Yet, seniors take less than 4 percent of public transit trips. As stated, transit use sharply increased by those who received training. Transit systems all cooperated in providing the training demonstration and should be encouraged to take on such training on their own. Obviously, the 50 or so seniors who were trained by NVTC will not by themselves influence the success of transit, but the lessons learned from the demonstration would be useful in a larger scale effort.

**3) Examine whether training could reduce transit system costs by encouraging the use by seniors of fixed-route services versus more expensive paratransit.**

Thirteen percent of those receiving NVTC's training used support devices and others had visual or auditory disabilities. Such persons reported that they benefited from the training, although lack of proximity to bus stops would deter their use of fixed-route services.

**4) Determine if travel training varies in effectiveness by community land-use type.**

Given the very small sample, definitive conclusions were not possible. In general, as shown in NVTC's Phase I study, seniors living in urban areas are



better served by transit, take more trips outside the home, and use transit four times as much as those living in suburban or exurban areas. Indications from NVTC's Phase II small sample were that transit use following training is much greater and tapers off less for those living in urban areas.

**5) Identify other characteristics that may influence the benefits of training (demographics, health, etc.).**

NVTC targeted seniors living near bus routes and those that were mobile and relatively healthy, believing that training and continuing transit use would be more successful. Thus, the sample was not random, and its small size makes statistical inferences unwise. In the small sample, those 75 years of age and above showed similar response to training as the overall sample.

**6) Weigh the benefits versus costs of training to help transit systems decide whether ongoing investments are warranted.**

NVTC demonstrated that its approach delivers trainees who increase their use of transit. The cost of agency staff time and budget was at the low end of the national range.

**7) Understand and respond to the travel goals of seniors by tailoring training to meet their needs.**

NVTC listened to seniors and the professionals that work with them throughout the demonstration. Initial questionnaires established seniors' own objectives and training was targeted to those needs. Seniors chose their own trip destinations. The great majority found the training to be very helpful (85 percent) and very much fun (83 percent).

**8) To the extent possible encourage individuals who work with seniors to promote transit use.**

NVTC used an extensive network of advisors from many local and regional transit and social service agencies. Relationships were established with directors of senior centers and Area Agencies on Aging during the recruiting process. Those contacts would be very useful if transit systems or others decided to establish an ongoing training program.

**9) Experiment with travel instruction in multiple languages for participants from diverse cultures.**

NVTC did conduct sessions in Spanish and Amharic (spoken by some Ethiopian participants) in addition to English. Cultural differences in pedestrian skills were particularly noteworthy and NVTC planned and adjusted its training to provide even greater emphasis on pedestrian safety.

**10) Actually train at least 50 seniors to use public transit and encourage them to recruit others to take public transit trips.**

Accomplished. After three months, 100 percent of those receiving training were very likely or likely to recommend public transit to others, and 91 percent after six months.

### **Additional Ideas**

During the course of the demonstration, several ideas emerged from participants, trainers and planners that were not formally implemented and evaluated. Some are listed here for information and possible research in the future:

- Encourage continuing education programs at local universities to offer courses in travel training for seniors.
- Offer incentives to seniors graduating from the training program to recruit others (e.g. coupons for coffee and movies, bus passes).
- Provide incentives for graduates to continue using fixed-route transit by providing new fare media for fixed-route travel. Graduates could show their use of fixed-route by sending postage paid postcards to their trainer documenting their trips. If the seniors used SmarTrip cards, transit use could be checked electronically, if the senior gave the trainer permission to have such access. With travel training graduates' continued use of transit documented, the graduate could be sent new fare media, or if SmarTrip cards are used, value could be added to the cards. (This demonstration program found that seniors very much liked the SmarTrip cards.)
- Using technology to full advantage, program cell phones to ring seniors and/or their attendants using GPS equipped buses to alert them a block before their desired stop.
- Take seniors on follow-up trips in pairs to reduce training costs and provide more of a confidence boost to participants.
- Place greater emphasis on training the staff who work at senior centers to promote greater transit use and refer seniors to existing transit information services.
- Prepare transit maps showing routes connecting each transit center for use by senior center staff in promoting transit.

- Place greater emphasis on graduates of training classes training others to use transit (perhaps as a prerequisite for training a pledge would be signed with a target for future rides alone and with others).
- Prepare cost comparisons for seniors for their typical trips between auto, taxi and transit.
- Test the role of new technologies in making transit more appealing for seniors now and in the future, including real-time passenger information systems displaying bus arrivals, solar powered bus shelters providing light and heat, and electronic schedules available on mobile communication devices.
- To overcome initial confusion on the part of seniors about how to access transit information through existing channels, develop a regional “one-stop shopping” referral service for transit information exclusively for seniors. (NVTC wrote to WMATA in June, 2006 asking that agency to expand its vision of its senior mobility program to include such a resource center.)
- Starting outreach and training now for younger persons may yield benefits in the future as the younger age cohorts mature.