The Emerging Field of Travel Training Services: A Systems Perspective

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Abstract

Travel training provides a promising approach for moving persons from paratransit to fixed-route transportation services. This study identifies current funding trends and discusses the volume and diversity of services within the travel training instruction field. Measuring the emergence of this field focused on four properties of systems: intention, boundary, resources, and exchange. We used these properties to facilitate sharing of information and learning among the participating organizations. Initial findings indicated that older, established programs tended to be larger and moved more persons to fixed routes, while programs that employed their own staff rather than contracting out staff produced more outputs per staff person. We conclude that the diversity of the field's innovators have strengthened the problem-solving capacity. Based on the findings, a preliminary research and evaluation agenda is proposed.

Introduction

Recognizing the benefits of teaching individuals to use public transportation, various professionals and organizations throughout North America have devoted resources to design and implement travel training services. Travel training refers to a program that provides instruction in travel skills to individuals with any disability except visual impairment (Groce 1996). This inquiry into the emergence

of travel training studied four properties of organizations or systems—intention, boundary, resources, and exchange—suggested by Katz and Gartner (1988) and used these properties to facilitate information sharing among the participating organizations.

Jack Gorelick of the Association for the Help of the Retarded in New York City—credited as the originator of travel training services (Sauerburger 1999)—formalized the first travel training programs with the New York City Board of Education in the 1970s. Since then, scores of organizations began offering travel training services throughout the United States, Canada, and Western Europe. While encouraging and assisting customers to use fixed-route transit and increase their independence, travel trainers realized the benefits of creating a professional association to strengthen their efforts in refining pedagogy, discussing funding streams, communicating information about administrative and human resource policy and practice, developing mechanisms to inform themselves, and sharing promising and best practices. From these grassroots, the Association of Travel Instruction was formed in 1999, with an inaugural conference held in 2001. The conference's purpose was to share and inform colleagues about methods for training customers with disabilities to use fixed-route public transportation services (Moakley 2001).

Travel trainers work in communities where they are employed by a range of not-for-profit and for-profit organizations that include schools, human service agencies, self-advocacy organizations, transit authorities and agencies, and consulting firms. While it appears that the number of travel trainers and organizations employing travel trainers increased over the past decade, information remains limited. Three reasons are typically cited for this apparent growth. The first involves changes in federal disability policy including the Individuals with Disabilities Education Act of 1975 and the Americans with Disabilities Act (ADA) of 1990. The second involves the promotion of travel training services by people with disabilities, family members, and professionals satisfied with how the service contributes to independence, increased mobility, and full community membership for people with disabilities. The third centers on public transportation providers that encourage cost-effective approaches for serving customers with disabilities and older adults who were frequent users of ADA paratransit services (Carpenter 1994).

Social innovations evolve through the diverse perspectives and efforts of participating stakeholders (Page 2007; Westley, Zimmerman, and Patton 2006). Within this context, travel training developed to meet the emerging needs of persons

using paratransit and other transportation services. This instruction provides an innovative strategy for increasing ridership for various populations including persons with intellectual and developmental disabilities (Crain & Associates 1998). Furthermore, it has become popular to demonstrate to older adults how to increase their independence through using public transportation (Burkardt, McGavock, and Nelson 2002). Representatives of public transit agencies state that having persons with disabilities use conventional transit provides a cost-effective alternative. Achieving this required that conventional transit become more accessible (Iannuzziello 2001).

Without an organizing body with oversight responsibilities or debate on guiding principles, there currently exists no generally accepted definition of travel training service. To bring greater cohesiveness to the field, Project ACTION (Accessible Community Transportation in our Nation) began funding more than 20 related projects (Weiner 1998) in an effort to delineate the knowledge and skills recommended for professional travel trainers. Commissioned by the U.S. Congress in 1988 as a national research and demonstration project, Easter Seals Project ACTION (ESPA) serves as a national training and technical assistance center on accessible transportation. While each travel training service is unique, the major activities typically include a comprehensive set of services including assessment, trip planning, familiarity of the built environment, travel instruction plan development, and strategies of instruction. These strategies focus on crossing streets, using public conveyor systems, boarding, riding, alighting vehicles, and handling emergencies (ESPA 2007).

This study addresses three areas of interest to advocates of travel training service. First, we attempt to quantify the current practices, capacities, and outputs of travel trainers employed by transit authorities and agencies. Second, we identify the initial trends in order to inform travel trainers and organizations attempting to improve their services. Finally, we propose an evaluation and research agenda to enhance further the travel training profession. We applied a systems evaluation framework focusing on the three waves of systems theory: general systems theory, cybernetics, and complexity science (Midgley 2006). General systems theory encourages stakeholders to consider the three levels of systems involved in the persons' lives: (1) the micro level involves family and friends, (2) the mezzo level involves local organizations providing services, and (3) the macro level involves federal and state policy affecting the provision of services.

General systems theory considers the interactions between client systems that are interconnected and include family/friends, education, employment, and health services. Understanding these interconnections improves an organization's ability to respond to the emerging preferences of users (Wolf-Branigin 2006) and builds robustness in the users to assure that they can adapt to changing conditions (Greene 2002). For example, using spatial data on housing locations can identify that persons with intellectual and developmental disabilities who live independently or semi-independently reside closer to public transportation routes when compared to persons living in group homes (Wolf-Branigin, LeRoy, and Miller 2001).

Assuring that the diverse strengths, needs, and preferences of each customer receive sufficient attention relies on the perspectives of multiple stakeholders. While this includes the development of the travel training field from the ground up, it also requires that necessary conditions be in place (e.g., support from transit agency administrators and board members). Federal directives and incentives, plus the support and promised referrals from human service agencies further strengthen the field's robustness. As Williams and Imam (2006) state, recognizing three patterns within systems thought—perspectives (assumes benefits can be found from investigating phenomena differently), boundaries (defines what is inside or outside the scope of inquiry), and entangled systems (observing systems within systems)—aids in analyzing viable organizations and how they develop in response to stakeholder needs.

We studied four properties—intention, boundary, resources, and exchange—in order to facilitate sharing of information and learning within the participating organization (de Geus 1994). Interactions occur within organizations where customers have multiple options from which to make decisions. This information feeds back into the system to inform the customers and their transit facilities (Proehl 2001). Within a complex systems framework, these results represent the travel training network's emergent behavior (Pozatek 1994; Rhee 2000; Bolland and Atherton 1999; Agar 1999; Halmi 2003).

Method

Sample

Representatives of 118 public transportation providers received questionnaires through a listserv. Representatives of 74 different organizations, the unit of analy-

sis, responded (N=74). For the purpose of group comparisons and correlations, this sample size met the suggested size for moderate to strong effects (Cohen 1992). Using a mixed-methods approach (Creswell 2003), we analyzed numeric and nonnumeric data.

Instrument

A semistructured questionnaire measured six areas: (1) number of travel trainers employed and contracted by transit agencies, (2) number of full-time employees (FTEs) allocated to travel training services, (3) funding sources, (4) number of individuals served in past 12 months, (5) number traveling independently on fixed route resulting from travel training services, and (6) number able to transition from paratransit to fixed route in past 12 months (Figure 1). Short answers were obtained on agency motives for participating and advice for others considering travel training. The instrument reflected the four properties of organizations (intention, boundaries, resources, and exchange of goods and knowledge) suggested by Katz and Gardner (1988). Providing services in-house versus contracted services indicated intention. Type of funding source (federal vs. nonfederal) reflected boundaries; number of funding sources, FTEs, length of time providing services reflected resources. Finally, the qualitative responses primarily reference exchanges.

Data Analysis

We used descriptive and inferential statistics, including correlations and group comparisons to identify initial trends, and reviewed qualitative data to identify exchange of information themes. Inferential statistics used included Pearson's correlations and independent t-tests. Because this was an initial study with several highly variable distributions, a 10 percent trim was taken for all scaled (interval and ratio) variables. For group comparisons equal variances were not assumed.

Results

Descriptive Statistics

Types and amounts from funding sources are summarized in Table 1. Nearly 9 out of 10 travel training programs have a single funding source (89.2%); 2 to 3 funding sources were found in 8.1 percent of the programs; 2.8 percent had 4 or more sources. These funding sources were divided evenly between federal funds (50%) and nonfederal funds (50%). The dominant federal source was their general operating funds, whereas nonfederal sources included a combination of local property

1. What is the name of your transit agency/authority?

2. Where are you located?

City:	State:

3. Does your agency/authority:
   A. Employ travel trainers (you are the employer of record)
      ❑ Yes
      ❑ No
   B. Contract out with another organization (they are the employer of record)
      ❑ Yes
      ❑ No

4. Whether you answered yes to A or B in question 3, how many full-time equivalent travel training staff members are employed?

5. Please complete the following chart and for each FTE indicate the percentage of time s/he:
   - Spends providing travel training services (include related services such as intake, path of travel assessment, training, completing forms, supervision, continuing education for the employee, etc.)
   - Spends providing services other than travel training (e.g. include other job duties such as paratransit eligibility determination assessments, vehicle operation)

Staff Person	% of time providing travel training service	% of time providing services other than travel training
A		
B		
C		
D		
E		
F		

6. From which sources does your program receive funding for your travel training program?

Source	Percent

7. In what year was your travel training program established?

8. During the last 12 months, how many individuals has your travel training program served? (Include all components of your program such as intake, assessment, group and individual route travel training, bus familiarization, etc.)

9. During the last 12 months, how many individuals have traveled independently on fixed route service as a result of your travel training services?

10. During the last 12 months, how many individuals have moved from paratransit to fixed route for all or some of their trips?

11. What was your agency/authorities motivation for beginning and funding a travel training program?

12. What advice do you have for other transit agencies/authorities who might consider beginning a travel training program?

Figure 1. Questionnaire

Table 1. Type and Amounts from Funding Sources

Descriptive Statistics	*N*	*Mean*	*Median*	*SD*
FTEs in travel training	56	2.00	1.88	1.47
In past 12 months				
Individuals served	47	332.9	76.0	604.1
Number traveling fixed route	36	154.3	53.0	389.8
Moved from paratransit to fixed	29	56.7	15.0	134.7

tax, sales tax, municipal budget, Department of Community Economic Development, State Department of Education, state special needs grant, state special transportation fund–cigarette tax, state casino revenue, motor vehicle excise tax, private foundations, and the United Way.

The majority of programs cited the employer of record as in-house (57%), with about one third contracted out to another source (32%). The remaining 11 percent used a combination of in-house and contracted services. One full-time staff person provided travel training services in 44 percent of the reporting organizations, with 52 percent of the organizations having more than one staff member.

Inferential Statistics

Outcome per FTE. We calculated outcome per FTE dedicated to travel training by dividing the number of persons in the past 12 months who received service, used fixed route independently, and made the transition from paratransit to fixed route for some or all of their trips. Results indicate that for each FTE, the mean number served was 99.2 (SD = 139.5), mean number using fixed route independently was 39.9 (SD = 56.9), and number moved from paratransit to fixed route was 12.4 (SD = 13.0).

Correlations. The length of time an organization provided travel training services was significantly correlated with a greater number of persons served ($r = .267$; $p = .038$) with a greater number of persons using fixed route independently ($r = 290$; $p = .046$). Similarly, the number of FTEs within an organization providing travel training services was positively correlated with the number of customers using fixed route ($r = .284$; $p = .049$) and the number of customers moved from paratransit to fixed route ($r = .406$; $p = .014$). Outcomes were correlated with number served ($r = .349$; $p = .022$) and the number using fixed route independently ($r = .510$; $p = .003$) per FTE (Table 2).

Table 2. Correlations of Travel Training

Correlations of Travel Training by	*N*	*r*	*p-value*
Length of time training program in operation			
Number served	35	.383	.012*
Used fixed route	28	.353	.033*
Moved from paratransit	22	.227	.154
FTEs			
Number served	35	.124	.235
Used fixed route	35	.284	.049*
Moved from paratransit	29	.406	.014*
Outcomes per FTE			
Number served per FTE	34	.359	.022*
Used fixed route per FTE	27	.510	.003**
Moved from paratransit per FTE	22	.180	.212

* Significant at <.05
** Significant at <.01

Group Comparisons. We compared agencies that contracted out services to those where the organization was the employer of record for three outcomes (Table 3). When comparing the number served in the past 12 months per FTE, agencies employing their travel trainers had M=136.75, s.d. =170.70, while agencies that contracted out services had M=32.91, s.d. =26.42 (t=-2.73; p=.012). When comparing the number who used fixed route in the past 12 months per FTE, agencies employing travel trainers had M=44.18, s.d.=65.42, while the agencies contracting for services had M=16.25, s.d.=13.91 (t=-1.65, p=.117). The number moved to fixed route in the past 12 months per FTE and employed by agency had M=12.37, s.d. =13.49; agencies contraction for services had M=9.59, s.d. =10.34 (t=-.53, p=.600).

Qualitative Responses

Responses from the transit agencies representatives (n=46) concerning their motives for creating, maintaining, and sharing information on their experiences of providing travel training services focused on three themes: (1) cost containment resulting from a transition from paratransit to fixed route for some or all of their trips (n=26, 57%); (2) assisting individuals, for example, reducing their isolation (n=16, 35%); and (3) verifying eligibility and referral (n=4, 8%). When asked what advice they would give others who are creating or considering a travel training program, the representatives (n=46) indicated five major themes: (1) getting

Table 3. Group Comparisons

Group Differences	*Mean*	*S.D.*	*t-value*	*p-value*
Number served past 12 months/FTE			-2.73	.012*
Employer of record (n=21)	136.75	170.70		
Not employer of record (n=12)	32.91	26.42		
Used fixed route past 12 months/FTE			-1.65	.117
Employer of record (n=16)	44.18	65.42		
Not employer of record (n=10)	16.25	13.91		
Moved to fixed route past 12 months/FTE			-.53	.600
Employer of record (n=12)	12.37	13.49		
Not employer of record (n=9)	9.59	10.34		

* Significant at <.05

advice from others with established programs (n=12; 26%), (2) responding to the persons' needs (n=12; 26%), (3) collaborating with other community service organizations (n=11; 24%), (4) garnering community support (n=6; 13%), and (5) supporting staff through training and technical assistance (n=5; 11%). Respondents indicated the primary funding source for paratransit for 44 of the programs and included four categories: (1) city or regional tax (n=19; 43%), (2) general operating budget (n=18; 41%), (3) federal grant (n=4; 9%), and (4) other grant or foundation such as Job Access and Reverse Commute Program (n=3; 7%).

Discussion and Applications

This initial survey of the travel training field demonstrates the presence of the three patterns—perspectives, boundaries, and entangled—of systems thought (Williams and Imam 2006). Diverse perspectives of the participating organizations were reflected as some providers were governmental, while others were privately owned. Some contracted for services, while others provided some services in hours, and still others had a combination of the two. The capacity to provide services in a cost-effective manner reflects the boundaries (limits or rules) under which the differing types of providers performed. The overlapping paratransit and fixed-route services, multiple needs of a diverse customer base, and the multiple funding sources under which many of the transit systems operate represent entangled systems.

Programs with a longer history of providing services tended to deliver a larger number of services. This result should be expected, as these programs had a more defined and diversified funding base. Significant correlations were present based on when (earlier) a travel training program was established with two variables: the numbers served and the number using fixed route. Similarly, programs with a greater number of employed FTEs were correlated significantly with two variables: more customers using fixed route and more customers moved to paratransit.

Large differences in outcomes appeared between travel training staff employed by the organization versus those under contract. Transit agencies that were the employer of record served a significantly greater number. Future studies should investigate this issue to determine whether the contract organizations were reimbursed primarily through a successful outcome approach. Such a funding approach could have focused their efforts on fewer persons to ensure success.

Developing and determining which key data elements for use provides decision-makers with a basis for interpreting data. Travel training services play an instrumental role in transcending separate services offered by a transit system, namely supporting customers to use all or part of their fixed-route trips.

Several limitations exist in this initial study. To reduce respondent confusion in future administrations of the questionnaire (Figure 1), we provide a few suggestions. On question 3,

Does your agency/authority:

A. Employ travel trainers (you are the employer of record)

B. Contract out with another organization (they are the employer of record)

Several respondents answered "no" to A and B. However, they indicated that while they did not have a "formal" travel training program, they completed the chart in Question 5. For these respondents Question 3 A was coded "yes." If using this instrument in the future, Question 3 should be reworded as follows:

Does your agency/authority:

A. *Employ staff (you are the employer of record) to provide any type of travel training service (include related services such as intake, path of travel assessment, training, completing forms, supervision, continuing education for the employee, etc.).*

On Question 4 (*How many full-time equivalent travel training staff members are employed?*), there appeared to be some confusion on whether the respondent answered yes to A or B in Question 3, Several respondents indicated the number of staff members listed in Question 5, therefore indicating the total number of staff members (not the number of FTE). Several respondents indicated the number of FTE providing travel training service. Question 4 was coded to reflect the number of staff members who provided any type of travel training service. If this instrument is used in the future, Question 4 should be reworded as follows:

> *Whether you answered yes to A or B in Question 3, how many staff members (full or part time) provide any type of travel training service (included related services such as intake, path of travel assessment, training, completing forms, supervision, continuing education for the employee, etc.).*

Recommendations

As travel trainers and their evaluators develop a body of knowledge to inform practitioners, we suggest three areas for study. The first involves conducting efficiency analyses including cost/benefit analyses and cost effectiveness studies. The second develops a generalized database with a core set of variables for future collection by travel training programs. The third concentrates on infusing a developmental evaluation approach (Westley, Zimmerman, and Patton 2006) to ensure that providers do not simply perform time-limited formative and outcome evaluations, but also create a model whereby indicators of sustainability emerge.

Efficiency Analyses

This area of study should concentrate on cost-benefit and cost effectiveness analyses of travel training programs (Rossi, Lipsey, and Freeman 2004) to continually attempt to identify the most efficient means of service delivery. Given the benefits of datasets containing both outcome and cost data, these analyses will be relatively simple to compute.

Database Elements

A key aspect will be creating and sustaining a generalized database with a core set of variables to be collected by all travel training programs. These variables should be relational to existing local transit authority databases. As a starting point, we recommend that travel instruction programs collect several data elements including, number of customers served, type of services provided, percent of services

received by customers, percent of time staff provides travel training service and services other than travel training, number of customers using fixed route because of the service, and moving from paratransit to fixed route for all trips, and cost savings per customer.

We further recommend that individuals and organizations seeking to implement travel instruction use available resources and support from others. A body of knowledge and resources is coalescing. Easter Seals Project Action Clearinghouse provides a variety of publications (e.g., *Competencies for the Practice of Travel Training and Travel Instruction*, and *Curriculum to Introduce Travel Training to Staff Who Work with People with Disabilities*).

Developmental Evaluation

Future programs will benefit from the sequencing of activities and trainings that facilitate the development of advanced skills (Fitch 2005). Given the dynamic nature of travel instruction, assuring the sustainability of similar initiatives will benefit by using a developmental evaluation approach where the driving force simply does not measure outcomes, but also accounts and adapts to developing linkages between information technology and travel instruction (Westley, Zimmerman, and Patton 2006).

Because several of the items were high variability, we suggest that the respondents receive clear definitions of the items measured on future administrations of the questionnaire. While this survey provided an initial estimate of travel training's affect within the United States and Canada, these estimates will surely be refined in future studies. Creating a developmental evaluation approach that assumes a sustainability perspective should address this concern over time. The travel training field appeared to benefit from the diversity of heuristics and perspectives (Page 2007). This diversity sets the stage for greater problem-solving abilities as transit systems confront challenging sustainability issues resulting from tightening resources and greater demand for services.

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