GETTING TO THE AIRPORT ON TIME:
A CONSUMER-DRIVEN STUDY OF A TRIP CHAIN LINK

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SUMMARY

The trip chain model identifies the stages and transition between stages of the transportation process as links. These links often pose significant barriers to access for people with physical disabilities. In this study, we utilized a focus group methodology to collect information directly from travel consumers with physical disabilities. This allowed us to extract the physical, cognitive, and practical barriers experienced by persons with physical disabilities as they travel to and from the airport, as well as identify strategies these travelers find helpful in overcoming these barriers. This information, particularly strategies and tips for success from consumers, was used to create a quick reference tool that is specifically designed to assist people with physical disabilities in transiting to and from the airport. This tool is disseminated through Easter Seals Project Action, and the research was partially supported by a student research award from Project Action.

PURPOSE OF THE STUDY

Physical disabilities are the most prevalent form of disability in the United States today (U.S. Census) and, as our population ages, the number of persons experiencing physical disabilities is expected to increase [Leveille et al., 2004]. Access to public transportation modes used for inter-city and long distance travel needs to be improved for travelers with physical disabilities [Wehman, et al., 1999]. In addition to improving the quality of life for travelers with physical disabilities, increasing access to inter-city travel is motivated by national and economic reasons. President Bush announced the New Freedom Initiative in 2001. This comprehensive program is designed to promote the full participation of people with disabilities in all areas of society in accordance with the ADA. Travelers with disabilities also comprise a sizeable potential market. Currently, these travelers spend about $13.6 billion a year, including $2.9 billion on airline tickets alone, but if accessibility needs were met, this market could nearly double [Harris, 2005].

Public transport usability problems for travelers with physical disabilities have been examined from a travel chain perspective [e.g. Carlsson, 2004]. This perspective assumes that all links in a travel chain must be accessible in order to get from point A to point B.

Inter-city trip chains often have multiple travel links (see Figure 1), including intermodal links when users switch modes. Travel chains can be used in the identification of barriers to access, as well as to formulate possible strategies for increasing access to transportation.

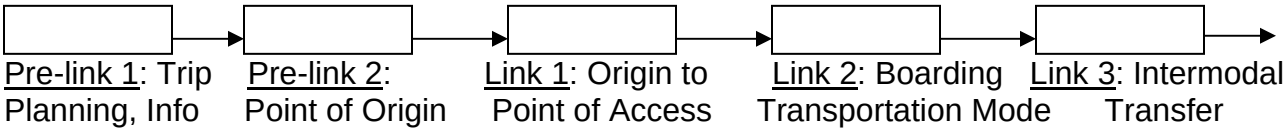

Figure 1. *Travel Chain Illustration: Beginning of trip involving air travel*

There are existing reference tools to assist travelers with physical disabilities in accessing inter-city transportation. A 2002 article in *Inside MS* magazine tells travelers what to expect once they get to the airport, and tells readers to “Arrive early. Really early.” The Transportation Security Administration also provides tips for air travel, including how to navigate security checks, for persons with disabilities and medical conditions *in* the airport. While these tools provide useful tips for travelers once they have arrived at the airport, they do not address the process of getting to this point of access.

In addition to tools like these for air travel, there are many educational and informational tools regarding fixed-route transportation for individuals with disabilities, particularly through Easter Seals Project Action (ESPA) including *You Can Ride* [ESPA, doc 01PICT], *Don’t Miss the Bus to Community Inclusion* [ESPA, Doc 01BCI], and *On Our Own* [ESPA, doc 95ONO]. Again, these tools do not specifically focus on the airport as a unique travel destination. To our knowledge, there is not a quick reference tool to assist individuals with physical disabilities to address the special challenges presented when navigating the home (origin) to airport (point of access) link in the inter-city travel chain including airports that are difficult to access via public ground transportation as they are often on the outskirts of urban areas, airports being far from individuals’ homes, and the additional fcator of luggage that must be transported. Travel to and from the airport also typically occurs less frequently than intra-city transport and thus, often creates a more stressful travel experience.

The purpose of the Getting to the Airport on Time project was to elucidate the physical, cognitive, and practical barriers experienced by persons with physical disabilities as they travel to and from the airport, as well as to identify strategies and solutions these travelers find helpful in overcoming these barriers, in order to create a quick reference tool for individuals with physical disabilities designed to address challenges specifically in the home to airport link of the travel chain. It is hoped that this information will be useful for travelers with physical disabilities as they plan and undertake intermodal trips.
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METHODS

Getting to the Airport On Time had two major goals. The first goal was to elucidate barriers to transportation to and from the airport experienced by persons with physical disabilities and strategies these persons use to overcome those barriers. The second goal was to

develop a quick reference tool based on this information. This everyday user tool provides tips and strategies for individuals with physical disabilities. Both of these goals were accomplished by partnering with an existing study about transportation accessibility through the National Institute of Disability Rehabilitation and Research (NIDRR) -funded Rehabilitation Engineering and Research Center (RERC). Resources and consultation for this project were also available through the Center on Self-Determination (CSD) at Oregon Health and Science University and the National Center on Accessible Transportation (NCAT) at Oregon State University. All activities were conducted under the approval and supervision of the Institutional Review Board at Oregon Health and Science University.

1. Goal One Methods

A focus group research methodology was used to collect information about 1) barriers to transport to and from the airport, and 2) strategies that individuals with physical disabilities use to overcome these barriers. The Getting to the Airport On Time project utilized consumer focus groups that were conducted as part of a larger on-going study: the RERC on Accessible Public Transportation project. The consumer focus groups in this study centered on the experiences and perceptions of persons with disabilities who travel by air. Each session was approximately two hours in length, and there were 5-8 participants per session. Consent to participate and consent to audiotape was obtained from participants, and audiotapes were transcribed for later analysis. Participants were given the option of declining participation at any time with no consequences. Participants were specifically asked to omit identifying information including last names and, as such, transcription excluded any unique identifiers, ensuring participant anonymity.

The final sample for this study included 32 participants. Multiple focus groups were held in Phoenix, AZ (n=15), Minneapolis, MN (n=4), and Portland, OR (n=13). Participant age ranged from 24-79 years (M=47.48), and 50% of the sample was female. The majority of the sample reported being married (59%), while 37% reported being single and 3% reported being divorced. Participants reported their ethnic backgrounds as Caucasian (87%), Asian American (3%), and Other, including Pacific Islander, Native American, and Multiethnic backgrounds (7%). Focus group participants reported their education as follows: High school graduate 22%, Some college 22%, College graduate 28%, Graduate degree 28%. The majority of the participants reported being employed full-time or part-time (29% and 29%, respectively), while 41% reported being unemployed. These participants reported a variety of physical disabilities, including cerebral palsy, polio, muscular dystrophy, spinal cord injury, amputation, multiple sclerosis, traumatic brain injury, and low vision or blindness. Participants also reported using a range of assistive devices, including crutches or cane, power wheelchair or scooter, artificial limb, service animals, manual wheelchair, or ventilator. Most participants reported traveling by air 1-3 times in the previous year (58%).

Four discussion questions particular to the current project were posed to the focus groups:
1) Are there barriers you experience in getting to and from the airport from a transportation perspective?
2) Are there strategies you use or adjustments you make to overcome these barriers?
3) If you had to fly somewhere next week, how would you go about getting to the airport?
4) What practical advice would you give to other people with physical disabilities about getting to and from the airport?

Following audiotape transcription, the responses to the four questions regarding transportation to and from the airport were coded in order to distill key themes and quantify response frequencies. The coding system was developed based on independent review of the transcriptions by two researchers. Consensus on response categories was achieved, and subsequent coding of transcripts was checked for inter-rater reliability.

2. Goal Two Methods

The content of the quick reference tool for people with physical disabilities (Getting to the Airport On Time) was developed based on the findings from the coded qualitative focus group data, with particular emphasis placed on the strategies that travelers with physical disabilities find to be most helpful in overcoming barriers to accessibility. The final product content includes simple tips from consumer experts for a smooth trip to the airport. This methodology offers the advantage of being empirically reliable, but also ecologically valid, as experiences of people with physical disabilities are the basis for the end product.

The final step in the development of this quick reference tool was evaluation of the tool's effectiveness and usability. A pilot evaluation of the Getting to the Airport On Time Guide was conducted with a small group of individuals with physical disabilities. This approach allowed for a preliminary test of the quick reference tool's usefulness and effectiveness.

After focus group findings were summarized, individuals who had previously participated in a study related to physical disability and agreed to be contacted for future research purposes (N≈50) were contacted by electronic mail and invited to complete an online survey. Of the individuals contacted, 7 completed the online survey within the amount of time that it was available online. This brief evaluation survey had participants rate their perception of potential content for the reference guide, and was constructed based on techniques described by Schaeffer and Presser [2003]. This survey tool included multiple choice, Likert scale, and open-ended items designed to assess the respondent's preference for the advice in the quick reference tool, as well as the perceived usefulness of the information. Respondents were asked to provide suggestions for improvements to the quick reference tool. Due to the limited number of survey responses, data were analyzed using descriptive statistics. The most highly rated content items were included in the final quick reference guide.

RESULTS

1. Focus Group Results

Participants provided a range of anecdotal and instructive responses to the prompting questions. All types of responses provided by focus groups regarding traveling to and from the airport were grouped into three broad topic categories: Planning Information, Transportation Resource Information, and Personal Effects and Other Information. All participant responses (68 total) were coded into one of these three groups. Many of the 68 total responses were anecdotal (e.g. a story about what happened when a passenger did not plan adequately), and these responses were also categorized into one of the three broad topic categories. The frequency of responses is listed in Table 1. Select examples of participant focus group responses in each category are outlined in Table 2. Planning Information and Transportation Resource Information categories included both negative and positive responses, examples of which are in Table 2.

Topic Category	**Frequency of Total Responses**
Planning Information	n=20 (30%)
Transportation Resource Information	n=41 (60%)
Personal Effects & Other Information	n=7 (10%)
Total	n=68 (100%)

Table 1. *Response Category Frequencies*

Topic Category	**Examples of Responses in Topic Category from Audio Transcripts**
Planning Information	Negative: -When I finally landed in Anchorage my taxi wasn't there even though I had called for one. -I had reserved a shuttle, but it didn't show up. -I guess I hadn't called far enough in advance. -It turned out there wasn't anyone at the airport at 1am who could help me. Positive: -I used to live in Cincinnati, so planning what to do when I got there was easy.
Transportation Resource Info.	Negative: -My cousin said that the bus ran late, but not every bus on the airport line was accessible. -It turned out there were no accessible cabs available. -The shuttle company said their accessible van was on another run so I had to wait for an hour. -Since the bus obviously was not going to work I had to pay $80 for a cab. -I could fit, but there was no way my chair was going to fit in that crowded shuttle with everybody's luggage. Positive: -The Max train to the airport in Portland takes you right to the terminal and it is 2 bucks. -In Chicago, they have a special phone number you can call to get the wheelchair accessible cabs from every company. -There is a cab driver I have gotten to know at National who I just call directly.
Personal Effects & Other Info.	-I always check luggage at the curb. -I pack light and only do carry-on luggage. -Keep your essentials with you, especially medication. -I just fly into larger airports where there are more resources in general.

Table 2. *Consumer Responses: Category Examples*

The vast majority of responses in the Planning Information category were negative, with 18 responses being anecdotal information about plans falling through, not having a back-up plan, etc. The positive comments (n=2) included one indicating familiarity with resources at a destination. In both the Planning and Transportation categories, barriers were reported that were specific to origin or destination (n=27). The majority of these (n=23) indicated that planning or transportation resources were a problem at the destination. This is likely due to higher familiarity with resources at the origin, easier access to planning resources, and possibly higher levels of resources. Most participants recommended taking fixed line public transportation (e.g. train, bus) when available, as these modes of transport were more likely to be accessible. Some participants recommended relying on family or friends whenever possible. The Personal Effects comments were mixed, with about half of participants recommending passengers use carry-on luggage, and half recommending checking luggage.

2. Reference tool content evaluation results

Twenty-one potential content items were rated by online survey respondents. The ratings of the usefulness of the advice are presented in Table 3, where the number of respondents endorsing each rating are indicated. Responses to open-ended questions were also collected, and additional proposed advice for the quick reference guide was reviewed for possible inclusion in the final product. Overall, most potential advice items were rated as somewhat or very useful by the majority of respondents. The highest rated items are noted with an asterisk in Table 3. Items with 5-7 raters indicating that the item was somewhat or very useful advice were considered for inclusion in the quick reference guide. Raters also indicated that it would be somewhat or very useful to have phone numbers or a place to write local phone numbers on the quick reference guide. Additional advice included providing consumers with a checklist for researching resources, collecting important phone numbers and preparing for the trip. The final content of the quick reference guide is available through Easter Seals Project Action.

Potential Advice Item:	Not at all useful	A little useful	Somewhat useful	Very useful
Research transportation companies at your destination before you travel*	0	1	3	3
Make reservations with taxi cab and transport companies weeks in advance of travel	1	1	1	4
Where available, take public transportation (bus or train) to and from the airport	1	1	1	4
When possible, fly into larger airports that may have more accessible ground transportation options*	0	0	3	4
Keep essentials such as medication on your person*	0	0	1	6

Table 3: *Number of individuals endorsing each usefulness rating*

Potential Advice Item:	Not at all useful	A little useful	Somewhat useful	Very useful
Travel light, and keep carry-on luggage with you*	0	2	2	3
If you plan to have large pieces of luggage, check that a cab or other transport can accommodate you, your luggage, and any assistive devices that you use*	0	0	3	4
Get rides from family and friends whenever you can	1	1	2	3
Have a back up plan, as reservations can fall through*	0	2	0	5
If you travel to a destination regularly, find a driver or service provider who you like and use them regularly*	1	0	1	5
Remember that air travel is stressful for passengers and staff: be patient and polite*	1	0	1	5
Research public transportation options online before you travel*	0	0	2	5
Bring important phone numbers with you and keep them on your person, including numbers of cab and transport companies*	0	1	0	6
Don't hesitate to ask for help at an airport information or travel desk*	0	0	2	5
Do an internet search for "wheelchair accessible taxi cab City, State" when you purchase your airline ticket*	0	0	1	6
Call to confirm transportation reservations on the day of travel*	0	0	2	5
If you are staying at a hotel, ask if they have accessible transport to and from the airport*	1	0	0	6
Be sure to leave plenty of time in your schedule for getting to and from the airport: Do not leave for the airport at the last minute!*	0	0	1	6

Table 4: *Number of individuals endorsing each usefulness rating, cont.*

DISCUSSION

This project was able to identify several areas of challenge for people with physical disabilities as they navigate the to-and-from the airport link of the travel chain. The primary barriers that emerged were availability and knowledge of accessible transportation at destinations, and anticipating the amount of planning necessary to ensure a smooth trip. This project also provided a quick reference guide that contains consumer-driven advice. The consumer-driven study methodology used in this study may be informative for future transportation studies, as this methodology was fairly successful in this study. Future studies using similar methodology might consider using survey tools as well as focus groups to identify barriers. Future directions for the To and From the Airport guide might include a more full evaluation of the usefulness of this tool, as the current study was only able to conduct a pilot evaluation.

CONCLUSION

People with physical disabilities experience a range of barriers in getting to and from the airport, making this link in the travel chain particularly weak. Individuals with physical disabilities also experience a significantly higher travel planning burden at this link in the travel chain, including more advance planning and more alternative planning. In addition to the consumer-to-consumer advice provided by this study, system-wide improvements will need to occur in order to improve the strength of this travel chain link. Improvement of this link will likely have a positive economic impact on the travel industry through a number of mechanisms, including increasing the number of travel trips taken by people with physical disabilities and increasing consumer satisfaction.

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