Mobility Information Needs of Limited English Proficiency (LEP) Travelers in New Jersey

FINAL REPORT
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Submitted
By

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The primary objectives of this research are to provide residents and travelers in New Jersey who have Limited English Proficiency (LEP) with the ability to gain essential access to New Jersey’s transportation opportunities, such as bus, rail, road, water and air and to further New Jersey transportation agencies’ compliance with Title VI regulations as they pertain to the avoidance of discrimination against people of different national origins or language proficiency. To find methods to convey mobility information to LEP persons, we have studied the practices of a variety of American and non-American agencies including transportation organizations, international airports, and other internationally oriented activity centers.

Our research leads to a recommendation for a comprehensive equal-access plan. At the strategic level, agencies should take community demographics and feedback for LEP community members into account developing a long-range transit plan. Agencies should maximize human contact and personal assistance to the degree this is economically feasible. This recommendation includes introduction of cultural and linguistic sensitivity training for all employees with traveler contact. To leverage resources, agencies should explore cooperation with other organizations, e.g., social service organizations committed to work with various immigrant communities. At the operational level, we recommend such techniques as increased use of pictograms to present simple information and creation of a multilingual website. We also recommend improvement in the public announcement techniques.
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The team members have produced a large number of photographs, tables, and figures based on the information collected. The authors regret any errors or oversights in crediting copyrighted material. Of course, any other errors, omissions, and oversights are the responsibility of the authors.
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<th>Description</th>
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<tbody>
<tr>
<td>CDE</td>
<td>California’s Department of Education</td>
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<tr>
<td>DOT</td>
<td>Department of Transportation</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<tr>
<td>ESL</td>
<td>English-as-a-Second-Language</td>
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<tr>
<td>EO</td>
<td>Executive Order</td>
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<tr>
<td>FAA</td>
<td>Federal Aviation Administration</td>
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<tr>
<td>GIS</td>
<td>Geographic Information System</td>
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<tr>
<td>HBLR</td>
<td>Hudson-Bergen Light Rail</td>
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<tr>
<td>JFK</td>
<td>John F. Kennedy</td>
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<tr>
<td>KCR</td>
<td>Kowloon-Canton Railway</td>
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<tr>
<td>LEP</td>
<td>Limited English Proficient</td>
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<tr>
<td>LIRR</td>
<td>Long Island Railroad</td>
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<tr>
<td>LRT</td>
<td>Light Rail Transit</td>
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<tr>
<td>MARTA</td>
<td>Metropolitan Atlanta Rapid Transit Authority</td>
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<tr>
<td>MDHS</td>
<td>Minnesota Department of Human Services</td>
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<td>MPO</td>
<td>Metropolitan Planning Organizations</td>
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<tr>
<td>MRT</td>
<td>Mass Rapid Transit</td>
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<tr>
<td>MSAs</td>
<td>Metropolitan Statistical Areas</td>
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<tr>
<td>MTR</td>
<td>Mass Transit Railway</td>
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<td>NJDOT</td>
<td>New Jersey Department of Transportation</td>
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<tr>
<td>NJ TRANSIT</td>
<td>New Jersey Transit</td>
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<tr>
<td>NJTPA</td>
<td>North Jersey Transportation Planning Authority</td>
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<td>NYMTA</td>
<td>New York Metropolitan Transportation Authority</td>
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<td>NZ</td>
<td>New Zealand</td>
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<tr>
<td>PATCO</td>
<td>Port Authority Transit Corporation</td>
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<tr>
<td>PCMS</td>
<td>Portable Changeable Message Signs</td>
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<tr>
<td>PRC</td>
<td>People’s Republic of China</td>
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<tr>
<td>RFP</td>
<td>Request for Proposal</td>
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<tr>
<td>RPSIP</td>
<td>Research Project Selection and Implementation Panel</td>
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<tr>
<td>SAS</td>
<td>Statistics Analysis System</td>
</tr>
<tr>
<td>SEPTA</td>
<td>Southeastern Pennsylvania Transit Authority</td>
</tr>
<tr>
<td>Tri-Met</td>
<td>Tri-County Metropolitan Transportation District</td>
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<tr>
<td>TRIS</td>
<td>Transportation Research Information Systems</td>
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<tr>
<td>USDOT</td>
<td>United States Department of Transportation</td>
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<tr>
<td>USRRB</td>
<td>U.S. Railroad Retirement Board</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>VSRs</td>
<td>Visitor Service Representatives</td>
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<tr>
<td>WMATA</td>
<td>Washington Metropolitan Area Transit Authority</td>
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EXECUTIVE SUMMARY

This research examined the demographics and strategies of the New Jersey’s Limited English Proficient (LEP) population. After an extensive literature review, the project identified the geographical location and linguistic backgrounds for approximate 400,000 LEP New Jersey residents. We found a concentration in the state’s six urban northeast counties. A high correlation between transit use and LEP population distribution was discovered.

The first task was to obtain the LEP community input on mobility-information issues. We distributed a questionnaire on transit communications to over 500 students in various English-as-a-Second Language (ESL) courses. We also conducted survey with small groups of LEP residents. The surveys showed that a majority of respondents understand most transit communications although large minorities had problems getting some information such as that conveyed in announcements. The focus groups corroborated this information, but some members also indicated perceptions of discriminatory treatment by individual transit employees and a lack of appropriate transit routes.

The second task was to survey the best practices of peer transit agencies in American metropolitan areas with bi- or multilingual populations. Through this survey, we found several agencies, WMATA, Tri-MET and MTA, with innovative practices such as multilingual websites.

The third task was to survey selected transportation providers outside the United States along with various airports, tourism centers, and other locales catering to multilingual clientele. We found practices included multilingual web pages, publications and announcements, telephone lines, pictograms, visual aids and personal assistance.

At the strategic level, agencies should prepare a long-range Transit Plan. The plan would take into account community demographics in long-range transit planning, including a voice for LEP community members in planning routes. Agencies should maximize human contact and personal assistance to the degree that this is economically feasible. This recommendation includes introduction of cultural and linguistic sensitivity training for all employees with traveler contacts. To leverage resources, agencies should explore cooperation with other organizations, e.g., social services organizations committed to work with various immigrant communities.

At the operational level, we recommend such techniques as increased use of pictograms to present simple information and creation of a multilingual website. We also recommend improvement in public announcement techniques.
1. INTRODUCTION

The mobility information needs of Limited English Proficiency (LEP) people are of strong policy interest because these individuals constitute a growing and changing share of the total travel market. The expected travel growth of this particular population group is much faster than overall travel. According to the United States Department of Transportation Guidance (U.S. DOT, 2001), LEP persons are those individuals with a primary or home language other than English who must, due to limited fluency in English, communicate in that primary or home language if they are to have an equal opportunity to participate in, or benefit from, any aids or services provided by the transportation agency.

Dampened access to the mobility information by the LEP population simply creates a fertile soil for growing complaints, which is exactly what New Jersey Transit (NJ TRANSIT) and New Jersey Department of Transportation (NJDOT) strive to reduce or eliminate. As part of the overall effort to improve transit services and comply with Title VI non-discrimination mandates, NJDOT and NJ TRANSIT propose this research on best practices to satisfy mobility information needs of LEP people in New Jersey.

As one of the most diversified states in terms of culture, language, and ethnicity, New Jersey is home to a large number of populations who speak a language other than English at home. The year 2000 Census Data (U.S. Department of Commerce, 2002A) indicates that one out of every four New Jersey residents speaks a language different from English at home. Of those people, nearly half of them (45%) admit speaking English less than “very well,” which is the basic definition for a LEP person. As presented in Figure 1, New Jersey’s LEP population and its transit services are concentrated in several counties in the northern part of the state. For example, Hudson County has the highest LEP population of 28% and concentrated transit modes such as PATH, Hudson Bergen Light Rail, and commuter rail and buses.

The high correlation between transit usage and LEP population distribution is more than a coincidence. Previous studies (Polzin, Chu, and Ray, 2000) proved that a large number of immigrants use transit as their primary mode of transportation, especially in the first few years after they arrive in America. In New Jersey, most LEP people are new immigrants from non-English speaking countries. The high transit mode shares by LEP travelers prove that the frequencies with which LEP individuals are affected by transit information are high.

Language barriers prohibit people who are LEP from obtaining services and information relating to transportation services and programs (U.S. DOT, 2001). Because LEP people are not able to read instructions or correspondence written in English, and may not understand verbal information, they often are not aware of regulatory requirements and legal implications of the services they seek. Therefore, they may not be able to take advantage of the transit systems, which could affect their economic and social opportunities.
To find methods to convey mobility information to LEP persons, we need to study the practices of a variety of American and non-American agencies, including transportation organizations, international airports, and other internationally-oriented activity centers. Variety is a key in our approach to learning which tactics constitute best practices. We need to examine agencies that serve different types of LEP populations. Our list of agencies includes some organizations using verbal strategies and others using pictorial or auditory strategies. To access a wide array of nonverbal strategies, we look at innovations originally designed for travelers with disabilities or special cognitive styles, as well as approaches originated for LEP populations.

1.1 Research Objectives

As outlined in the United States Department of Transportation Guidance (U.S. DOT, 2001), Title VI regulations require recipients of Federal funding to take reasonable steps to ensure that LEP persons receive the language assistance necessary to offer them meaningful access to appropriate programs and activities. This research will strive to accomplish the following objectives:

1. Provide residents and travelers in New Jersey who have limited English proficiency with the ability to gain essential access to New Jersey’s transportation opportunities, such as bus, rail, road, water and air. Unique in the United States, New Jersey has only one transit agency, NJ TRANSIT, for all modes of Public Transportation in the state. This unique organizational structure will help to afford comprehensive and consistent solutions for public transportation infrastructure systems, as well as better management and customer services for the traveling public. This research should assist NJ TRANSIT in maintaining and improving the quality of transit services.

2. Further New Jersey transportation agencies’ compliance with Title VI regulations as they pertain to the avoidance of discrimination against people of different national origins or language proficiency.

3. Provide NJ TRANSIT and NJDOT with a manual to be used in recommending ways of improving their service to the LEP travelers in New Jersey.

The research team will pay particular attention to the cost and cost-effectiveness of information regarding individual practices gathered in the survey. The research team will present an evaluation of each technique in terms of the cost and the time frame of implementation so that NJ TRANSIT will be able to select the most cost-effective methods in a timely manner to serve the LEP travelers in New Jersey.

1.2 Research Plan

The Request for Proposal (RFP) of this project calls for three parallel surveys across diversified organizational structures and geographical areas. It is critical for us to develop a well thought out and dynamic research plan so that we will be able to
complete the project on time and within budget. The result of this research will offer much needed guidelines for NJ TRANSIT to provide mobility information for LEP people.

Task 1. Review Literature
Task 2. Identify Sources of Information on Location, Nature, and Size of LEP Groups in New Jersey.
Task 3. Identify and Classify the New Jersey LEP Population
Task 4. Generate Input from LEP Populations
Task 5. Survey Peer Transportation and Transit Agencies in the United States
Task 6. Survey Internationally Oriented Activity Centers
Task 7. Survey Selected Transit and Transportation Providers in Other Countries
Task 8. Develop a Nonverbal Communication Approach
Task 9. Synthesize Verbal and Nonverbal Communication Recommendations
Task 10. Synthesize with LEP Market Research for Development of the Final Report
Task 11. Prepare Quarterly Progress and Final Report

This research project has been completed within 24 months. The first task was accomplished in the first three-month period. Tasks 2 through 4 were accomplished within six months. Task 5, 6 and 7 were completed by the end of the first year. The last three months of the project were used to compile the final project report and present the final results and findings to the Research Project Selection and Implementation Panel (RPSIP).

1.3 Research Implementation

The result of this project is a practical manual for NJ TRANSIT staff to identify best practices from national and international resources. In addition, a series of Technical Memoranda and this Final Report—describing surveys, addressing various aspects of the surveyed transportation organizations and international entities—provide references and useful information for other surveys planned by NJDOT.

Additional products from this research include conference and journal papers describing the research performed. To date, a number of papers have been presented at the Transportation Research Board Annual Meeting and the Public Administration Association Annual Meeting. One paper has been accepted for publication by the Journal of Public Administration Review. More papers will be submitted to peer-reviewed journals in the fields, such as Journal of Communications, Transportation Research Record and Journal of Human Behavior and Technology.

The audience for this research includes the customer, the management of NJDOT, administrators of other state and local transportation agencies, and scholars in LEP communications. This research provides a comprehensive review of existing and emerging techniques in providing and improving service to LEP and related special needs populations.
An implementation strategy was developed, in conjunction with the LEP market/demographic analysis, to ensure that the findings and results of this research are implemented cost-effectively. The implementation strategy was also developed from a priority list corresponding with the most common problems or complaints. The implementation strategy helps identify the most effective approaches for particular LEP populations. For example, it is believed that computer capability has an extremely bi-polar distribution within the LEP population. Some subcategories of the LEP population are much more computer savvy than average citizens, while other categories of LEP population are much less. The implementation plan also identifies potential obstacles for the NJ TRANSIT to implement certain strategies.
2. LITERATURE REVIEW

To assess the current status of LEP-related issues, the research team has conducted a literature search using New Jersey Institute of Technology’s Van Houten Library, the Transportation Research Board’s Transportation Research Information Systems (TRIS), and the Internet. It presents the results in the following sections: policy and guidelines, activities to serve LEP people outside of transportation agencies, language-related research in the transportation field, understanding information’s nonverbal factors, and responding to diversified communities.

The key guideline for this project is the United States Department of Transportation’s (USDOT, 2001) Guidance to Recipients on Special Language Services to Limited English Proficiency Beneficiaries. For a detailed discussion of this directive see Kanada and Yeo (2002).

The federal DOT has defined LEP persons as individuals with a primary or home language other than English who must, due to limited fluency in English, communicate in that primary or home language if they are to have an equal opportunity to participate in or benefit from any aids or services provided by the transportation agency. To assist state agencies in complying with their Title VI responsibilities, the DOT guidance outlined the key elements that the USDOT encourages its recipients to consider to ensure meaningful access to programs and activities by all people regardless of race or national origin. Adhering to these guidelines not only helps state agencies fulfill their legal obligations, it also helps prevent complaints and creates a more productive economic climate by supporting tourists and establishing that localities are appropriate sites for global trade and investment.

The federal guidance identified specific variables state agencies should take into account when formulating meaningful access for LEP populations. These variables include:

- The number and proportion of LEP persons potentially served by the recipients’ programs or activities, as well as the variety of language spoken in the recipients’ service areas,
- The frequency with which LEP individuals are affected by the program or activity,
- The importance of the effect of the recipient’s program or activity on LEP persons, bearing in mind that transportation is considered an essential service to participation in modern society,
- The resources available to the recipient, as well as whether the recipient has budgeted for provisions of special language services,
- The level of services provided to fully English proficient people,
- An examination of whether LEP persons are being excluded from services, or being provided a lower level of service.
• A consideration of whether the recipient has adequate justification for restrictions, if any, on special language services or speaking languages other than English.

To help recipients comply with the requirements of Executive Order 13166 (Clinton, 2000), the guidance also outlined basic frameworks for language assistance, which may include needs assessment, written language assistance plans, staff training, provision of special language assistance, and monitoring. The report also presented typical ways of providing language service such as oral interpretation, translation of written materials, and use of alternative communication methods and devices. To demonstrate how to apply the executive order, the DOT Guidance listed a number of promising/best practices around the country. Looking at some of these best practices will serve as our first stop in the process of surveying how organizations in many fields serve the LEP population.

The research focus also included some general activities and language-related research in transportation that serves LEP populations, which are included in Appendix A and B.
3. PUBLIC TRANSPORTATION AND LEP TRAVELERS IN NEW JERSEY

Famous for its “melting pot” of cultures, languages, and religions, the United States is even more diversified than ever with regard to race, national origin, language spoken at home, and other related parameters. As documented by the Census data, the portion of people who speak a language other than English at home increased from 14 percent in 1990 to 18 percent in 2000 (U.S. Department of Commerce, 2002B).

Among those who speak a language other than English at home, Hispanics are the largest minority group in the United States (Miller, 2003). It is not uncommon to hear Spanish spoken when we walk down the streets of a U.S. city today. About 27 million U.S. residents are from Spanish-speaking countries with 59 percent of them having Mexican origins (Zavala, 2002). The states with the greatest concentrations of Spanish-speaking people are California, Texas, New York, and Florida. For more population details about Spanish-speaking communities, refer to Zavala (2002) and Pew Hispanic Center (2002).

Other language groups are also growing rapidly. For example, the largest increase from 1990-2000 in terms of percentage of LEP residents comes among speakers of Chinese, 53 percent. Along with the opening of People’s Republic of China (PRC), a large number of immigrants from Mainland China, Taiwan, and Hong Kong came and settled in the United States, particularly concentrating along both coasts in California, New York, and New Jersey.

After the dismantling of the Soviet Union, a large number of Russian speaking people immigrated to the United States. Connected with family ties or social networks, those new immigrants tend to settle where existing concentrations of Russian communities have already formed, such as Brooklyn, New York. As Bullard and Johnson (1997) point out, access to transportation is vital to the ability of all these groups to enjoy employment and educational choices.

This section documents the language backgrounds, geographic and jurisdictional location, and distribution in relation to transit networks of various LEP communities. The objective is to understand the magnitude and whereabouts of LEP travelers in New Jersey. This information will help the research team to get information from LEP populations on their perception of their transit situation; to know something of their internal characteristics, e.g., language groupings, income patterns, etc; and to identify the transit opportunities that are available in areas of LEP settlement. This information is important for developing surveys and focus group materials to use among LEP groups in New Jersey. The data in this section enable us to target specific LEP communities in a knowledgeable manner and get input from them.

As the achievements of this task, the detailed maps provide visual tools to locate the distribution of LEP population and language backgrounds of each subgroup of LEP populations; the detailed statistical analyses based on Census data provide the general social-economic status and travel characteristics of LEP groups. This work is
a backdrop for the important task of interacting with LEP populations via in-person interviews, surveys, and focus groups, and getting input from them. This information forms the heart of the next section, Generating Input from LEP Travelers in New Jersey.

3.1 Transit Networks in New Jersey

As the gateway to the highly prosperous economic centers in the Northeast, New Jersey is a critical corridor state that links major points in New York and Pennsylvania. As the largest statewide public transportation agency, NJ TRANSIT provides bus, rail, and light rail services that accommodate over 752,000 daily trips on 236 bus routes, two light rail lines, and 12 commuter rail lines (NJ TRANSIT, 2003A). The vast transit network in New Jersey serves 163 rail stations, 27 light rail stations, and more than 17,000 bus stops. The Port Authority of New York and New Jersey provides rapid rail transit services on three PATH lines serving seven stations in New Jersey and the Delaware River Port Authority on one PATCO line serving nine New Jersey stations.

3.1.1 Multimodal Transportation Systems

As pointed out by a former Governor, “Public transportation is a vital public service that touches the lives of all who live, work and visit our great state of New Jersey. It provides critical mobility for our residents by providing travel opportunities and alternatives to using an automobile, thus limiting traffic congestion and air pollution. Public transit also sustains our economy and promotes smart growth by providing opportunities for residential and commercial development near train stations and transportation centers” (New Jersey Transit, 2003B).

As shown in Figure 2, the 466 route miles of NJ TRANSIT’s railroad system serve 112 out of the state’s 566 municipalities. Covering different areas of the state, the New Jersey rail network may be divided into three separate operating divisions:

- **The Newark Division**: includes the Northeast Corridor, North Jersey Coast, and Raritan Valley lines operating to and from Newark Penn Station, Hoboken Terminal, and Penn Station New York.

- **The Hoboken Division**: includes the Mid-town Direct service on the Morris & Essex and Montclair-Boonton lines to and from Penn Station New York and lines operating to and from Hoboken Terminal on the Morris & Essex, Main/Bergen, Pascack Valley and Montclair-Boonton lines.

- **The Atlantic City Rail Line**: operates between the seaside resort city, Philadelphia, and points in between.

Both the Hoboken and Newark Divisions follow a radial layout that brings hundreds and thousands of commuters to major hubs such as Newark and Hoboken. Some of these rail services continue on to New York City. The Atlantic City Rail Line is a main
trunk line that connects Philadelphia and Atlantic City. It also serves suburban communities.

NJ TRANSIT also contracts to the New York Metropolitan Transportation Authority (NYMTA) to run rail service to and from points in New York State on the Pascack Valley and Port Jervis lines. NJ TRANSIT is connected to other transit networks, such as Amtrak, bus, and subway systems. The NJ TRANSIT network provides fast and convenient transportation to people in New Jersey. Whether people live, work, or simply visit New Jersey, rail transit services may play a significant part in their mobility experiences.

Light rail transit, especially the Hudson-Bergen Light Rail (HBLR), has attracted a record number of riders since its opening in 2001. As depicted in Figure 3, the average daily passenger trips carried by the HBLR is about 1.5 percent of the total route miles even though its network comprises only about 0.5 percent of rail lines' miles in New Jersey. Even more impressive is the ridership growth, 48 percent, during the first two years operation, from 2.1 million in fiscal year 2001 to 3.1 million riders in fiscal year 2002. Of course, part of the ridership increase was a direct result of the tragic events of September 11, 2001. The ridership spiked immediately after the catastrophic event. Two more carts augmented the initial articulated two cart trains in operation to accommodate the added riders. Two months later, the vehicle configuration went back to the initial setup, and the HBLR passenger numbers have been holding stable ever since.

Bus service is the largest transit operation for NJ TRANSIT in terms of routes, route miles, vehicle fleet, and passenger trips. As delineated in Figure 4, the bus network reaches every county in New Jersey with additional service provided by private carriers in outlying areas of northern and western New Jersey under contract with NJ TRANSIT. Unlike the obvious concentration of the rail network in northern New Jersey, the bus network is distributed around the entire state.

With the concentration of rail service in northern New Jersey, its passenger numbers vary greatly by county. As seen in Figure 5, commuter trips are concentrated in the North and Central Jersey areas where a cluster of rail network exists. There are few rail commuters where a rail network does not exist. Bus riders are also the most plentiful in the northern and central portion of the state, but bus passengers exist in every county as shown in Figure 6.

3.1.2 Physical Coverage of Transportation Networks

One of the criteria used to measure the transit network coverage is the density of transit route miles within an area. The rail transit network is clearly concentrated in the northern part of state, with 36.7 route miles/1000 square miles while the density of transit network becomes fairly low in the southern part of state where there is 8.1 route miles/1000 square miles of land area.
The transit network, especially commuter rail, has dense spacing and development in northern New Jersey and a relatively sparse presence in the south and west of the state. The spatial coverage of the transit network in New Jersey is fairly extensive. As depicted in Figure 7, a concentric belt may be formed to describe the concentration of network in New Jersey. Taking Newark as the center, a few concentric bands may be formed so the further away from the center, the sparser the transit network becomes.

### 3.1.3 Intermodal Connection and Coordination

Although NJ TRANSIT's network is quite extensive, it is still not able to accomplish its mobility and accessibility mission without connecting to other transportation networks. NJ TRANSIT has made great efforts to facilitate intermodal connection and coordination.

Transfers to the state's bus system are possible at many rail stations. At Penn Station New York, connections are available to Amtrak, the Long Island Railroad (LIRR), and the New York City subway system. At the Hoboken Terminal, passengers can transfer to PATH trains between Hoboken, Jersey City, Newark, and midtown Manhattan; to Manhattan-bound ferry service; to the HBLR and point south in Jersey City and Bayonne; and to buses serving the region. At Newark Penn Station, the state's busiest transit hub, passengers are able to connect to Amtrak, PATH, Newark City Subway, and buses. At Trenton, riders can connect to Southeastern Pennsylvania Transit Authority (SEPTA) commuter rail, Amtrak, River Line LRT and local buses. At the terminal of the Atlantic City Rail Line, riders may transfer to Amtrak, SEPTA commuter rail and subway, and local buses at Philadelphia's 30th Street Station. These primary transit hubs are shown in Figure 8.

Another important coordination is between the transit system and the roadway network around the state. As shown in Figure 8, various rail stations and bus lines are conveniently located near the access points to major thoroughfares of the state and critical roadways. Seamless transactions among various transportation systems in New Jersey are vital elements of enhanced mobility, quality of life, economic development, and livable communities.

### 3.2 Distribution of Limited English Proficiency Travelers

Throughout this analysis Limited English Proficiency has been defined as those over age five whose first language is not English and who characterize their ability to speak English as “not well” or “not at all.” Data from the 2000 Census show that over 426,000 people or 5.4 percent of New Jersey residents are in this category (U.S. Department of Commerce, 2002A). The research team will find where these people are located, what their primary languages are, and how many individuals make up each group, before attempting to answer the question of how to serve them.
### 3.2.1 Subgroups of LEP Populations

LEP residents in New Jersey are not equally distributed throughout the state. The 2000 census data shows the concentration of LEP population in the northeast portion of the state consisting of 6 counties, Bergen, Passaic, Hudson, Essex, Union, and Middlesex. Figure 9 depicts the distribution of LEP population by municipality in the most concentrated portion of the state. There are smaller concentrations in cities outside this region such as Camden and Trenton; however, cities with more than 20,000 LEP residents, such as Newark, Elizabeth, Paterson, Jersey City and Union City, are in this region.

Table 1 lists the municipalities with the highest LEP populations and the highest percentage of LEP among the municipalities. Looking at LEP residents as a percentage of the population, five of the state’s top 10 municipalities are in Hudson County. More than one-third of the populations of West New York and Union City do not have the ability to speak English well.

According to the 2000 Census, the total LEP group may be further stratified into speakers of the following languages:

- Spanish;
- Other Indo-European languages, such as Italian, Portuguese and Polish;
- Asian and Pacific Island languages; and
- Other languages which includes Arabic, Hebrew, Hungarian, and African languages among others.

Due to privacy issues, the Census Bureau does not release LEP information for specific languages except Spanish. As demonstrated in Figure 10, Spanish LEP populations are concentrated in the larger cities of Newark, Paterson and Elizabeth, the Hudson County waterfront, and other urban enclaves in northeastern New Jersey which are verified in Table 2.

Major enclaves of other Indo-European language LEP populations can be found in the larger cities of Newark, Elizabeth and Jersey City. Specific high concentrations are located in the Wallington and Garfield area of Bergen County where nearly 10 percent of the population is in this LEP category, as shown in Table 3. The Harrison, East Newark and Kearny area of western Hudson County is a secondary center for Indo-European LEP population communities.

Figure 10 shows heavy concentrations of Asian and Pacific Island LEP populations in the riverfront area of Fort Lee and Palisades Park in Bergen County. The numbers in Table 4 reveal that in Palisade Park, more than 1 out of 7 resident falls into this category. Jersey City and Edison also have Asian LEP populations that exceed 1,000. Nine of the top 10 municipalities with the highest density of this group are in eastern Bergen County.
The other language LEP residents do not constitute a significant population in any municipality except Jersey City, where over 1,400 live. Table 5 also shows that the number of such LEP residents in New Jersey is relatively small compared to other LEP language groups.

### 3.2.2 Locations of Various Language Groups

It is possible to gain some understanding of the specific LEP population living in an area by exploring the Census data on Language Spoken at Home. This information, which is available for each significant language, provides the total number of persons whose first language is not English regardless of their ability to speak English. This data helps to identify survey candidates.

As listed in Table 6, the top 12 non-English languages spoken at home in New Jersey range from 12 percent of total population for Spanish to 0.5 percent for Russian. To identify the locations of particular language group, the research team has produced a series of GIS maps to demonstrate the distribution of those language groups. The visual map becomes a useful tool in locating survey candidates carried out under the scope of this project.

A comparison of the distribution of all Spanish language speakers and Spanish language LEP population shows that there is a high level of correlation between the location of the entire community and the location of LEP residents. As with Spanish LEP, Spanish speakers of all English abilities are found primarily in the larger cities of Newark, Paterson, Elizabeth, and the Hudson County waterfront with several other urban enclaves throughout northern New Jersey, depicted in Figure 11. More than half the residents of West New York, North Bergen, Passaic, Perth Amboy and three-quarters of Union City residents claim Spanish as their native language.

As Figure 12 shows the Italian language speakers are not highly concentrated in one area of New Jersey. The top locations include the southern Passaic County municipalities, the Hudson County waterfront, and eastern Essex County. Bergen County is the top county with 22,000 speakers and Jersey City is the top municipality with nearly 2,700 speakers.

In general, Chinese speakers are found in the greatest numbers in the suburban band of northern New Jersey in the counties of Middlesex, Bergen, Morris and Monmouth, showed in Figure 13. Edison is the most common location for Chinese speakers where over 5,500 reside. Jersey City is the one urban municipality with a significant Chinese speaking community with 2,900 speakers.

Polish speakers are heavily concentrated in the cities along the Passaic River in Bergen and Passaic Counties such as Garfield, Clifton and Wallington, presented in Figure 14. Approximately 5,000 Polish speakers can be found in Garfield and Clifton with an additional 4,000 in tiny Wallington. The cities along the Arthur Kill in Union
and Middlesex Counties as well as Bayonne and Jersey City in Hudson County are secondary clusters.

The Ironbound section of Newark is well known as the center of the Portuguese community in New Jersey. Over 21,000 Portuguese speakers, or 30 percent of the state total, reside in Newark with an additional 7,600 and 5,900 in neighboring Elizabeth and Kearny respectively. Relatively high densities of Portuguese speakers radiate out from this center with large populations of over 2,000 in nearby Union Township, Hillside and Harrison, highlighted in Figure 15. A few areas with sizable Portuguese language populations are found throughout the rest of the region.

Speakers of Tagalog, which is the language of the Philippines, are found in significant numbers in Jersey City where 13,500 live. Figure 16 shows that secondary centers are Central Bergen County, in particular, Bergenfield where there are 2,600, and northern Middlesex County, where nearly 5,000 reside.

Korean language speakers live overwhelmingly in Bergen County where 33,000 reside, particularly the southeastern portion near the George Washington Bridge, depicted in Figure 17. In fact, at the rate of four percent of the total population, Bergen County has the distinction of having the most Korean residents of any county in the United States by a full percentage point.

Gujarathi, the language of western India, is spoken by over 15,100 residents in Middlesex County, mainly in the northern municipalities of Edison, Piscataway and Woodbridge as well as 5,200 residents in Jersey City, showed in Figure 18. Secondary communities exist in Parsippany-Troy Hills and the Clifton/Passaic area.

French speakers in New Jersey are primarily from the Caribbean nation of Haiti. This community is tightly clustered around the locales of Newark, Irvington, the East Orange area, and Jersey City, presented in Figure 19. Due to the similarities between English and French, people who speak French may not have difficulties in language as great as those who speak a non-European language such as Korean. Still it may be difficult for French speakers to comprehend specific English announcements. There are few significant centers of French-speaking populations in the rest of the state.

There are two primary clusters of Arabic speakers in New Jersey; one in the Jersey City / Bayonne / North Bergen area and the other in the Paterson / Clifton area, highlighted in Figure 20. Over 6,000 Arabic speakers live in Jersey City alone. Other small numbers of Arabic speakers also reside in Middlesex and Bergen Counties.

While there are 41,000 persons in New Jersey whose native language is German, this population is widely scattered throughout the state. No single municipality has more than 800 German speakers though very few have none at all, demonstrated in Figure 21. This is likely due to the fact that English as a second language is prevalent
in Germany, in turn; German speakers find it much easier to assimilate into American society than other groups.

The primary Russian speaking community in New Jersey is Fair Lawn where over 3,000 members reside. As depicted in Figure 22, Fort Lee and East Brunswick are secondary communities with just over 1,300 Russian speakers.

### 3.3 Public Transportation and LEP Travelers in New Jersey

As emphasized in the NJ TRANSIT Mission statement, the agency is dedicated to the customers' needs and committed to excellence. To provide safe, reliable, convenient, and cost-effective transit services, NJ TRANSIT wants to understand the basic needs and desires of its customers. As an important client of the transit system, LEP travelers have their unique characteristics and needs, which the system must try to understand.

As mentioned earlier, the Census Bureau does not provide detailed social and economic characteristics of LEP population due to privacy issues. The basic units of census data are all based on geographical or jurisdictional measures, such as state, county, and municipality, rather than on individual data. The unique characteristics of LEP travelers may be derived from statistical analysis. Such analysis may not prove a causal connection between the social and economic status of LEP populations and their travel characteristics. But it may be used as a major tool to assist the research team in targeting the appropriate survey candidates and designing survey questions for our attempt to learn from LEP populations their perception of their individual situation.

#### 3.3.1 Social-Economic Status of LEP Travelers

In order to explore the correlation between the LEP population and various social and economic indicators of the population in general, we have conducted correlation analysis using Statistics Analysis System (SAS) software. The basic measures are composed of total LEP population and the four sub-groups of LEP population in each municipality in New Jersey. The correlation variables include place of birth, age, education, income, housing and rent prices, etc.

Correlation analysis is a toolbox to quantitatively and qualitatively compare two sets of modeling or analysis data. In this case, it is the total LEP population and subgroups of LEP population in each municipality in New Jersey and various demographic and social economic variables that are important to describe the general profiles of population.

Correlation analysis provides solutions for spatial model correlation, frequency response functions correlation, and shape correlation. In this analysis, we have primarily used the first, spatial correlation, which is the relationship between the number of LEP population and one of the variables, say income, in a particular...
geographical area. The correlation results, ranging from “–1” to “1”, measures either negative or positive correlation between the two variables. A value of “1” represents perfect correlation and “–1” perfect negative correlation. The smaller the value, the less of the correlation result. In the analysis, most of the insignificant values are smaller than 0.001, which indicates excellent correlation results.

As anticipated, most people with Limited English Proficiency were born in a foreign country and migrated to New Jersey. Interestingly, the correlation between the median ages is negative, -0.25 and correlation between total LEP population and those under age 18 is positive, at a high 0.80, as indicated in Table 7. Judging from these two indicators, we can safely state that a large portion of the LEP population is young.

Examining the education background, we discovered a relatively higher correlation between total LEP population and people who are over 25 with less than 9th grade education, 0.96. However, a close examination among various LEP groups presented a more variegated landscape. The Spanish and Indo-European language speaking LEP demonstrated a high correlation with limited education. The Asian LEP group, on the other hand, does not exhibit limited education levels. For this group the correlation value is only 0.34 as documented in Table 7.

As a general indicator of economic health, employment status is important in measuring the socio-economic status of a particular group. Table 7 shows that the unemployment rate has a high correlation with LEP membership, that is 0.86 for the total population and 0.78 and 0.84 for Spanish and Indo-European speaking LEP subgroups, respectively. Consistent with or perhaps caused by its different education characteristics, the Asian LEP subgroup in New Jersey has a relatively low correlation with unemployment rate, 0.38, as shown in Table 7.

Another important assessment of the social-economic well being of a particular family may be the sources of their income since public assistance is usually disseminated to the lowest income groups. As indicated in Table 7, the LEP group exhibited a very high correlation with number of individuals whose income is below the poverty level, 0.88 for the total LEP population. Similarly, the correlation between the number of households that received public assistance and number of LEP population is very high, 0.83 for the overall LEP group and even higher at 0.85 for the Indo-European LEP group.

3.3.2 Travel Characteristics of LEP Group in New Jersey

Hampered by relatively low education levels, limited job skills, and language difficulties, LEP populations tend to exhibit certain travel characteristics which are often associated with lower income people and membership in minority groups. Language difficulties magnify the disadvantages of this group in carrying out daily tasks, access to employment opportunities, and other social or culture activities.
Consistent with our general speculation, the LEP group has a high correlation with the number of households that do not own any vehicles. As depicted in Table 8, the correlation between the number of occupied households without vehicle and total LEP population in a municipality is 0.86. The breakdowns among the four subcategories of LEP groups demonstrate a similar pattern presented earlier, with Spanish, and Indo-European LEP groups occupying the higher spectrum of the correlation while Asian LEP groups reside in the very lower end of the correlation, 0.40.

One of the main driving forces for this LEP research is to discover the significance of public transit in the lives of LEP populations. As expected, the transit mode share of each municipality has a high correlation with the number of LEP populations, 0.74. Table 8 shows such correlation can be 0.52 for the Asian LEP group and as high as 0.85 for other LEP communities. Furthermore, walking is another mode of transportation that has high correlation with LEP group, 0.86.

Another important indicator of travel characteristics is the commuting distance. The correlation between the LEP population in each municipality and commuting distance is fairly low, ranging from negative 0.05 to positive 0.05. Further investigation, such as a survey of the LEP group, is necessary to learn more about commuting practices in LEP communities.

3.4 Initial Analysis of LEP Communities

What people care about and why they care, stems at least in part from their cultural backgrounds. A U.S. Environmental Protection Agency (2002) booklet, EPA 842-B-01-003, provides an example of how administrators should seek to integrate economic, ecological, social, and cultural concerns in communities. The cases in the guide demonstrate how knowledge about community issues, language, influential subgroups, historical trends, and other social factors within a community are keys to establishing successful environmental protection goals, action plans, and implementation strategies. On the other hand, Taylor (1987) shows that many schools’ failing to take cultural communication issues into account is one contribution to minority-student underachievement. Transportation agencies have to learn to take each community’s cultural preferences into account where economically feasible. They need to learn how to survey client communities (Baltes, 2002).

Based on the information generated from the Census Data, the research team produced a series of Geographic Information System (GIS) maps and databases. These GIS map and related database provided useful tools to make the connections between the LEP population and transportation, especially transit systems in New Jersey. This effort, in turn, helps to answer the questions raised in federal Executive Order 13166 (U.S. DOT, 2001). These questions are:

- How many LEP persons are in the agency’s service area?
- How frequently do LEP persons come in contact with the agency’s offered services?
• What is the importance of the agency’s service to the population and to its day-to-day activities?
• What are the resources available to provide special services to LEP populations?

The last question is extremely important since most of transportation agencies have been challenged to use a limited budget on a number of competing priority projects. It is critical to evaluate the size and nature of the LEP population, the issues and concerns this population faces, and the extent and magnitude of resources it will require addressing the needs of LEP populations.

The GIS mapping presented the geographic distribution of the LEP residents and network routes in New Jersey. The statistical analysis documented the social-economic status and travel characteristics of LEP population in New Jersey. A further probing into the spatial correlation between transit services and LEP population provides more insight into public transportation and LEP travelers.

The high correlation between transit usage and LEP population distribution is more than a coincidence. Previous studies (Polzin, Chu, and Ray, 2000) proved that a large number of immigrants use transit as their primary mode of transportation, especially the first few years after they arrive in America. In New Jersey, most LEP people are new immigrants from non-English speaking countries. The high transit mode shares of LEP travelers prove that the frequencies with which LEP individuals are affected by transit information are high.

As presented in Figure 23, New Jersey’s LEP population and its transit services are concentrated in several counties in the northern part of the state. For example, Hudson County has the highest LEP population of 28 percent and concentrated transit modes such as PATH, Hudson Bergen Light Rail, and NJ TRANSIT buses.

The spatial correlation was analyzed between the LEP distribution and public transit services. We also have created two maps with the LEP population and transit overlays. As demonstrated in Figure 24, the first map created a buffer zone along a New Jersey Transit Line and the second map, Figure 25, around a few selected stations. While the buffer or adjacent zones along the transit line did not demonstrate any regular pattern along the transit route, the buffer or access zones to the selected stations definitely demonstrated a high concentration of LEP populations.

LEP communities are internally stratified by gender, income, education, and age. The minority elderly constitute a special group that may face more barriers to transportation access than other LEP individuals. One reason is that they depend more on public transportation. Karafin et al. (1982) conducted a literature review on elderly transportation needs among American Indians, Blacks, Hispanics, and Pacific/Asian individuals and found that the need for more adequate transportation service provision for minority elderly is critical.
Low-income LEP individuals may also face unique pressures. Due to the passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, millions of welfare recipients are required to enter the paid labor market. Reliable transportation, whether by automobiles or public transit, must be available for them. Welfare recipients with unlimited access to automobiles have higher employment rates and report fewer transportation problems than those without such access. Access to automobiles is different for different groups. African-Americans use more public transit and fewer cars than other minority groups. Currently states differ in their transportation assistance or subsidy. In providing help for welfare recipients to join the labor market, governments should take the needs of LEP communities into account (Blumenberg, 2001).
4. GENERATING INPUT FROM LEP TRAVELERS IN NEW JERSEY

As outlined in the project scope, one of the major objectives of this research is to “provide residents and travelers in New Jersey who have limited English proficiency with the ability to gain essential access to New Jersey’s transportation opportunities, such as bus, rail, road, water and air.” The first step to serve LEP travelers in New Jersey is to know their needs, critical issues, and concerns, as well as their desired improvements or solutions. To generate input from various LEP travelers with diverse geographical locations, economic and demographic status, and culture/language backgrounds, the research team conducted questionnaire surveys and focus group discussions among LEP communities.

This section documents the survey process and results. The survey effort resulted in the clear emergence of issues and concerns of the LEP community based on the large number of responses and in-depth dialogs through focus group discussions. The findings, based on the survey and focus group discussions, provided the research team a clear picture of mobility information needs of LEP travelers in New Jersey. The input from the LEP community forms the base for NJDOT and NJ TRANSIT to develop a comprehensive LEP service plan. Coupled with best practices gathered from other transit agencies, an implementation strategy will be developed to ensure that the findings and results of this research are implemented cost effectively.

4.1 Survey Design

As outlined in the United States Department of Transportation Guidance (U.S. DOT, 2001), Title VI regulations require recipients of Federal funding to take reasonable steps to ensure that LEP persons receive the language assistance necessary to offer them meaningful access to the programs and activities of these recipients. To comply with the DOT guideline, each transit agency or transportation service provider should provide LEP residents and travelers in their own jurisdiction with the ability to gain essential access to transportation opportunities, such as bus, rail, road, water, and air.

4.1.1 Evaluation Criterion

To assess their compliance with Title VI regulations, transit agencies or service providers may follow the general contingencies pointed out by the United States Department of Transportation Guideline (U.S. DOT, 2001). Four major criteria presented in the guideline are the following:

1. The number or proportion of LEP persons in the agency’s service area,
2. Frequency with which LEP persons come in contact with the agency’s offered services,
3. Importance of the agency’s services to the population and to its day-to-day activities,
4. The resources available to provide special services to LEP population.
Applying the above criteria to New Jersey, the study should help to paint a clearer picture for New Jersey Transit and other public agencies in their quest to provide for LEP persons in their service areas.

As documented in Section 3, New Jersey contains a significant number of populations who speak a language other than English at home. The detailed analysis of Census data and GIS mapping provided the research team knowledge of what language LEP travelers speak, where certain language groups reside, and the demographic and economic status of LEP travelers. The first survey of the task is to generate input from the LEP group regarding mobility information needs, especially transit information. To accomplish the objectives of this project, the research team has focused on the following three aspects:

- Design a survey questionnaire that captures the critical issues and concerns of LEP community in terms of transportation services
- Survey LEP populations at these known high concentration locations to obtain feedback from LEP travelers
- Dialog with various communities and civil groups to gain in-depth view of LEP needs.

### 4.1.2 Design Survey Questionnaire

Corresponding to the evaluation criterion presented in the last section, the project team agreed that the survey questionnaire should focus on the transit riders, their perception and experiences of using transit system in New Jersey, and the specific information application they value or desire. We also want to know the reasons they are not using transit if the person who fills out the questionnaire is not currently a transit user. The team acknowledged that socio-economic, demographic, and language background was included in the questionnaire.

Working closely with NJ TRANSIT staff at various brainstorming sessions, the project team gathered a series of questions that need to be addressed in the survey:

1. Do you use public transportation? That is do you use buses, trains, or the city subway to get around?
2. If a person answers yes, ask the following questions:
3. How often do you use public transportation?
4. What kinds of public transportation do you use—trains, buses, the city subway?
5. When do you use public transportation? For what purpose?
6. Are you satisfied with the transportation you use?
7. Do you have any suggestions how the people who run the transportation services could improve it to make it work better for you? Please be as specific as you can.
8. If a person answers no to question 1, ask the following questions:
9. How do you travel if you have to go somewhere in your area or elsewhere in New Jersey?
10. Would you use public transportation if the trains or buses were set up differently?
11. If the person answers yes to question 2, then ask:
12. Which transit systems would you use?
13. How can the people who run that system improve it to make it work better for you?

The project team has developed a preliminary questionnaire that was tested in a few pilot surveys. The pilot surveys were smaller scale surveys conducted in the English-as-Second-Language (ESL) classes on the NJIT campus. After reviewing the pilot survey and discussing issues encountered during its administration, the project team revised the questionnaire. For example, the questionnaire was initially confined to one page to make the people feel less intimated, but we found that the space was too limited to allow any elaboration, so the final version, as shown in Appendix C, was on two pages, which incorporates a final catch all question to ask for suggestions to improve the transit service or increase transit use. A cover letter by the Principal Investigator accompanied the survey questionnaire when the survey was sent via mail or email to the survey administrator.

To comply with the Federal DOT guideline, the survey questionnaire is designed to answer questions posed in the early section. There are four major groups of questions addressed in the questionnaire. The first group deals with the current travel choices made, transit versus other modes, by the people who fill out the questionnaires. The second group of questions concerned understanding of travel information provided by transit agencies. The third group of questions solicited input in order to improve the services of the transit information system to the LEP community. The last bundle of questions was designed to secure demographic and socio-economic information.

Incorporating comments and suggestions from NJ TRANSIT staff, students working in the field, and participants of pilot surveys, we also moved the socio-economic status questions to the end of the questionnaire. Since the English proficiency of participants varies a great deal, the research team determined that sometimes it is necessary to translate the questionnaire for the participants. Therefore, it may be efficient to translate the questionnaire to languages other than English if a survey group has members of one language background. In the process, we actually had the questionnaire translated into Russian as included in Appendix D.

**4.1.3 Identify Survey Candidates**

Concurrent with the questionnaire design process, the project team contacted various ESL classes in North Jersey to select appropriate survey candidates. Most of the community colleges in each county offer ESL classes as part of their curriculum. As indicated in early section, the highest LEP populations are in the six counties in
North Jersey: Bergen, Essex, Hudson, Middlesex, union and Passaic. Therefore, the project team contacted all six community colleges in those counties.

4.2 LEP Travel Need Survey and Focus Group Discussion

Various private, non-profit organizations and communities groups also offer ESL classes in churches, night schools, and community centers. The project team gathered about 14 such sites located throughout North New Jersey as presented in Figure 26 and conducted surveys there.

The project team contacted a number of LEP communities in New Jersey to explore the possibilities of establishing focus group discussions on their mobility information needs. Table 9 illustrates a sample of the contact list, which is consistent with the top 12 languages other than English spoken at home based on the 2000 census. The community groups vary from weekend schools, churches, to career and family centers for particular ethnic groups. We also contacted the Hispanic Development Corporation, Polish TV stations, Italian newspapers, and various consulates from particular community groups. Ten different focus group discussions were conducted in New Jersey and results are presented in the next section.

4.2.1 Questionnaire Surveys

After contacting various ESL Classes in the high LEP region identified earlier, we conducted 14 on-site surveys and received 575 valid survey forms.

Among the 575 people we surveyed, about one third was male and two thirds female. The age group of those people surveyed was concentrated around age 20 to 64, as exhibited in Figure 27. The largest age group, 49 percent, was between 31 and 64, the age range of the labor force. The household size was fairly evenly distributed with the largest group of four people per family.

Respondents’ income levels were skewed toward the lower end of the spectrum. About half, 49.9 percent, of the people we surveyed claimed a household income less than $25,000 per year, as presented in Figure 28. The auto ownership was fairly similar to the general public, that is, most families had one or two cars. As for travel-related variables, about two-thirds of LEP people surveyed had valid driver’s licenses.

The language backgrounds of those we surveyed present a colorful picture, which is fairly consistent with the overall distribution of languages spoken in New Jersey. As presented in Figure 29, the largest language group is Spanish, 31 percent. Other important groups include Russian, Polish, Chinese, Portuguese, and Arabic in descending order. When asked to assess their own ability in reading and speaking English, about 44 percent identified themselves as “not well” or “not at all” in speaking English and 33 percent in reading English. It surprised the research team that more
than half of the people surveyed claimed they read or speak English “very well” or “well,” especially considering they are attending ESL classes.

Consistent with the general observations made earlier, the LEP population tends to use transit services more than the general population. As depicted in Figure 30, more than half, 55 percent, of the population surveyed use public transportation. For those who do not use public transit, 76 percent use private automobiles, 13 percent ride as passengers. Another strong mode presence among the LEP population is walking or bicycling. About nine percent of them use walking, bicycling, or other modes as their primary transportation.

Among the transit users, a majority use bus (57 percent), subways (21 percent), and commuter rail (20 percent); a small portion use light rail (two percent), as depicted in Figure 5. The trip purpose of transit usage ranges from regular commuting, such as working or going to school, shopping and recreational trips, to personal trips such as visiting friends and doctors.

The respondents were asked whether they understood or found useful “station announcements”, “timetable”, “route maps”, “ticket machine instructions” or “station signs”. Various portions of the surveyed, ranging from 21 percent for timetables to 31 percent for station announcement, did not understand the information provided. As presented in Figure 31, usefulness of that information is affected by the understanding of its contents. Generally, the fewer people who understand a message, the less useful it is to average travelers. The lack of understanding and ability to utilize information provided by transit agencies may also be partly blamed for the “dissatisfied” rating of the services. About 18 percent of those surveyed rate the transit services as not satisfactory, even though a majority of them rate the service either “very satisfactory” or “satisfactory”.

As for improvement needed for better transit information or services, two major groups garnered higher vote: signs, brochures, and announcement in native languages, as well as picture signs as demonstrated in Figure 32. Some people supported the use of translators, multilingual phone line, and website supported by multilingual texts. Other suggestions, such as making buses more reliable and planning the routes on the web, were also presented.

To assess the potential for attracting additional transit riders, we also probed why people are not using transit services. Less than half of those we surveyed who don’t use transit indicated that they simply prefer to drive. Others cited that no transit route was available, transit was too expensive or took too long or was not reliable as reasons for their not using transit services in New Jersey. Interestingly, only about 8 percent of those who do not use transit say it is because they could not understand transit information in English.
4.2.2 Focus Group Discussions

To facilitate the focus group discussion and ensure data collection, we also developed a discussion guideline based on the survey questionnaires constructed for the general survey, which is included in Appendix E. Not limited to the guideline, the facilitator uses it as a tool to direct the discussion and gather relevant information.

Most of the focus group discussions were conducted in community group settings, where an ethnic or language group may gather and a translator or facilitator may be present. The community group arrangement provides a comfortable environment for focus group participants, access to translators when needed, and inclusion of people with very few English skills.

In three of the ten groups, participants spoke exclusively in their native languages; a facilitator translated all our questions to the group members and all their remarks to us. In the other groups, most conversation was in English; facilitators provided occasional translation as needed. In all these sessions, one member of the project team introduced the subject of public transit for those with English-language difficulties and encouraged discussion among group members and open-ended responses to the issue. After the discussion, the team members asked the group to respond to certain items on the questionnaire if these issues had not come up in the group give-and-take. Sessions lasted from thirty to ninety minutes depending on the amount of free discussion.

To actuate the focus group discussion, our first task was to explore the domain of organized groups in LEP communities and to explain our project to their administrators. Spanish is New Jersey’s dominant foreign language; therefore, we held several groups with Spanish speakers, but we also included speakers of other languages for whom English/Spanish bilingual materials would not be a solution. Eventually we scheduled ten focus groups: two with Spanish speakers at the Hispanic Development Corporation in Newark, two with Spanish and Portuguese speakers at the Ironbound Community Corporation in Newark, two with Arabic speakers at the International Institute of New Jersey in Jersey City, two with mixed language speakers who commute from New Jersey to Zoni Language Center in Manhattan, one with Polish speakers at the United Poles and Federal Credit Union in Perth Amboy, and another with Russian speakers in Jewish Family Vocational Service in Middlesex County.

All groups were composed of people attending classes or support groups at the organizations. While no attempt was made to get a representative sample, the groups included men and women and participant ages ranged from the twenties to the seventies. Group size varied from three to thirty participants.

Although the small sample size suggests caution in interpreting results, the discussions afford some idea of how members of New Jersey’s LEP population perceived public transit and defined problems accessing services. Relatively
open-ended, face-to-face sessions maximized the ability of respondents to emphasize which parts of a situation they considered key aspects (Strauss, 1987). Such sessions allowed issues to emerge that the researchers might not have initially considered important. The core contents of ten different focus group discussions are included in Appendix F.

4.3 Mobility Needs of LEP Travelers in New Jersey

The initial objective of this survey is to gather input from LEP communities in New Jersey on their mobility information needs. The overwhelming responses from questionnaire surveys and in depth dialog with focus groups outlined the mobility information needs of LEP travelers and much more. A number of critical issues and concerns raised during the survey are directly related to transit services but not necessarily confined to LEP context.

4.3.1 The Importance of Transit Services to the LEP Communities

As indicated in the general survey, more than half of the LEP travelers use public transportation. Among those who do not, a portion of them walk, bicycle, or use another non-motorized mode as their primary transportation. Consistent with general observation made by others (Polzin, Chu, and Rey; 2000), the LEP population tends to use transit services more than the general population. The average transit share in New Jersey is only around six percent based on the 2000 Census (U.S. Department of Commerce, 2002A). Economic conditions are not the only reason that LEP travelers use public transit. It is true that quite a few focus group participants mentioned that they got a car as soon as they could afford one. On the other hand, those who can afford or already have a car may also choose public transit for certain destination or trip purposes. One of our hypotheses is that transit experience and lifestyle may have much to do with their transit usage. For example, most LEP people in New Jersey are the first generation of immigrants from Europe, Middle East, or Asian countries, where transit usage is much more prevalent than in the United States.

On the other hand, certain LEP members are truly captive transit riders because they can’t drive, don’t have a driver’s license, or simply can’t afford a car. For example, the Arabic women, we met in one of the focus groups, largely relied on public transportation since none of them have driver’s licenses.

Among the transit users, the large share on buses may be explained by the socio-economic status of the LEP group and the locations of their origin and destination. In most cases, the bus may be the only form of practical transportation. The subgroup distribution among transit users also indicates that the transit services are not only important to the LEP group, but in some cases, it may be absolutely critical, that is, without the bus services or whatever the current transit mode he or she is using, the LEP person may not have access to basic employment or the necessities of life.
Examining the trip purpose distribution further confirmed the importance of transit services to the LEP community. As indicated in the survey results, about 37 percent of the surveyed use transit for regular commute, 30 percent for shopping and recreational trips, and another 26 percent utilize transit for personal trips such as visiting doctors or friends.

4.3.2 Mobility Information Needs

The focus group discussion confirmed the questionnaire evidence that comprehension was an issue for some people in accessing transit in new immigrant communities. Participant comments showed that language-based service-delivery problems existed for Polish, Arabic, Portuguese and Spanish speakers. Again, the most problematic source of formal information was the station announcement with ticket-machine instructions second.

With written materials, problems were least acute for Spanish speakers because some bilingual Spanish/English materials were available. However, all focus groups reported communication problems in oral attempts to get information from bus drivers or train-station crews. It was difficult for LEP travelers to find workers with whom to speak when they had questions about transfers or fare zones. Lack of one-on-one communication left LEP travelers without any idea how to move en-route to new destinations.

Partially related to the communication and mobility information needs, “transfer” and “zonal fare” are two confusing or difficult segments in LEP traveler experience. “Transfer” problems may not be unique to the LEP community since a regular English speaker may also gets intimated by various modes, trains, buses, tracks, and platforms in an intermodal transfer center; the difficulties for LEP travelers may be further escalated due to language difficulties. Similarly if “zonal fare” structure is confusing for the average English speaking traveler, it may very well become an obstacle for LEP person to use transit services.

Furthermore, comprehension was not the only problem group members faced. Asked to talk about LEP transit problems, over half the focus groups took a broader perspective on their concerns. In three focus groups, people shared anecdotes about the rude behavior they encountered when they asked questions of bus drivers in Arabic, Spanish or badly-accented English. At least six people said that they were told that they should not talk to drivers in Spanish. One driver added, “This is a bus for Americans.” Another driver asked a Spanish-speaking passenger why she came to this country if she did not speak English. A third driver screamed, “This is America! This is America!”
4.3.3 Transit Service Needs

While the RFP defined the problem in terms of headquarters design of a system to provide access, focus-group members saw the problem emanating from the way the system actually functioned in the field rather than from its formal design. Participants thus saw multilingual information as at best a partial solution. An at least equally pressing imperative was a need to recruit, select, and train courteous drivers.

In both Arabic speaking groups, the discussion veered away from the subject of service delivery altogether. Lack of information was not their chief concern although it was a problem. A major issue was the nature of the service provided. Recent years had seen the growth of Arabic communities in both Jersey City and Paterson, New Jersey but no direct public-transit routes connect the two areas. Focus group members defined their major problem as a need for easy transit on routes they wanted to use. Transit did not take them where they wanted to go. Routes had not been designed with their community in mind. Although route placement was not a question the transit agency identified under the LEP rubric, the focus group viewed it as a premier concern. Inefficient route placement defined lack of access for this community. The discussion altered the perception of how to define lack of access--that is to say how to define the nature of the problem.

Parallel to the deficient route coverage in New Jersey, the participants also complained about infrequent service, shorter time span, or lack of service on weekend and evening hours. Safety and reliability of the transit service was also a concern as we often heard about the inaccurate timetables. This issue, as well the probably exaggerated reference to a “death wish” (related to riders’ worries about their safety), reflects the concerns or perceptions of transit services by the survey and focus group participants.

4.3.4 Desires of LEP Community

It is evident that LEP community in general uses transit services more often than the public in general and public transportation is important for LEP travelers in general and even critical for certain groups. Despite the problems and difficulties they have encountered in their traveling experiences, most of the participants in our study are satisfied with the transit services and are optimistic about the future of public transit services in New Jersey. That is why they have proposed various solutions or suggestions to solve existing problems and improve the overall services.

When asked about ideas for improving mobility information for LEP communities, most participants prefer a staff person speaking their native language to provide information or to consult. This suggestion was clearly preferred in the general survey and reiterated in several focus group discussions. The second preference is to have timetable, schedule and other related information presented in their native language. This solution may be effective due to the generally better reaction from
Spanish-speaking travelers since some of the timetables or other transit information may be found in Spanish already.

Multilanguage phone lines and multilingual websites both received mixed reactions. Some of the participants think the Multilanguage phone is useless since most times their information need may not be pre-recorded. Others think it might help. Given the fact that NJ TRANSIT currently has a toll free multilingual phone line, the problem may be simply not enough advertising. Most of the people we surveyed were not aware of the existence of such services. Scanning a number of major transit stations or bus stops, we did not spot such information readily accessible. As for the websites, certain groups do not think it is useful due to their limited access to computers and the Internet.
5. SURVEY TRANSIT AGENCIES IN SERVING LEP TRAVELERS

The project scope proposed that researchers should find methods to provide mobility information to LEP people by studying other transportation agencies including peer transit organizations. The aim was to learn from these organizations’ best practices and innovative strategies. To generate such information the research team conducted surveys of peer transit agencies and identified methods that they used to communicate with LEP people. The team also attempted to obtain examples of materials used, collect information on costs, and learn how agencies assess the effectiveness of their strategies. This section documents the survey process and results.

5.1 Survey Design

As outlined in United States Department of Transportation (U.S. DOT, 2001) Guidance, Title VI regulations require all transit agencies that receive federal funding to give LEP people meaningful access to programs and activities. Over 450 recipients of federal aid operate rail and/or bus systems. Since all these agencies share an obligation to provide equal service to LEP travelers, it is useful to ask other agencies with LEP populations how they provide transportation opportunities. Such information would then allow NJ TRANSIT to build on successful strategies. To this end the research team designed a questionnaire to elicit information on strategies to meet the information needs of LEP people. The research team then selected appropriate agencies to receive the questionnaire. The next two subsections describe these activities.

5.1.1 Designing the Questionnaire

The questionnaire for transit agencies—Survey of Best Practice Services for Limited English Proficiency Travelers—appears as Appendix G. Its aim is to identify information on mobility information strategies. It is built on issues adumbrated in the original RFP and those that emerged in our surveys and focus group encounters with LEP travelers in New Jersey. Many questions only require short answers to improve return rate. Respondents also have ample opportunities to include additional explanatory material if they choose.

The top portion of the survey identifies the transit system, the agency responsible for its operation, the service region, the type of service(s) offered, e.g., commuter rail, bus, light rail, as well as indicating whether the agency has a written plan for serving LEP riders. The questionnaire then asks for a list of the top languages other than English used by riders.

The next questions ask for information on specific strategies: multi-language announcements, timetables, route maps, ticket machines, phone lines, staffing in information booths and websites. One question centers on the use of pictograms. Respondents are given room to add other strategies used by their agencies.
The following questions ask for information on methods for handling complaints from LEP riders and providing training for employees in interacting with LEP people. Question 14 asks for information on program costs. Other queries probe for information on evaluating programs and changing procedures. Respondents are given room to describe their successes and needs in providing service to LEP populations. A final question asks if the issues probed in the survey are relevant; the intent is to see whether this area of concern is an important one for many agencies.

5.1.2 Identifying Survey Candidates

Concurrent with the questionnaire design process, the research team assembled a list of Metropolitan Statistical Areas (MSAs) in the United States, transit agencies in those areas and contact people in the agencies. Figure 33 shows the uneven distribution of the LEP population in the U.S. There are high concentrations around certain metropolitan areas, especially along both coasts and Southern borders. To identify the proper candidates for a survey, detailed research is conducted based on the 2000 census data. The Profile of Selected Social Characteristics (DP-2) in the 2000 Census (U.S. Department of Commerce, 2002B) collected information on languages spoken at home. By examining the composition of certain locations and agency jurisdictions, be it a metropolitan area, county, or state, the research team is able to decide, what percentage of the population speaks a language other than English at home, and what portion of this population speaks English less than “very well.” The general size and nature of the LEP population in those particular areas provide directions for our survey.

Based on the literature review Census data analyses conducted in the previous task, the research team generated a concentrated list of transportation and transit agencies in the United States to be surveyed, as listed in Appendix H.

The team decided to contact administrators in at least one transit agency in at least 30 MSAs with sizeable LEP populations as determined by the US census, the aim being to learn about strategies in those organizations.

A difficulty in any attempt to get information from surveys is the possibility of a low response rate. As one means of persuading people to respond, team members used multiple and varied contact methods as appropriate in each situation. Most contacts included a telephone call and a follow-up questionnaire mailing. When appropriate, e-mail correspondence and follow-up phone calls were also initiated. In some cases the survey was read out over the telephone, the contact responded orally to questions and the researcher transcribed a written survey instrument.

5.2 Overview of Results

After contacting agencies throughout fall 2003, we received 32 responses. As Figure 34 shows about half our respondents provide bus service while smaller numbers
provide light, heavy and commuter rail services to their constituents. Almost none of these agencies report having a specific written plan devoted to strategies for serving LEP travelers.

As Figure 35 shows, the three most common languages for travelers other than English are Spanish, Chinese and Vietnamese. The predominant position of Spanish mirrors the New Jersey situation. Those numbers indicate the numbers of responding agencies, but may not correspond to the total numbers of people speaking the specific language.

Figure 36 provides some information on how American transit systems help LEP clients. The most popular strategy is the publication of timetables and/or route maps in languages other than English, a tactic used in about two thirds of the responding agencies. Such production varies from bilingual publication to providing maps and/or timetables in eight or nine languages.

The next most popular strategies are multilingual phone lines and the use of bi- or multi-lingual people in information booths, tactics used in half of the responding agencies. About one third of agencies use multi-language announcements or pictograms. Most agencies that use pictograms report displaying at most several of these pictorial devices, e.g., standard signs for disabled access, danger, or signs to remind people not to eat or drink on vehicles. Less used strategies are ticket-machine instructions in languages other than English and multi-language websites.

About two-thirds of the respondents have systems for receiving and processing complaints from LEP travelers. Such systems can be as simple as having bilingual employees translate complaints from Spanish-speaking travelers or as technically complex as having multilingual web sites for non-English complaints. With the development of such systems, agencies increasingly have an idea of LEP community opinions.

On the other hand, only a quarter of respondents train employees specifically in being courteous to the LEP population. This failure means that most agencies do not ensure through training that employees have cultural competency to interact with LEP people from various communities. One agency notes that it sends employees to take community college courses in Spanish and sign language as needed. By reimbursing employees for acquiring these skills, the agency signals it considers multi-language competence an asset.

Only a little more than one-third of the respondents shared cost information with us. As Figure 37 shows, of these agencies, about half spent between $10,000 and $30,000 on LEP-related strategies. Of the remaining respondents, about half spent under $5,000 and about half reported spending between $100,000 and $250,000. The highest figure comes from New York City with its large immigrant and tourist populations.
Few agencies have plans to deal with emergencies or changes of procedure in communicating with LEP clients. Yet, in the event of emergencies, LEP clients need to understand evacuation and other plans.

Only a few agencies have mechanisms for evaluating the success of their tactics. The lack of evaluation procedures increases the difficulty of analyzing the success or cost effectiveness of many strategies.

Figure 38 reveals that transit providers consider this issue to be “somewhat” to “very relevant” to the services they provide. No respondent reported that the issue was not relevant at all.

5.3 Examples of Innovative Strategies

Transit agencies vary in their approach to LEP travelers. Some agencies have minimal strategies to offer equal access. Other organizations make equal access an important priority. This section of the report looks at the approach taken by a few pioneering agencies. All of the selected agencies have multi- rather than bi-lingual clients so their environments are similar to New Jersey’s in this respect. A multilingual environment results in the most significant challenges. In addition, all of the selected examples provide several different types of transit services, also a feature of the New Jersey area. It may be daunting for LEP people to understand transit matters in a complex system offering multiple bus and rail choices.

5.3.1 Washington D.C. Metro (WMATA)

WMATA is a complex multi-modal transit system in our nation’s capital area. Its METRORAIL provides over 800 railroad cars on more than 100 miles of track; METROBUS provides over 1400 buses. WMATA serves over 300 million travelers a year.

The agency offers a live translation service capable of handling 140 languages. The service receives approximately 80 calls a month with 96 percent in Spanish. Costs average $25 per call. Some people have suggested that WMATA should invest in a phone system where clients push one number for English information, another number for Spanish, another for Vietnamese, etc.

WMATA’s Metro Pocket Guide is available in eleven languages, as exhibited in Appendix I. Any of these languages can be accessed on the web by clicking on the appropriate icon at www.wmata.com. The agency works with foreign language groups to produce web versions (e.g., Boat People SOS for the Vietnamese version). In addition, WMATA offers Spanish bus schedules and the agency has 12 bilingual service employees.

Despite these procedures, WMATA wants to do more to accommodate LEP travelers. To learn what is needed, the National Capital Region Transportation Planning Board’s
Access for All Advisory Committee (2003) held a focus group with over 30 representatives of social service agencies that work with LEP communities. These representatives who have daily contact with LEP travelers in and around Washington DC articulated a picture of LEP community concerns that mirrors our own focus group findings in New Jersey. The capitol area focus group noted that one problem is lack of awareness of WMATA language assistance services. The representatives recommended that the agency increase advertisements of phone information services more widely through social service providers, churches and other organizations serving ESL communities.

In response, WMATA is preparing a video that it will be distributed to community groups. The video will discuss WMATA services. It will initially have English, Spanish and Vietnamese versions, but other languages may be added if funding is available. The agency also holds workshops for social service workers. Agency employees will explain their services and procedures; the social service workers can then communicate WMATA information to their LEP clients.

The social service workers noted that one problem that they hear from LEP people is that transit workers are not sensitive to the needs of LEP travelers. This issue of such rudeness in the field also emerged in our focus groups in New Jersey. The social service workers saw this concern as a genuine equal access issue, a problem that had to be tackled and cured. They recommended cultural sensitivity training for bus drivers, transit police, and other employees who have client contact.

5.3.2 Tri-County Metropolitan Transportation District of Oregon

Tri-County Metro serves the Portland-Salem Oregon MSA with light rail and bus systems. Its website at www.tri-met.org, is multilingual. It provides timetables on this website in Spanish, Russian, Chinese and Vietnamese—four of the most frequently spoken languages in its area. It also provides opportunities on the web for riders to contact the agency with complaints or suggestions in any of these four languages. At first, Tri-Met tried to use an automated on-line service to translate its materials. The agency discovered, however, that this approach often led to inappropriate translations, e.g., “Tri-Met” became “three meetings” in Chinese. The current website translations are done by a contracted translation service and are then checked by native speakers of each language who work for agency. For example, Tri-Met graphic artist Phiet Luong helped check the Vietnamese version.

As depicted in Appendix J, the agency publishes a booklet called “How to Ride” in English, Spanish, Russian, Japanese, Chinese, Korean and Vietnamese. Among other matters, this booklet tells readers about the agency’s multilingual phone line. The booklet has information on paying fares and transfers.

The agency uses seven pictographic symbols to represent the various areas its vehicles serve, e.g., a beaver, a deer, a flower, etc. These symbols appear on maps, schedules and bus stop signs, as showed in Figure 39.
It costs the agency $7,000 to print 100,000 copies of the “How to Ride” booklet and $7,000 in staff costs. The multilingual phone line costs approximately $2,600 per month.

5.3.3 Central Puget Sound Regional Transit Authority

This agency serves the Seattle-Tacoma-Bremerton metropolitan area in the State of Washington. It provides light rail, commuter train and bus services. The authority programs its ticket machines in eight languages including several that do not use Latin scripts.

The authority is concerned that LEP people know about its services and procedures. Accordingly, it publicizes its multilingual telephone line with community mailings in nine languages besides English.

The agency budgets $15,000 per year to communicate with LEP communities about existing operations. It also budgets $150,000 per year to communicate with all people in the area-at-large about new projects; part of this money is spent on special mailings to LEP clients.

5.3.4 New York City Transit

New York City Transit provides heavy rail and bus services to the densely populated, multi-lingual New York metropolitan area. The agency provides route maps and ticket machine instructions in seven languages. At any given ticket machine, four languages, English, Spanish, Chinese and Russian are displayed. The agency advertises its language line service on the subway maps.

When the system has a change in service, the agency advertises this change in the newspapers. If the change is expected to impact a LEP community, the agency will also advertise in the appropriate ethnic newspapers, e.g., Russian, Korean or Chinese. In addition, the agency prints small, two-sided brochures in English and the appropriate foreign languages and distributes the material at different stations, as demonstrated in Appendix K. The cost for these programs is approximately $250,000 per year including map production and translation services.
6. EXPERIENCES OF INTERNATIONAL ENTITIES

This section documents the survey effort performed under Task 6: Survey of Internationally Oriented Activity Centers and Task 7: Survey of Selected Transit and Transportation Providers in Other Countries. The primary objectives of these two tasks are to gather strategies or tactics from various international entities for improving mobility information to foreigners. To collect information or strategies in serving LEP population, the research team contacted transit and transportation service providers in other countries, international airports in America and other parts of the world, and internationally-oriented activity centers, such as tourism centers, transport museums, Olympic cities, and a seaman’s church.

6.1 Selected Transit Providers in Other Countries

Practices from transit and transportation providers in other countries can provide useful information for New Jersey Department of Transportation (NJDOT) and NJ TRANSIT if the providers operate in multi-language, multimodal environments. To learn about some European practices we interviewed transit officials in London and Paris. Like northern New Jersey’s cities, these two areas have diverse populations with many new immigrant communities. They have multimodal transit choices including commuter rail, light rail, heavy rail and busses. We also contacted English railroad employees to learn their practices. Immigrants, foreign tourists, and native Welsh speakers use England’s trains.

6.1.1 Transit

Both London and Paris subway stations provide multilingual announcements. The London “tube” provides announcements on security and emergency issues in Spanish, Italian, French and German besides English. The Paris metro gives announcements in English, Spanish and German besides French.

Neither Paris nor London subways offer multilingual timetables or route maps, but they color code train and bus maps for easy comprehension as shown in Figure 40 and Figure 41. Color-coded maps appear in all stations, bus stops, trains and buses.

London ticket machines are accessible only in English although station employees will help LEP clients needing assistance. Paris metro machines are accessible in English, Spanish, German and Italian besides French. The London tube has multilingual phone lines available in Italian, Spanish, French and German. The Paris metro does not have multilingual phone lines.

London Transport’s website at www.tfl.gov.uk and www.tflwap.gov.uk provide icons so that viewers can see some text in German, Spanish, French, Italian or Portuguese. To access the entire website in another language, viewers would have to download worldlingo.com’s translation tool or www.altavista.com’s “Babelfish” translation service. The Paris web site has no multi-language features.
Both systems employ multilingual employees to help language-challenged travelers in major stations. London Underground has 350 staff members who speak a total of 58 languages besides English (British Department for Transport, 2003). These bilingual/multilingual employees wear badges indicating the languages they speak and their availability to help travelers.

Training is provided to develop employees’ ability to interact courteously with non-English speaking clients. Our contact at London Transport said that such training constitutes 80 percent of her job. Transport for London has a Customer Care team whose members identify staff who speak other languages and train them to deal with complaints from LEP travelers (British Department for Transport, 2003).

In Paris, multilingual staff members help travelers with limited French fill out complaint books. Training is offered to employees to help them interact with non-French speaking people. Trained volunteers augment professional staff in information booths.

Our survey of New Jersey LEP travelers found that some communities experienced problems with transit routes that did not meet their actual travel needs. A British Department of Transport (2003) study uncovered the same problem in some English LEP communities. As new immigrants moved into areas, their travel patterns differed from those of previous residents meaning that established routes and bus-stop locations did not match preferred offerings. The British response to this problem was to build the needs of minority communities into the next round of local transport plans in 2005. One way they plan to get LEP input on travel needs is to advertise requests for travel-pattern information in newsletters in different languages. Transit officials will use this information in planning routes and bus-stop locations.

### 6.1.2 Railroads

Major English and French railroad stations have multi-language announcements and multilingual personnel. National-railroad web pages, however, do not offer multi-language information.

Britain’s Great Western Railroad, which serves England and Wales, offers timetables in English and Welsh. It has a Welsh speaking rail enquiry service and a Welsh speaking booking line. If staff members receive a Welsh complaint, they use a translation service to understand the message and craft a Welsh response.

A group of Welsh speakers were asked to rank order the usefulness of various measures to help them use Welsh in English speaking areas. 49 percent said their first choice was having staff members wear badges to show who speaks Welsh. Providing bilingual signs, the next most popular measure, was only rank-ordered first by 21 percent of respondents (Grin and Vaillancourt, 1999).
Another unique vehicle for providing mobility information is the Rhein-Main-Verkehrsvorband (RMV) system in Germany. RMV organizes public transport in the greater Rhine Main area, working closely with the individual transport companies, the district authorities, towns and the State of Hesse. This cooperation allows RMV to offer coordinated bus and train travel from one source. Just one ticket allows travelers to use any method of local transport in the area covered by the association: regional trains (RB), regional express trains (RE), S-Bahn trains, U-Bahn underground trains, trams and buses. For example, Frankfurt Airport and Railway Station, the most important gateway for foreign visitors, are integrated into the RMV network.

A traveler may purchase a ticket from the ticket counters of the transport companies or at one of the ticket machines. The ticket machines are equipped with user screens to guide customers through the process: first, enter the destination; then select the type of ticket; finally, pay the amount displayed. Most importantly, by simply pressing a button, a traveler can select his or her own language for the ticket machine user guide from the following choices: English, French, Italian, Spanish or Turkish. The flags on the lower left corner in Figure 42 indicate language choices.

6.2. Airports and Airlines

Airports and airlines in America and abroad constitute important international activity centers. They have multiple reasons to accommodate LEP travelers. First, a good percentage of their clientele comes from travelers who live outside their national boundaries; at Newark’s airport, for example, such travelers constitute about half the population. Since many airports believe that clients have a choice of facilities, e.g. Newark or Kennedy, each one tries to accommodate LEP and other customers to the extent possible. Second, American airports that accept federal (FAA) funding must adhere to Title VI requirements for LEP access.

6.2.1 Airports

In America, we sought to learn best practices from airports with extensive international clientele. Our search included e-mail and telephone contacts with administrators of the three major Port Authority of New York/New Jersey airports—Newark Liberty, Kennedy and LaGuardia—as well as Logan Airport in Boston, Los Angeles and San Francisco International Airports in California, and Miami International Airport in Florida. In Europe, we sought best practices of the British Aviation Authority, Brussels Airport in Belgium, and Schipol Airport in the Netherlands. In addition, we monitored the websites of Edmonton’s Airport in Canada and Singapore’s Airport in Asia.

The investigation yielded a number of methods with interest for transit providers. Listed below are key airport strategies for giving LEP travelers equal access.
6.2.1.1 Web Pages

All the airports investigated have their own web pages. In America, most are English only. A few tell viewers in English that language assistance is available at the airport but this message would be unintelligible to some LEP travelers. A more effective alternative is the Los Angeles web page, which provides traveler tips in five languages: English, Chinese, Japanese, Korean and Spanish. The viewer clicks on a language icon and the appropriate text appears in PDF format, as demonstrated in Appendix L.

Outside of the United States, web pages are more likely to offer language choices although some, e.g., London’s Heathrow, are only in English. The web page for Brussels airport offers all information in English, Dutch or French, as depicted in Figure 43. Amsterdam offers English or Dutch alternatives. Singapore airport is currently constructing a page, which will offer a choice of English or Chinese information. All Canadian airports offer a choice of English or French. Viewers click on icons to access the alternatives. Clearly, most of these pages are geared to bi-rather than multilingual communities.

6.2.1.2 Multilingual Publications

The New York-New Jersey Port Authority airports print taxi brochures in six languages. The brochure lets LEP travelers understand the fare system if they use cabs to leave the airport. Newark airport prints an annual marketing publication for travel agents and tour operators in five languages: English, German, French, Spanish and Japanese. While this publication does not go to travelers themselves, it is distributed to people who communicate with LEP travelers and pass the information to them. The analogy for local transit would be to prepare multilingual brochures for LEP community groups and urge the groups to share information with their members. This strategy has two advantages over trying to contact LEP travelers directly. Costs are lower with fewer publications to print, and the recipients do the work of locating travelers. Before printing the publication, the airport met with travel-agents to learn their perception of client needs (Baer, 1995).

Prior to September 11, 2001 San Francisco’s airport printed a general information brochure in English, Spanish, Chinese and Japanese. This publication contained a guide to airport facilities and services. However, current budget constraints necessitated scaling back the brochure to an English only version.

6.2.1.3 Telephone Lines

All the American airports investigated link customers to multilingual telephone lines through staff at information booths. At San Francisco’s airport, average monthly costs for the language line are $500 to 600/month. Travelers can access the line at airport information booths, or they can call the Airport Communications Center from outside
and request the service. Miami International Airport’s main information line offers English and Spanish options.

Newark airport does not publicize the telephone line because it envisions its use as a last resort. Most multilingual assistance is offered in person by customer service representatives who know several languages or who ask airline personnel to help.

6.2.1.4 Pictograms and Visual Aids

All American airports surveyed use internationally recognized symbols for access-related services for people with disabilities, e.g., wheelchair accessibility or telecommunications devices for the deaf. Such pictograms are also used in Europe. In fact, American airports borrowed many of their symbols from European and Asian practices. Figure 44 and Figure 45 depict bi-lingual directions and pictograms used in Narita (Tokyo) International Airport in Japan and Frankfurt International Airport in Germany.

Los Angeles International Airport uses pictograms to depict directional signs such as “No Smoking,” “Ticketing,” or “Baggage.” The airport also uses arrows pointing up, down, right and left to indicate directions.

The Port Authority airports use symbols and visual aids to orient travelers. For example, in all three airports, signs pointing passengers to gates are yellow; signs pointing people to the front of the airport are green; and signs pointing to services such as phones or restrooms have black backgrounds, as shown in Figure 46. In the last few years, the Port Authority airports moved from using multilingual announcements and signage to use of the three colors to orient clients.

6.2.1.5 Multilingual Announcements

Los Angeles International Airport uses multilingual announcements for security and to tell passengers how to learn which items are not allowed in carry-on luggage. The announcements run every 30 minutes in English, Spanish, French, Japanese, Chinese and Korean. The airport considers the cost negligible since the announcements are played through existing equipment.

6.2.1.6 Personal Assistance

All the airports surveyed have at least some multilingual employees who can interact with LEP travelers. Logan has public information booths in baggage claim areas staffed with multilingual personnel. These public service representatives can also interpret when travelers converse with U.S. Customs, the Immigration and Naturalization Service and airport tenants.

At Newark International Airport all customer service representatives are at least bi-lingual and many speak three or more languages. Their job is to communicate with
clients so they take care to have successful interactions. When these representatives
do not know a particular language, they call consulates or United Nations (UN)
missions to access native speakers of that tongue. They ask a traveler for a friend’s
phone number and if possible, use that information to find someone with English
ability. Employees are told to be resourceful in helping LEP travelers.

Newark International Airport has approximately 60 customer service representatives
on duty at peak travel hours. Agents are stationed at key decision points. For
example, agents are placed at entrances to the Air Train Station. They help travelers
learn how to access the station if they need aid.

All customer service agents wear red blazers that identify the languages each agent
speaks. Employees are urged to be proactive in searching out travelers who seem to
need assistance; they do not wait for questions but ask people if they can help.

Port Authority airports motivate employees to help travelers by allowing clients to
nominate staff members for “airport ambassador of the month” awards. An airport
ambassador of the year, who receives $500 and an international vacation, is chosen
from the monthly winners. Some staff members have won airport ambassador of the
month status for working to clarify difficult travel issues with LEP clients.

The Port Authority contracts with Gateway Security for customer service
representatives. Gateway provides training that runs the gamut from security to
customer service. The multiyear Port/Gateway contract runs in excess of $35 million
for the three airports.

San Francisco’s international airport has nine information booths in its various
terminals. Each staff member in a given booth is capable of speaking a different
foreign language. Passengers who need assistance are directed to the booths by
airport and airline personnel. Booths are positioned in areas of heavy passenger
traffic.

Los Angeles’ Tom Bradley International Terminal has three counters staffed with
multilingual employees who provide information about the airport and flight schedules.
In addition, about 100 half-time Visitor Service Representatives (VSRs) work in the
federal inspection areas helping international passengers fill out customs forms and
interact with government officials. Among the VSRs, approximately 30 different
languages are spoken; the airport schedules VSRs based on a match between
individual languages and flight arrival times. VSRs get a week of classroom training
including many role-plays. Costs for the information booth personnel and the VSRs
are approximately $2 millions a year for salaries, benefits, uniforms, and equipment.
The airport believes the services these people provide are well worth the expense.

Heathrow Airport in London has help desks for non-English speakers. These desks
are available in every terminal.
Airports also leverage the service of non-profit groups. All airports surveyed have at least one Travelers Aid Kiosk on the premises. The kiosk is staffed by volunteers who help travelers in distress, including people who have language problems. The volunteers can assist in map reading and accessing local transportation. At Logan, for example, the Traveler Aid Bureau is open noon to 9 pm seven days a week. At the Los Angeles Airport the Bureau is open from 7 am to 10 pm on weekdays and 9 am to 9 pm on weekends. The San Francisco Bureau has 185 volunteers who operate six airport booths from 9 am to 9 pm daily. Approximately 40 percent of these volunteers speak a foreign language and wear badges identifying their particular languages.

6.2.2 Airlines

LEP travelers in airports, or in transit to or from them, can also ask help of airline staff. United Airline, for example, tries to have multilingual staff at each international airport. A contact at Newark’s airport indicated that airport workers seek assistance from an airline counterpart when they cannot converse with travelers. Since Newark has over 30 international airlines on its premises, most passenger-languages are known to some airline employees.

British Airways received a 2001 United Kingdom National Language for Exports Award for its successful deployment of multilingual airport and cabin staff. The airline’s visitor service employs 140 employees at Heathrow and Gatwick Airports to assist passengers in 50 different languages including a wide range of African, Indian and Chinese languages and dialects. The airline also recruits cabin crew from 16 countries outside Britain to assist non-English speaking passengers on planes. The airline pays tuition for front-line staff to learn French, Spanish, Italian or German. British Airways believes that its aid to LEP travelers results in better profits. Its markets that perform best are those that benefit from a reliable language service, including a dedicated team of multilingual employees on arrival in the United Kingdom. Sales figures show a link between range and standard of language assistance and commercial success with a 29 percent increase in net revenues in 2001 (as opposed to 2000) for South Asia routes and a corresponding 22 percent increase for West Africa routes as language assistance was put in place (Languageadvantage, 2002). Of course, an association between language assistance and increased revenue does not prove causality.


Many airlines have access to their own language-assistance phone lines. United Airline has a phone number dedicated to Spanish speakers and another one for speakers of four Asian languages—Japanese, Mandarin, Cantonese and Korean. Delta Airline has a phone line on which representatives speak Spanish and another line on which they speak Japanese. The airlines publicize the phone numbers on the web pages www.united.com and www.delta.com, respectively.
Airlines change the languages in which they offer in-flight entertainment depending on their destination. Continental, for example, has English and Spanish language tracks for flights in America. It offers a Portuguese language track on flights to Lisbon, Japanese on flights to Guam, Bali, or Japan, and Chinese on flights to Hong Kong. In addition, the language of airline flight announcements varies depending on the airline and the destination. This means that LEP travelers flying from Newark Airport to their native country always understand the flight announcements.

6.3 Tourism Centers

Most countries and some cities have official tourism centers, which are organized by travel bureaus or local authorities. Normally, the more developed tourist industry provides detailed and useful information about public transit on the website of tourism center. However, the services provided by different agencies vary. Based on a search of over 30 websites of tourism centers around the world, the research team selected 14 candidates for this survey. In these 14 countries or regions, seven of them are located in Europe, five in Asia, one in North America, and one in Oceania. The tourism centers selected provide more than three foreign language websites and introduce miscellaneous transportation information for the travelers who use non-native languages.

After searching the websites of the 14 tourism centers in detail, we collected the principal transportation information that is presented in foreign languages. The information reflects the number of languages, market regions, the authority or owner of the tourism center, the website addresses and the travel modes. Given the aim of this survey, we focused on the information about public transit provided by the tourism centers.

As shown in Table 10, most tourism centers are operated by the official travel administrations of the countries or regions. An Italian commercial registered travel agency was the only non-official agency of the 14 tourism centers studied. Nevertheless, it provides similar functions as the other official tourism centers. All of the tourism centers have the same goals - to attract more travelers and provide better services.

Some tourism centers provide numerous local websites serving different market regions. Switzerland, France and England provide more than 40 local websites, while Germany and Netherlands include more than 20 local websites. The tourism centers also provide the local websites with the numerous foreign languages. Because several popular languages, such as English, French and Spanish, are designated as official languages in many countries, the number of languages is different from the number of market regions. Several countries and regions provide different editions for a single language. For example, the Hong Kong tourism center provides English web pages in six editions. This practice would be helpful for improving services for travelers who come from different regions although all of them use English.
The structure and characteristics of the tourism centers are quite diverse. The location and path to secure public transit information vary among the websites of tourism centers. Most of them link the transportation contents under Travel Information or General Information. However, only a few websites, such as England’s and New Zealand’s, post the transportation link on the homepage directly.

Most of the tourism centers use similar structures (interfaces) on the websites with different languages serving numerous market regions. Singapore, however, uses quite different interfaces to present the contents according to the particular features of each region although the contents are similar.

As shown in Table 11, different tourism centers provide different content regarding information on public transit. Some not only offer an overview of multi-modes transportation, but also provide fares, operating hours and relevant telephone numbers. Most of the tourism centers also provide links to travel agencies, which include both agencies serving international travel and those serving domestic travel. The tourism centers of England and New Zealand list many related links about transportation in the domain, and the latter even provides links to additional services.

Although Table 11 shows that many tourism centers provide the routes and operating hours, most of the websites only present points of origin and destinations, the start and end time of the mode services, but not the complete layout and schedules. One reason for this limitation is that it is difficult to show complete lines, stops and time tables for all of the transit routes on the tourism center website; the other reason is that most of the tourism centers provide links to the related transit agencies that provide more comprehensive references.

Since the tourism centers are serving non-local travelers, it is important to provide information on transportation connecting the airport, rail and coach terminals. More than half of the tourism centers clearly provide the major details regarding public transit. These include the operating hours, special tickets (cards), the limitation of some modes of travel, service range, security, discounts, the regulation of luggage size and rules on pets.

A general overview of information provided by tourism centers may assist the project team in evaluating the overall usage of websites and efforts provided to attract foreigners. Meanwhile, a few selected cases will help the research team to identify specific strategies or innovations that can be adopted to serve LEP populations. Therefore, we present the following three case studies, Hong Kong, Singapore, and Germany, among various tourism information centers we have scanned.

6.3.1 Hong Kong

The Hong Kong Tourism Center under the Hong Kong Tourism Board provides a detailed and professional travel guide on its official website. The Tourism Center provides 12 languages for visitors. Since it serves different English-speaking regions,
six English edition websites are provided, including International English, American English, Australian English, Canadian English, South East Asian English and United Kingdom English.

Table 12 exhibits public transit information provided by the Hong Kong Tourism Center. We can see that the area of services, operating hours, fares, and necessary points of interest of all the public transit modes are found on the websites of the Hong Kong Tourism Center. The routes, terminals and related links of most of the modes are also listed on the web pages. Furthermore, the railway systems of Hong Kong, which include Mass Transit Railway and Kowloon-Canton Railway, even present a bilingual map of the system, the stops and interchanges on the railway networks, as shown in Figure 47.

The interface of the transportation information web page is user-friendly and easy to explore. The information provided covers almost all of the public transit modes in Hong Kong. The characteristics and features of the public transit modes are described for foreign travelers. When introducing Mass Transit Railway (MTR), Airport Express, and Kowloon-Canton Railway (KCR), the web pages list the main routes, route length, operating hours, fares, frequencies, number of stops, interchanges, travel passes; furthermore, some travel tips are provided. In addition, the bilingual map of Hong Kong rail, as displayed in Figure 48, can be seen on the website.

The Octopus card, an electronic stored-value card used as payment on public transit in Hong Kong, is just like money and is accepted on most public transport including buses, minibuses, trains, ferries, the Peak Tram, and some taxis. It is even accepted at convenience stores and fast food restaurants. To demonstrate the usage of the Octopus card, the website has a diagram to describe the procedures as shown in Figure 49. To pay a fare, the traveler simply places the Octopus card on the reader located next to the fare box and the fare is deducted electronically. A new Octopus card includes a refundable HK $50 deposit. Any leftover money is also refunded when the traveler returns the card. It can be purchased at the Airport Express Customer Service Counters on Level 5 of the Hong Kong International Airport. The cards are also available at most public transport customer service centers.

6.3.2 Singapore

The websites of the Singapore Tourism Center present more information, particularly about the fares, except the basic overview of public transit service in the Lion City. Similar with Hong Kong, Singapore Tourism Center provides five English editions, which are International, Australia & New Zealand, India, North America and UK.

A tourist can locate detailed fare information and purchase multi-mode tickets from the websites. A Bus Service Guide even shows the different fares depending on whether or not the buses are equipped with air-conditioning. A particular interest to this project is that the websites explain how to purchase tickets of Singapore Mass
Rapid Transit (MRT) in detail for travelers who speak foreign languages. A simple step by step instruction accompanied by pictures of the ticket vending machine menu and station entrances is displayed on the website, as depicted in Figure 50.

Detailed illustrations of the public transit services to the airport provide great convenience for both domestic and foreign travelers. A guide for Airport Shuttles is presented in the same fashion as the normal public transit. Similarly, fares and ticket purchase procedures are described in details. The first and last service times of the MRT are also included. In addition, the dimensions of each piece of luggage that can be brought into the train are also described.

6.3.3 Germany

A special feature of the website by Germany National Tourist Board is the interactive maps of transportation networks. Visitors can select their preferred type of transportation map—rail, motorways, and long-distance trains. Moreover, different types can be mixed as shown in Figure 51. Furthermore, the website also provides detailed maps for many Germany cities. Only two languages are used on the maps provided by this Board.

6.4 Other International-Oriented Activity Centers

Besides transit agencies in other countries and international airports and airlines, potential best practices for providing mobility information for LEP populations may be gleaned from diversified internationally-oriented activity centers such as, sport facilities, convention and tourism centers, car rental agencies, intermodal freight terminals, etc. A large number of sport facilities in the United States are accessed via automobiles, especially those in suburban areas and at events held in the evenings or on weekends. This survey effort has concentrated on the strategies that can be adopted by transit agencies. Three categories are presented in the following section: Olympic cities, a transport museum and a seaman’s church.

6.4.1 Olympic Cities

Another important category of activity centers will be the cities and transit systems that recently hosted Olympic games, such as Salt Lake City and Atlanta. To obtain general information about Olympic cities, a member of the research team has interviewed Mr. Chris Sullivan, an Olympic Site Manager. Mr. Sullivan has been dealing with Olympic site issues for many years and has had experience with the Atlanta and Salt Lake City Olympic Games. He is now involved with the US Olympic Committee seeking to secure New York City as the site for the 2012 Games.

The main method of communicating to non-native speaking individuals attending the Olympic Games is through the use of internationally-recognized signage employing iconic symbols, rather than language. Language is used, however, in an effort to
make the multi-lingual audience feel comfortable rather than to provide information. For example, the word “Welcome” will appear at entrance sites in many languages. Although brochures are provided in a variety of languages depending on the site, road signs and directions are pictorial.

Destination names remain in the language of the host country. For example, in Salt Lake City all location names were in English. Yet because the Mormon culture reaches out to people throughout the world with missionaries, there were many paid staff and volunteers at the site who spoke a wide variety of languages. In Atlanta, a cosmopolitan city, there were also many staff members and volunteers with language skills to communicate to non-English speaking attendees. All official Olympic documents, no matter where the Games are held, are printed in both French and English. Official spectator guides, however, are in the language of the host country, but information indicating amount of time needed to go from one Olympic site to another is clearly indicated by using numbers. All official Olympic meetings are conducted in English, with headphones employing simultaneous translations available for non-English speakers.

To access specific information on how to serve LEP spectators, athletes, and media teams during the game period, the team members also contacted both Salt Lake City and Atlanta, which have hosted Olympic Games in recent years. Dr. Liu, the PI for this project, has had personal involvement with the East-West Light Rail Project in Salt Lake City, and she is familiar with the solutions and tactics implemented to provide easily understandable instructions to international spectators during the Olympic Games.

Traffic engineers and transportation planners in Atlanta also provided useful information for dealing with people who do not speak English. For example, the transit stations were announced in four to six different languages on the MARTA Subway train. The “No Parking” and “Don’t Walk” phrases have been replaced by universally recognizable pictograms. After the Olympic games, the multilingual announcements at the stations are gone, but all the pictograms remained and will be maintained as part of the permanent infrastructure in Atlanta.

**6.4.2 Transport Museum**

Switzerland, a relatively small country, lies in the heart of Europe at the crossroads of three of its most important cultural and language regions. Within this restrictive area, there are no less than four languages spoken in compact pockets of population. The German speakers account for 74 percent, but even these are split into many different dialects of the Germanic tongue. In the Western part of the country 20 percent speak French and in the South 4 percent have Italian as their mother tongue. In the Alpine Region of the Grisons, 1 percent of the population speaks Romanch. To demonstrate ways to serve people with various language backgrounds and capabilities, we have gathered information on the Swiss Transport Museum located in Lucerne, a popular attraction in Switzerland and Europe.
The Swiss Transport Museum, the largest transportation museum in Europe, attracts half a million visitors a year. Reflecting the various languages of patrons, the Museum uses pictograms and multiple languages in both the museum narratives and website information. One of the interesting features employed by the Museum web page is an interactive illustration in the overview page. As demonstrated in Figure 52, a colorful museum floor is displayed on the front page of the Museum website. A reader can click on any part of the floor plan; an information window will open with related display contents and pictures.

Besides the vast contents of the rail, road, and waterway transport, the Museum also hosts a wide range of exciting modern technological and education materials, all of which are narrated in four languages: German, English, French and Italian as depicted in Figure 53. Another effective way to communicate information in a multi-language environment is via different audio systems. As demonstrated in Figure 54, the red column next to the TV monitor is actually an audio control switch. The museum patron may switch the button to one of the pre-recorded languages among English, French, Italian and German. The message will change instantly, and it is synchronized with the content displayed on the TV monitor.

6.4.3 Seaman’s Church

New York is the largest international seaport along the east coast. The Port of New York and Newark receives millions of ships from different countries and the crews speak different languages. There are seaman’s churches in both New York and New Jersey. It is helpful to contact seaport and similar facilities and investigate what tactics they use to overcome language barriers.

As proposed in the scope, a team member, Dr. Fleischer, interviewed Ms. Andre Stukey, Operations Manager, International Seafarers Center, Seaman’s Church Institute of New York and New Jersey on March 3, 2004. Seafarers from throughout the world are served by the Institute, which must be creative in its efforts to communicate with non-English speakers. One of the methods of communication is what the Institute calls “the international language” of hand signals. Using maps and other informational materials such as bus and train schedules in English, Institute staff assist LEP individuals by circling relevant portions or drawing routes from one destination to another. Staff will also write out route descriptions and the names of key locations on index cards. LEP individuals are advised to travel in groups so that the individuals can support one another by pooling their particular areas of knowledge.

The Institute has developed relationships with bus and taxi drivers in its area to assist LEP travelers with directions and fares. Institute staff has found the importance of having LEP individuals repeat in English, or demonstrate graphically, what they have been told to assure that they truly understand the information communicated. Staff also arranges appropriate trips for specific groups of LEP individuals. For example, Chinese seafarers are not only encouraged to visit New York’s Chinatown individually.
or in small groups, but the Institute also arranges for tours for larger groups by chartering vans or buses and securing Chinese-speaking guides.

6.5 Overview of International Experience

Airport and European transit practices reinforce the benefits of multilingual websites for computer literate LEP clients—a market segment that may grow in the coming years. The New York-New Jersey Port Authority’s shift from multilingual signage to symbols highlights the difficulties of providing verbal information to multi-language populations, as opposed to bilingual populations. The only place where organizations can provide such information easily and economically is cyberspace. Since symbols are limited in providing complex information, multi-language web pages have a role to play in customer access.

Airport and European transit experience highlight the advantages of properly trained multilingual employees who can interact courteously with LEP travelers. Because so many clients of these facilities and airports are international travelers, the organizations try to provide staff members who consider helping LEP clients a regular part of their jobs.

Airport experience highlights the advantages of leveraging other organizations to help communicate with LEP people. While airports have an advantage over transit facilities in having airline personnel on hand, transit organizations can cooperate with community groups to learn about their members’ travel needs.

In addition, the current research reinforces the importance of the public’s being aware of any strategy for it to work. As a way of accommodating people with sensory disabilities, Edmonton Airport in Canada experimented with the use of talking signs that travelers could activate. However, Edmonton found that the signs fell short of expected use. The airport concluded that travelers did not know the purpose of the signs (Rhodes and Associates, 1999). On the other hand when London tube employees wear badges that highlight multilingual abilities, passengers instantly see who is available to help them. The badges are a constant reminder to employees and LEP clients alike of the availability and importance of human interaction. They remind employees that speaking many languages is useful for the organization and that helping LEP travelers is part of their job. We see that Welsh speakers consider badges the most important measure to help them get around in an English-speaking community.

Strategies for equal access must be easy to operate, highly visible, and clearly labeled to succeed. Services may be underused if providers publicize language assistance in English-only websites or on English-only signs, or if providers require clients to download special software to access multilingual information. Publicity for multilingual assistance must be easy to obtain and multilingual or pictorial in its own right.
This survey of tourism centers provided the researchers with suggestions and methods relevant to the Project. We were able to assemble a list of tourism centers with innovative methods, describe those methods, and learn some of their strategies.

Multi-language websites are very useful in improving services for travelers who use foreign languages. The same content in different languages is used to serve specific customers.

The application of the multi-edition of one language might increase the professionalism and accuracy of public transit services. The comprehensive introduction of public transit would help the non-native language travelers to understand and master the local transit supplements.

Detailed information regarding fares and methods of booking tickets could help travelers understand the operation of public transit systems and use them with increasing efficiency. On this point, tourism centers in Singapore and Hong Kong provide some good examples.

Several countries and regions use special fares cards that could be accepted by multi-mode public transit. The Octopus Card of Hong Kong is an excellent example of this.

A concrete description of the guidelines necessary to ride public transit is very useful for non-native language users who might not be familiar with local conditions. Such details as service range, operating hours, and even the regulations dealing with luggage size and pets, are important for the travelers who speak foreign languages.

Interactive transportation maps are very helpful to non-native language travelers. The German tourism center did a lot of work on this issue although it needs to improve the language used to communicate on the maps.

Travelers using foreign languages might use public transit to airports, rail and coach terminals more frequently than local riders. Therefore, service on this kind of transit should receive special attention. Many tourism centers have done good work on this matter. Adding related links could increase speed and ease when travelers search for information on public transit.

The use of numbers and/or letters at Olympic sites to assist non-native speakers not only to travel from one point to another, but also to be aware of the time required for such trips, is effective. Most non-native travelers will know the name of their current location, even if it is a foreign name, as well as the name of their destination. Personal attention given by speakers of various languages is always helpful, but even a few signs in different languages (even merely “welcoming” signs, rather than directional), provides a comfort zone for non-native speakers. Iconic and pictorial symbols clearly remain the most effective way of reaching people who speak the
diverse languages of those who attend Olympic Games. Such a strategy would be effective for New Jersey Department of Transportation.

To the extent possible, the staff at the Seafarers Center has learned that merely giving directions to non-native speakers and even having such speakers “nod” or otherwise indicate they understand what is being communicated, does not ensure comprehension. Time permitting, it is best that the traveler be asked to repeat verbally, or if that is not possible, diagrammatically, what has been said. Too often, such non-native speakers are trying to be polite, or are embarrassed, or truly do not know that they have not understood what was said to them. Staff members at the Center also emphasize the importance of developing relationships with local bus drivers and others in the area that deal with non-native speakers. In that way, it is more likely that such personnel, becoming respectful of and patient with LEP travelers, will be willing to give such travelers the extra time and support that they require.
7. BEST PRACTICES

The foregoing descriptions build on the material gathered in our parallel survey of American transit systems, selected transit agencies in other counties as well as internationally oriented activities centers. Examining a variety of agencies is the key to our approach to ascertaining which strategies constitute best practice. The ultimate goal of this project is to produce a best practices catalog that our client, New Jersey Transit or similar agencies, may refer to when selecting strategies to serve LEP travelers. The research team strove to carry out a comprehensive approach in gathering and evaluating both verbal and nonverbal approaches. Since nonverbal approaches may be more effective and preferred under certain circumstances, these are highlighted in one of the sections of this report.

In previous tasks the project identified current practices to ensure equal transportation access for LEP travelers. Information came from project surveys of many entities--American transportation and transit agencies, foreign transportation and transit agencies, airports and internationally oriented activity centers. These surveys make plain that no one technique can provide equal access; a spectrum of methods is required to meet travel needs. Because each jurisdiction has its own population mix and political/social indices, the ideal strategies will vary from area to area. What works in one jurisdiction will not necessarily work in another. The appropriate spectrum of responses must take an area’s unique market/demographic realities into account.

Below is a list of practices surveyed transportation entities use to enhance LEP traveler access. NJDOT and NJ TRANSIT should implement those strategies that are most likely to address the particular problems that actually exist in their service area, particularly those issues raised in the project’s market/demographic interactions with LEP travelers in Northern New Jersey.

7.1 Multilingual Verbal Materials—Publications and Signs

A popular strategy to enhance communication is use of printed material in multiple languages. Although the most widely issued bi-or multilingual publications are timetables and route maps, a few agencies publish even more comprehensive multilingual material. Portland, Oregon’s Tri-Met publishes a seven-language booklet on “How to Ride.” The costs are $7,000 for printing 10,000 copies and $7,000 for paying personnel who worked on the project. In addition, some agencies affix multilingual printed material to vehicles. In New York City subway cars, posters in six languages warn passengers for South Ferry to use the first five cars.

Advantages: This strategy enables LEP travelers to access material in the same format offered to English proficient people. It works particularly well in bi- as opposed to multilingual communities. Short messages can be placed in vehicles as well as stations.
Disadvantages: Multilingual publications become clumsy and expensive where demographic realities require addressing many languages. Including some languages and not others can exacerbate inter-community tensions. For these reasons, and also because of budget constraints, several agencies reported moving away from a multilingual print strategy in recent years.

7.2 Multilingual Announcements

A few carriers play multilingual announcements at facilities or in vehicles. Los Angeles’ international airport plays security announcements in five languages. It also has multilingual announcements identifying appropriate carry-on luggage. Since the same equipment is used to play English-language and multilingual announcements, the only costs lie in developing the additional messages.

Advantages: Multilingual announcements allow a facility to impart up-to-date information to LEP travelers. The strategy allows LEP clients to access information in the same format as other travelers.

Disadvantages: In a multilingual environment, reciting announcements for all appropriate languages takes a long time. In addition, we do not know if English-language announcements are intelligible even to people who understand the language. To the extent that poor equipment and competing noises sabotage clarity, multilingual announcements are not a useful communication tool.

7.3 Multilingual Phone Lines

Another popular strategy is to give LEP travelers access to a multilingual phone line that connects them to a speaker of their native language. Costs vary. Washington Metro reports it handles approximately 80 calls a month at an average price of $25/call. Tri-Met has approximate costs of $2,600/month. San Francisco’s international airport reports costs between $500 and $600/month.

Advantages: This strategy enables LEP travelers to tell their individual stories to a linguistically competent person. A phone conversation can offer the traveler information tailored to his or her situation in a way that printed materials cannot.

Disadvantages: LEP travelers may not be aware of the phone line. Access to the line may be restricted to certain geographical areas; travelers outside those areas - but wishing to enter their boundaries - may not be able to use the phone line.

7.4 Pictograms and Other Visual Aids

All agencies use standard pictograms to indicate certain facilities such as access for people with disabilities. Many agencies also use pictorial devices to indicate exits, entrances, food facilities, restrooms, safety procedures, etc. Tri-Met uses seven different pictorial devices to represent the seven different areas served by its transit
systems, e.g., a deer for one area and a flower for another. By looking for a specific symbol, travelers know if they are going into the right area.

Facilities and vehicles often color code information. At New York-New Jersey Port Authority airports, yellow signs indicate travelers are moving toward the gates, green signs indicate movement towards the entrance. London’s underground vehicles contain color coded maps on board. A later section of this report contains additional information on pictograms and other nonverbal approaches.

Advantages: Many facilities are increasing use of pictograms and color coding as a universal system for indicating facility placement and safety procedures. Pictorial devices take up less room than multilingual signage. The aim is to find visual representations that are comprehensible to all language communities.

Disadvantages: Pictorial information can never wholly supplant verbal instruction. Pictograms cannot respond to individual queries and complaints expressed by LEP travelers. At the present time, pictorial devices cannot convey complex material.

7.5 Multilingual Websites

A few organizations have upgraded their websites to bi- or multilingual status. The Washington Metro offers information in eight languages. Tri-Met and Los Angeles' international airport have multilingual sites. Users access a language by clicking on the appropriate icon.

Advantages: The multilingual website offers a unique opportunity to interact with the computer savvy segment of the LEP population - a segment likely to grow in the coming years. Detailed multilingual information and announcements can be offered more easily electronically than in print.

Disadvantages: This strategy does not help LEP travelers who have no access to or facility with computers. It only works for a particular segment of the market.

7.6 Multilingual Personnel – Human Contact

Airports, in particular, report personal interaction as their major strategy for working with LEP travelers. At Newark International Airport all information-booth personnel are bi- or multilingual. The facility does not publicize its multilingual phone line because it considers this strategy a backup to on-site personnel.

Agencies let travelers know about the abilities of their staff through badges. These emblems indicate the languages given employees speak. At San Francisco International Airport, for example, an employee badge might read “Deutsch” or any other applicable language. London transit and Britain’s Western Railroad also have employee badges. These emblems remind travelers and employees alike that helping LEP clients is part of the staff’s job.
Because airports and airlines consider the LEP customer an important part of their market, they train employees to interact with these people. British Airways reimburses tuition when customer-contact staff members study foreign languages. Its figures show that revenues rise in areas where staff has requisite language capabilities.

Airports also use employee incentives to focus staff members on courteous service. At the New York-New Jersey Port Authority airports, employees have won “ambassador of the month” status - with monetary and free travel rewards - for especially diligent interaction with LEP customers.

Advantages: Bi- or multi-lingual personnel are an optimal way of giving LEP travelers' information tailored to their personal needs. Conversational feedback affords opportunities to avoid misunderstandings that can arise from print messages or hurried phone calls. When agencies train and motivate employees to help LEP travelers, the transit experience improves for this segment of the population.

Disadvantages: Facilities will need back-up strategies if their personnel cannot cover all requested languages. In some jurisdictions, employees may not want to advertise or use their bilingual abilities; the jurisdiction must decide if such use is an essential job feature. Agencies can place bi- or multilingual personnel in train stations and major bus facilities, but these employees will not be available at bus stops or in many vehicles; additional strategies will be needed at those locations.

7.7 Cooperating with Other Organizations

Because all organizations have limited resources, some transportation providers try to involve other entities in providing information to LEP travelers. Airports use the services of Travelers Aid volunteers and resident airline personnel. WMATA involved a community group, Boat People SOS, in preparing the Vietnamese version of its web page. In addition, WMATA personnel have met with social service agencies active in LEP communities to learn about the problems LEP travelers face. A prerequisite for involving other organizations is learning the identity of appropriate groups and motivating them to become involved in transit access issues.

Advantages: Agencies gain additional skills and resources by involving outside organizations. Community groups have a unique perspective on problems LEP travelers face.

Disadvantages: Appropriate groups may not be available or interested in all instances.

7.8 Publicizing What Is Available

All of the above strategies will only succeed when travelers know about their availability and understand how to access and use them. If agencies have language
lines or other communication mechanisms that remain unknown to commuters, the strategy is not useful.

Transit providers must not only publicize what is available in media that LEP travelers use, but such providers also must share information with community groups serving LEP travelers. Some agencies advertise access strategies in community newspapers. Seattle’s transit system does send mailings to residents. The system spends about $15,000/year on non-English mailings to inform people about existing services. It spends about $150,000/year to alert all residents, English and LEP, about new developments.

Advantages: Publicity is vital to energize all strategies.

Disadvantages: Publicity is only useful if an agency has chosen appropriate strategies that meet community needs. Also, unless agencies know the social patterns of new immigrants, it may be difficult to learn which media and community groups LEP travelers actually consult.

7.9 Non-verbal Communications

Research has indicated that the use of non-verbal communication strategies (pictograms, icons, symbols) may be the most effective means of conveying information to non-native speaking travelers. Pictograms improve communication within today's global metropolis, bridging language barriers and simplifying basic messages. As has been pointed out, the effectiveness of such strategies increases in what has been labeled as a “high context situation,” where the sender and receiver (traveler) share common knowledge or information. As indicated earlier, international airports throughout the world, as well as Olympic sites, are major users of pictograms. Due to the spread of the English language and American culture, the ability to create universal or near-universal signs has increased, decreasing the likelihood that the symbols will be misinterpreted. One study has even shown that nonverbal auditory icons, such as the sound of breaking glass, can be used to warn transportation users of danger (Belz et al, 1999).

As documented in his textbook, Dreyfuss (1984) recognized the importance of symbols in communicating with increasing speed and effectiveness; for many years he and his staff collected and codified graphic symbols as they are used in all walks of life throughout the world. The result is this “dictionary” of universally-used graphic symbols. Dreyfuss designed this sourcebook to be as practical and easy to use as possible by arranging the symbol information within ingeniously devised sections: The term “Basic Symbols represent a concise and highly selective grouping of symbols common to all disciplines (on-off, up-down, etc.). Disciplines provide symbols used in accommodations and travel, agriculture, architecture, business, communications, engineering, photography, sports, safety, traffic controls, and many other areas. Color lists present the meanings of each of the colors in various worldwide applications and cultures. Graphic Form displays symbols from all
disciplines grouped according to form (squares, circles, arrows, human figures, etc.), creating a unique way to identify a symbol out of context, as well as giving designers a frame of reference for developing new symbols. To make the sourcebook truly universal, the Table of Contents contains translations of each of the section titles and discipline areas into 17 languages in addition to English.

There is little theoretical work that deals with communication situations using the medium of English and including people with Limited English Proficiency. However, considerable insight into the use of nonverbal strategies can be culled from the works of well-known linguists, anthropologists, and others who have built upon their contributions.

7.9.1 Theoretical Sources

Hall (1959 and 1983) reminds us that the effectiveness of nonverbal communication increases with context. In a high context situation where there is abundant common knowledge, complex ideas can be communicated without speech or writing. Conversely, if the situation is low context, as is the case where the sender and receiver have very little knowledge in common, non-communication or miscommunication is likely.

In the public sphere people must often acquire information from static symbols instead of from other humans, so the success of the vital information being transmitted is especially dependent on the context or frame. Whether or not there is enough information in the static sign for the receiver to understand the message, to a useful degree, depends on recognizing something familiar about the symbols used.

Eco (1970 and 1990) has pointed out that most signs are multi-vocal; they are likely to be interpreted in a variety of ways. The likelihood of misinterpretation is, therefore, great. Few symbols are truly universal since interpretation of such symbols is based solely on the receiver's experience. Due to the spread of American culture and the English language, however, it may be possible to create universal or near-universal signs. Furthermore, the hypothesis that a certain sign can be interpreted cross-culturally could be tested in most urban American environments. If a sign is not universally univocal, then ensuring that it has the fewest possible interpretations will increase its potential for use in multicultural public situations.

Hodge and Kress (1988), following kinesic researchers like Hall (1959) and Birdwhistle (1979) emphasize that the physical relationships between people, and, by inference, between people and static symbols, can influence the degree to which a message is successfully communicated. The size of a sign, its placement, how others in the situation react to it, and the proximity of others in the situation, all influence the transmission of information.

Transportation systems across the country and around the world have taken a variety of approaches to communicating with their customers in public spaces. These range
from totally non-verbal designs to ones with large numbers of written and auditory explanations. Our survey of transportation systems will acquire and assess examples from varied approaches. Out of this assessment we should be able to apply some of the theoretical concepts discussed above to determine which systems most effectively use a primarily nonverbal approach, along with supporting verbal information, to frame the context of the public situation for maximum understanding.

7.9.2 User Reactions

The information that traffic signs provide depends not only on language but also on nonverbal factors involved in sign development. Karczewski (2003) studied motorists’ reaction to the color of emergency lighting in Northeastern Illinois using four colors (red, blue, white, and amber). The research showed that people saw the color white at the greatest distance. But white signs can create an unsafe environment for emergency responders due to the distraction that it creates as drivers approach a scene. Amber does not negatively impact the viewer’s ability to see nor does it distract them from focusing on what is in front of them. Hence, even though amber is perceived at a shorter distance than white, it is used widely.

Metaxatos and Soot (2001) showed that the ability of drivers to recall portable changeable message signs (PCMS) in highway work zones depends on the time of day, driver age, type of vehicle, and familiarity with the site. Belz et. al (1999) showed that nonverbal auditory icons such as the sound of breaking glass can be used to warn transportation users of danger.

7.9.3 Practice of Non-verbal Communications

As recorded earlier, 26 percent of multi-language New Jersey focus group participants concluded that “picture signs,” using pictograms when possible were adequate responses to the needs of LEP travelers. The goal, they concluded, was the use of international travel signs.

Our study of over thirty U.S. transit agencies revealed that about one-third of the agencies surveyed use pictograms to communicate such information as access for people with disabilities or prohibitions on eating or drinking on vehicles. The transit agency serving the Portland-Salem region in Oregon uses seven pictograms (i.e. beaver, deer, flower, etc.) on maps, schedules and bus stop signs to represent the various areas its vehicles serve.

Airports in the United States and Europe frequently use pictograms to assist non-native speaking travelers. For example, all U.S. airports surveyed and many in Europe use internationally recognized symbols for access-related services for people with disabilities or telecommunications devices for deaf people. Los Angeles International Airport uses pictograms to convey directional and other information. The airport also uses arrows pointing up, down, right, and left to indicate directions. As
demonstrated earlier, all three airports in the New York City area, JFK, LaGuardia, and Newark Liberty International, use signs in specific colors for different purposes. Signs pointing passengers to gates are yellow; signs pointing people to the front of the airport are green, and signs pointing to such services as phones and restrooms have black backgrounds. To assist the implementation of pictograms, a list of sample pictograms is included in Appendix M.

The main method of communicating to non-native speaking people attending the Olympic Games is through the use of internationally recognized signage employing iconic symbols. Road signs and directions are pictorial. During the Olympic Games in Atlanta, the “No Parking” and “Don’t Walk” phrases were replaced by universally recognizable pictograms as shown in Figure 55. These remained after the Games concluded.

The Swiss Transport Museum in Lucerne - the largest such museum in Europe - employs many pictograms to communicate to its multilingual audiences. Narita (Tokyo) Airport uses the pictograms to designate elevators, toilets, and waiting lounge. The Frankfurt International Airport in Germany employs such devices to designate railway stations and car rentals. Finally, Newark Liberty employs pictograms to point out elevators, escalators, parking shuttle buses, parking lots, ground transportation information, passenger pick-up areas, buses, and taxis.

The cost of pictograms may vary depending on the size and quantities of signs produced at times. A spectrum of pictogram or sign costs is included based on our discussions with various vendors and users. For example, pictograms used inside and outside of light rail vehicles or buses as displayed in Figure 55 may cost as little as $5 a piece if ordered in large quantities. On the other hand, larger signs or pictograms that are mounted on posts may cost $20 to 25 per square feet as documented in Table 13. It is noted that those included in the table are some approximate figures for sign installation costs, based on construction project bid prices in Arizona over the past few years. These prices will vary depending on quantity, location, type, etc. All costs are complete in place, including all legend, screening, transportation, labor, hardware, and painting of posts (Moeur, 2004).
8. RECOMMENDATIONS to NJ TRANSIT

The ultimate objective of this study is to provide NJ TRANSIT and NJDOT with a manual to be used in recommending ways of improving services to the LEP population in New Jersey. A number of strategic policy directions as well as operational tactics are presented in the last section of this document to further New Jersey Transportation Agencies’ compliance with Title VI regulations.

Early objectives of this study were to gather input from LEP communities in New Jersey on their mobility information needs and survey transit agencies and related entities for best practices in serving LEP travelers. The significant number of responses from both communities and transit agency surveys outlined the mobility information needs of LEP travelers and best practices by different entities around the world. To present the information gathered in a useful format for NJ TRANSIT, we have separated them into two major categories: strategic policy directions and operational tactics.

8.1 Strategic Policy Directions

The initial objectives of this research focused on learning the mobility information needs of LEP travelers in New Jersey and tactics to improve such services if needed. Our survey and in-depth dialogues with the LEP community revealed that information needs, i.e. language barriers or communication problems, do exist but are not their primary concern. Two larger issues are predominant and need to be addressed in the long run to provide true quality services to the LEP community: (1) providing better services regarding transit routes or coverage, and (2) recruiting, selecting, and training courteous drivers.

8.1.1 Long-Range Transit Planning

As indicated in the general survey, more than half of the LEP travelers use public transportation. Among those who do not, a portion of them walk, bicycle, or use other non-motorized mode as their primary transportation. Consistent with general observation made by others (Polzin, Chu, and Rey; 2000), the LEP population tends to use transit services more than the general population. Knowing the potential for LEP population to use transit services, it is important to understand what steps NJ TRANSIT may take to capture the transit ridership. In a number of focus groups, the discussion veered away from the subject of service delivery altogether. Lack of information was not their chief concern although it was a problem. A major issue was the nature of the service provided. As documented earlier, recent years have seen the growth of Arabic communities in both Jersey City and Paterson, New Jersey, but no direct public transit routes connect the two areas. Focus group members defined their major problem as a need for easy transit on routes that they want to use. Transit did not take them where they want to go. Routes had not been designed with their community in mind. Although route placement was not a question the transit agency identified under the LEP rubric, the focus group viewed it as a primary concern.
Inefficient route placement defined lack of access for this community. The discussion altered the perception of how to define lack of access—that is, how to define the nature of the problem.

In addition to the perceived deficiencies in route coverage in New Jersey, the participants also complained about infrequent service, shorter time span or lack of service on weekend and evening hours. Safety and reliability were also issues.

To provide adequate transit services to the LEP communities and travelers in general, we suggest NJ TRANSIT work with NJDOT and Metropolitan Planning Organizations (MPO) such as North Jersey Transportation Planning Authority (NJTPA) and consult regional transit demand models maintained by local MPOs. This consultation will allow NJ TRANSIT to identify unique travel demand or travel patterns developed by the local communities.

NJ TRANSIT may also need to evaluate transit services against demographic and economic conditions periodically. In recent years, rapid transitions from one ethnic group to another have been observed in various locations. In New York State, Bronx communities traditionally occupied by African Americans have seen population shifts to Spanish speaking immigrants in recent years. Similarly, the area around Bay Parkway, a traditional Italian community in Brooklyn, is now largely occupied by Korean immigrants. Therefore, it is critical for NJ TRANSIT to survey the demographic conditions periodically to capture the change of population and serve the particular demands of a given community. It might be difficult to conduct such a survey statewide, given the large geographical area and diversified travel characteristics of New Jersey. A more effective approach would be to conduct a survey in a defined region, or a pilot survey first to explore the critical issues to be addressed in the overall survey. Early sections of this report may be consulted to pinpoint particular LEP populations in certain areas or the research team might be asked to provide additional help in identifying LEP populations and transit demand related to particular language or social-economic groups. Following the survey results, NJ TRANSIT may improve transit services by increasing or re-aligning the current services to better serve not only the LEP travelers but also general transit users in New Jersey. It is also quite possible that improved services may help to attract more transit users. As we have demonstrated earlier in this research, LEP communities are more inclined to use transit than the general population. They are not likely to be deterred from using transit by prejudices against the system itself. Transit that responds to their needs will get their patronage.

8.1.2 Cultural Sensitivity Training

As documented in our previous survey, the majority of the LEP transit users are satisfied with the transit services provided by NJ TRANSIT and its employees. However, there are a few instances, as revealed in the focus group, where riders had experiences with drivers who became nasty after these riders tried to ask questions in Spanish or heavily accented English. Those incidents may be few and far between,
but the effects, which are very significant, may permanently damage the customer relationship if not addressed properly.

The emotional intensity of the group’s condemnation of racially biased bus drivers suggests this may be an important issue to address. To eliminate or reduce such incidents in the future, we suggest that NJ TRANSIT provide cultural sensitivity training for their employees particularly for those who frequently interact with customers and for all bus drivers. If needed, the research team might help to identify or provide technical resources for such training.

8.1.3 Human Contact – Multilingual Personnel

When asked in our survey about ideas for improving mobility information, most participants prefer a staff person speaking their native language to provide information or consult in person. This suggestion was clearly preferred in the general survey and reiterated in several focus group discussions. The three parallel agency surveys we have conducted also confirm that human interaction is the most preferred and effective methods in serving LEP travelers. For example, all information booth personnel in Newark Liberty International Airport are bi- or multilingual. A number of transit agencies let travelers know about the abilities of their staff through badges indicating the languages given employees speak.

We suggest that NJ TRANSIT promote cultural diversity starting within its organization. Given the headquarters location in Newark in North New Jersey, the employees of NJ TRANSIT may represent a large pool of multicultural and multilingual backgrounds. If the organization policy encourages employees to use their bi- or multilingual ability to serve NJ TRANSIT customers rather than suppress or be ashamed of their differences, it will help to create an environment that promotes diversity and diligent interaction with LEP customers, as well as travelers in general.

In addition, NJ TRANSIT may encourage employees to take foreign language courses by reimbursing tuition or providing other incentives as British Airways does. Incentives, such as “customer representative of the month” with modest monetary rewards, may work well to encourage courteous services.

We are certainly aware of the personnel costs associated with placing bi- or multilingual personnel in information booths and key transit locations given the high volume of NJ TRANSIT services and diversified language demands in the area. The next section discusses cooperative programs with other organizations that may help offset the costs.

8.1.4 Cooperation with Other Organizations

As EO 13166 does not come with additional funding, it is critical for transit agencies to provide services within the existing operation budget. To improve transit services to
LEP travelers with limited cost, we suggest that NJ TRANSIT reach out to local communities and interest groups to provide information to LEP travelers. For example, the Hispanic Development Corporation, Russian Jewish Family Centers, and Polish Community Groups are actively involved in local communities in Northern New Jersey; it may be possible to attract volunteers for language information or material translations. Meanwhile, there are large numbers of Chinese, Italian, Portuguese, and Spanish newspapers in circulation in Northern New Jersey; it is possible to publicize transit service or service changes in respective languages so accurate travel information reaches potential users.

A prerequisite for involving other organizations is learning the identity of appropriate groups and motivating them to become involved in transit access issues. It is vital for NJ TRANSIT to reach out to various civil organizations to explore the potential cooperation opportunities. As demonstrated by transit agencies such as WMATA and various airports, all stakeholders--transit operators, community organizations, and transit users--will benefit from such cooperation if carried out successfully. The transit agencies will improve their services without exhausting limited budgets. Community organizations may increase their visibility, credibility, or influence by working as liaisons between the transit agencies and their constituencies. The biggest winner may be the transit users, who receive improved services without increased expenses or sacrificing quality of life. In turn, happy customers have great potential to help promote transit use.

8.1.5 Publicizing What Is Available

No service improvement will do any good unless the end users are aware of it. As documented in our survey, a number of agencies advertise their transit services in community newspapers, local radios, and resident mailings. The modest expense of direct advertising to targeted audiences has great potential as evidenced by the recent success of direct advertising of the New River Line LRT opening to Chinese communities in South Jersey and Pennsylvania.

Publicizing what is available focuses limited resources to targeted audiences so that the travel information will reach the targeted communities where and when it is needed.

8.2 Operational Tactics

The focus group discussion confirmed questionnaire evidence that comprehension was an issue for some people in accessing transit in new immigrant communities. Participant comments showed that language-based service-delivery problems existed for Polish, Arabic, Portuguese and Spanish speakers. Again, the most problematic source of formal information was the station announcement with ticket-machine instructions second.
Having received a large number of responses from LEP travelers in New Jersey and information regarding techniques used by various entities around world, we have selected the most efficient and cost-effective practices for NJ TRANSIT. It is also important that those tactics we recommend are operationally feasible and measurable, i.e. the effectiveness of each may be evaluated once those tactics are implemented. We have organized those operational tactics into five groups, which are presented in the following section.

8.2.1 Pictograms and Other Visual Aids

Given the large number of foreign languages spoken in New Jersey, it is impossible to provide written or oral directions for most transit information in multiple languages. As documented in our literature search, scholars have also proved that the processing of multilingual messages may also burden the travelers with tension and stress.

To provide simple and brief directions, pictograms work much better than multilingual written material. By the same token, color codes should be explored to simplify or generalize transit information for LEP travelers and travelers at large. NJ TRANSIT has implemented a color coding system in the new Secaucus transfer station; it may be worthwhile to conduct a follow-up study to examine the effectiveness of this technique in facilitating travel and transfers.

As mentioned earlier, one advantage of pictograms and color coding is their relative low cost to implement. Increasingly, transportation agencies and other public entities are using those techniques when conveying information to the public; therefore, there should be a growing acceptance of commonly recognized signs or icons. However, it is also worth noting that pictorial information can never wholly supplant verbal instructions, especially to individual queries or complex materials.

With written materials, problems were least acute for Spanish speakers because some bilingual Spanish/English materials were available. However, all focus groups reported communication problems in oral attempts to get information from bus drivers or train-station crews. It was difficult for LEP travelers to find workers with whom to speak when these riders had questions about transfers or fare zones. Lack of one-on-one communication left LEP travelers without any idea how to move en-route to new destinations. Pictograms can provide minimal information when multilingual staff members are not available.

8.2.2 Multilingual Verbal Materials – Publications and Signs

The survey of LEP groups in New Jersey showed that their second highest information exchange preference was to have timetables, schedules and other related information presented in their native languages. This solution may be
effective as indicated by the generally positive reaction of Spanish-speaking travelers who already have some timetables, or other transit information, in Spanish.

One of the important effects of this tactic is to enable LEP travelers to access material in the same format offered to English proficient people, which is one of the criteria outlined in the United States Department of Transportation Guidance (U.S. DOT, 2001). The difficult task for NJ TRANSIT is to choose which languages other than Spanish to select for multilingual materials. This requires careful attention to demographic patterns in specific areas.

### 8.2.3 Multilingual Announcements

Public Announcement (PA) is one of the most often cited informational problems encountered by LEP travelers. These announcements are also difficult to decipher by people who are proficient in English. Psychologists suggest that PA systems are usually associated with changes to normal life patterns; therefore, their sound increases the anxiety of travelers and makes it difficult for travelers to concentrate on the message. Transmission often occurs on poor quality equipment and, most times, in a very noisy environment. To make such a tactic workable for LEP travelers, NJ TRANSIT should try to improve the quality of the PA systems and the overall station or vehicle environment.

### 8.2.4 Multilingual Phone Lines

NJ TRANSIT is currently subscribing to a toll-free number to provide transit information, which may be used to reach certain interpreters if the user is capable of navigating the first batch of questions in English alone. This is not a multilingual phone line in the sense that transit information may be accessed by simply pushing a button. Some of the participants in our survey think the multilingual phone is useless since most times their information needs are not pre-recorded. Others think such a phone might help. Given the low usage of this tactic by other transit agencies, we are not recommending that NJ TRANSIT focus its efforts on multilingual phone lines. As recommended by airports, the multilingual phone line should be the backup system. The primary focus should be on human interaction as we proposed in an earlier section.

Given that NJ TRANSIT currently has a toll free transit information phone, the problem may be insufficient advertising. Most of the people we surveyed were not aware of the existence of such services. Scanning a number of major transit stations or bus stops, we did not consider such information as readily accessible. Furthermore, there is no evaluation or statistics on the usage of such services. One step NJ TRANSIT may take is to examine the usage records of the toll free phone line contract. If use is low, such service may be dropped and the funds allocated to other strategies.
8.2.5 Multilingual Website

As documented in the survey of LEP groups in New Jersey, we have received mixed reactions on multilingual websites. Certain groups do not think it is useful due to their limited access to computers and the Internet. As increasing numbers of transportation agencies are constructing web pages in multiple languages and more people obtain access to computers and Internet, it is possible this tactic will emerge as an effective technique in the future. Currently, there is not enough access to computers or the Internet among the LEP travelers. There is also lack of access via public places such kiosks in stations such as those in Europe and Asia.

On the other hand, multilingual websites may help promote NJ TRANSIT to people from other parts of world. Therefore, it may prove beneficial to develop multilingual websites with detailed system information for marketing purposes. In conjunction with the strategic policy direction proposed in the last section-cooperating with other organizations -NJ TRANSIT may be able to tap into the talents of university students to develop website materials. Given the close location of NJ TRANSIT to New Jersey Institute of Technology and Rutgers University, Newark, it would be easy to find students who are computer savvy. Also, the cost of hiring such students would be relatively low.
REFERENCES:


Wilkes, Christopher, 2000, “Improving access to services for persons with limited English proficiency”, Strategies for Success, a publication of the Healthcare Association of New York State, December 8, 2000

APPENDIX A. EXISTING ACTIVITIES SERVING LEP POPULATIONS

In the last few years, LEP related activities have increased rapidly around the country. Numerous state and local agencies, such as human service agencies, health departments and school systems, have developed plans to facilitate the needs of LEP populations. The following section presents a sample of those activities, some of which may provide potential sources for our best practice surveys even though they take place outside the transportation field.

A.1 Minnesota Department of Human Services

Due to the rapidly changing and growing population of Minnesota, the Minnesota Department of Human Services (2003) is implementing a Limited English Proficiency (LEP) Program. This program intends to provide language assistance to LEP populations to eliminate linguistic and cultural barriers as new immigrants work to become self-sufficient.

As part of the department’s LEP Program (Minnesota Department of Human Services, 2003), each county and state department is mandated to develop a LEP plan. The LEP plan needs to outline services, which may include a meaningful access policy, interpreter and translation services, emergency situation service and signage for major landmark buildings, major activity locations, and the Government Centers. Language assistance posters, such as “free interpreter” posters, are placed in an accessible location for public viewing so that people with limited English proficiency know that they can ask for a free interpreter if they need one to access public information or services.

The State of Minnesota continuously gathers statistics of the ten largest LEP populations as Spanish, Somali, Russian, Arabic, Oromo, Serbo-Croatian, Hmong, Vietnamese, Cambodian (Khmer), and Laotian. In 2004, a new report, Estimates of Selected Immigrant Populations in Minnesota, was finished for MDHS (Ronningen, 2004). All LEP services are targeted to those population groups to provide meaningful access for all applicants and recipients to programs and services. The Minnesota Department of Human Services also developed a website that supplies many e-forms, applications, and other documents in ten languages other than English. The subjects of such e-form include civil rights, health care, child support, children’s services, aging and the elderly, cash and food support programs, and disabilities.

A.2 U.S. Railroad Retirement Board

As one of the pioneer agencies with a plan to serve LEP people, the U.S. Railroad Retirement Board (USRRB) has maintained its visibility in the LEP area (U.S. Railroad Retirement Board, 2001). The USRRB is an independent agency in the
executive branch of the United States government. Its function is to administer retirement, survivor, disability, unemployment and sickness insurance.

The Railroad Retirement Board prepared a plan to ensure meaningful access by LEP individuals to its programs and activities. It launched a questionnaire survey in over 50 field offices asking employees about contacts with LEP clients. Information from this survey and from a LEP community stake holder’s conference held in November 14, 2000 in Washington DC was used to develop a LEP plan.

The plan identifies the LEP client population, frequency of contacts, and scope of languages (Spanish, French, German, Swedish, Italian, Portuguese, Greek, Russian, Polish, Czechoslovakian, Ukrainian, Lithuanian, Hungarian, Croatian, Armenian, Somalian, Vietnamese, Hmong, Chinese, Tagalog, and Navajo). Current resources for dealing with LEP customers include bilingual contact representatives, written materials, and technological resources within and outside the agency. More importantly, included in the LEP plan is a detailed study of LEP services and suggestions for the improvement of LEP services to RRB customers.

A.3 California Department of Education

California’s Department of Education (2002) provides Limited English Proficiency (LEP) students a chance to attain English proficiency and meet the same academic standards as all other students. To further this goal, the United States Department of Education allocates Title III funds to supplement the eligible local educational agencies. The agencies are school districts, county offices of education, direct-funded charter schools, juvenile/hall court schools, and the Youth Authority institutions. The funds must be used for English language development instruction, enhanced instruction in the core academic subjects, high-quality professional development for teachers and other staff, and other activities consistent with the goal of the LEP student program.

A.4 Texas Department of Protective and Regulatory Services

As a part of the Texas Department of Protective and Regulatory Services, the Adult Protective Services Program provides protective services to individuals who are elderly or disabled or reported to be abused, neglected, or exploited (Texas Department of Protective and Regulatory Services, 2003). Funded by the federal government, this program provides appropriate interpreter services to Limited English Proficiency (LEP) and sensory impaired clients. The implementing staff is required to identify any person who needs interpreter services or documents in a language other than English. Services include bilingual workers, qualified translators, sign language interpreters, pictures, objects and bilingual brochures, communication devices, and forms or other materials in the client’s preferred language.
A.5 New York’s Dialingual Services

One of the language assistant programs implemented by the Health Association of New York State is CyraCom. CyraCom’s Dialingual services can access more than 150 languages through a patented dual-handset or any CyraPhone (Wilkes, 2000). In addition to on-site in person translations, sign interpretations, and document translations, the Cyraphone device helps the health care providers give quality services to their LEP customers. The CyraCom’s Dialingual Service is an example of a technique that can be implemented to serve LEP populations.
APPENDIX B. LANGUAGE RELATED RESEARCH IN TRANSPORTATION

Even before Executive Order 13166 was issued, the transportation community was concerned with how users with different cultures, languages, and educational backgrounds understood official information. For example, airports were interested in the effects of multilingual signage (Baer, 1995; Erhart, 1995) and signs that individual travelers can activate (Rhodes and Associates, 1999).

As immigration and LEP populations increased, the mobility needs of this population became of greater interest. The analysis of Polzin et al. (2001) showed that mobility varies between different cultural groups. While these differences have ameliorated over time, Hispanic mobility is still about 2 percent below the national average, while Asian mobility is about 15 percent below the national average. We have therefore looked for language-related studies sponsored by transportation agencies in the United States and in other countries that work to give LEP people greater access to information. Most studies in this area deal with highway signs rather than public transit. However, information learned in one domain has relevance for the other.

B.1 Driver’s Understanding of Alternative Traffic Signs in Texas

In order to help LEP truck drivers identify potential roadway hazards, the Texas Department of Transportation awarded a five-year contract to the Texas Transportation Institute to collect information on drivers’ understanding of alternative traffic signs in the Texas border areas which have many Spanish speaking people (Picha et. al., 1997). This project assessed motorist understanding of traffic control devices. It included evaluation of traffic signs and identification of the potential for misunderstood traffic signs. In the second phase of this project the researchers developed alternatives for the traffic signs identified as problematic in the first phase.

Alternatives that included Spanish-only wording had a higher comprehension rate than all-English signs for designations such as “load zoned bridge” or “weigh station next right.” The researchers also recommended putting metric measurements next to American units of measures.

B.2 Mexican Driver’s Comprehension of U.S. Traffic Control Devices

In the Mexican border areas of Texas, Spanish is common as a primary language and there are a large number of drivers from Mexico. This makes understanding English-only traffic signs difficult for the Spanish-only speaker. In research related to the study described in the last paragraph, Hawkins et. al. (1998) investigated how well drivers from Mexico understand the traffic control devices used in Texas.
This paper also compares different traffic control devices in the border areas in Texas and New Mexico. To understand the Mexican drivers’ comprehension of traffic signs, the researchers developed a survey for international port crossings (or bridges) in El Paso and McAllen, Texas. The results indicate that most of the Mexican drivers participating in the survey had some degree of understanding of the traffic control devices that were evaluated. The researchers identify which traffic control signs are well understood, have potential to be improved, and so on.

B.3 Visual Demand of Bilingual Message Signs

A study of bilingual (Finnish and Swedish) message signs was conducted in Finland (Anttila et al., 2000). Three kinds of variable message signs were used: a sign displaying a message alternately in Finnish and Swedish (2 seconds for each language), a sign displaying the same messages simultaneously, and a sign displaying air and road surface temperatures only in Finnish. By recording drivers’ eye movements during highway driving, the researcher could analyze the visual demands made by each sign. All subjects were males with Finnish as their mother tongue. 58 percent of younger subjects understood written Swedish well or very well, compared with 21 percent of older subjects. The analytical results indicate that the sign displaying alternating bilingual messages was no more demanding than the variable messages signs displaying the same messages simultaneously.

B.4 Bi-lingual Signing of Street Works in United Kingdoms

The New Road & Street Works Act 1991 mandates that almost all regulatory, warning, and information signs for drivers in Wales be bi-lingual in Welsh and English (Welsh Highway Authorities and Utilities Committee, 1991). Grin and Vaillancourt’s (1999) study for the European Centre for Minority Issues argues that the policy has given the Welsh language new legitimacy although it has cost several million pounds to change from all-English signage. The worth of the project ultimately depends on how many travelers benefit from the new signs. Jameson (2001) found that a four-line Welsh and English sign was no more distracting to drivers than a two-line English-only sign.

The conclusion that bilingual signs are not more visually demanding agrees with the Finnish study but may conflict with the recommendations of Picha et al. (1997). They argued for the use of all-English or all-Spanish signs on the basis that signage with both languages proved confusing for drivers. It also conflicts with the conclusions of Ontario Ministry of Transport (1996) that found that multilingual signs on Canadian roads contained too much information to digest easily. The reason for these conflicts may be that some bilingual/multilingual configurations are acceptable to some while others are confused.
APPENDIX C. LEP TRAVEL NEED SURVEY QUESTIONNAIRE

LEP Travel Need Survey

No._________ Date: ______________ Surveyor: ____________________________

1. Have you used public transit in New Jersey within the past year?
   ( ) No, please go to question #6 on next page.
   ( ) Yes, Please go to question #2

2. Please fill out the following table:

<table>
<thead>
<tr>
<th>How many trips do you make in a month?</th>
<th>Trip Purpose (working, going to school, eating, recreation, shopping, business meeting, visiting friends, visiting doctor or others)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus</td>
<td></td>
</tr>
<tr>
<td>Subway</td>
<td></td>
</tr>
<tr>
<td>Light Rail</td>
<td></td>
</tr>
<tr>
<td>Commuter Train</td>
<td></td>
</tr>
</tbody>
</table>

3. Do you have trouble in understanding the transit information?

<table>
<thead>
<tr>
<th>Transit Information</th>
<th>Do you have difficulty?</th>
<th>Is it useful?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route map</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timetable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Station announcements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ticket machine instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Station signs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Are you satisfied with the transit services?
   ( ) Very satisfied
   ( ) Satisfied
   ( ) Not satisfied

5. What changes do you think should be done to improve your transit experience?
   ( ) Signs, brochures and announcements in your native language
   ( ) Picture signs
   ( ) Translators
   ( ) Multilingual phone lines
   ( ) Website supported by multilingual texts
   ( ) Others________________

Please go to question #8 on next page.
6. The reasons you did not use transit
( ) No transit route available
( ) Prefer to drive
( ) Transit is too expensive
( ) Transit takes too long time
( ) Can’t understand Transit information in English
( ) Not reliable
( ) Other __________________

7. How do you get around?
( ) Drive by myself
( ) Ride as a passenger
( ) Use Taxi Cab
( ) Other __________________

8. What is your native language?
( ) Spanish or Spanish Creole
( ) Italian
( ) Chinese (Cantonese/Mandarin)
( ) Polish
( ) Russian/Ukrainian/RUM
( ) Portuguese
( ) Arabic
( ) Korean
( ) Other__________________

9. How well do you read English?
( ) "Very well"
( ) "Well"
( ) "Not well"
( ) "Not at all"

10. How well do you speak and understand English?
( ) ( ) "Very well"
( ) ( ) "Well"
( ) ( ) "Not well"
( ) ( ) "Not at all"

11. Gender:
( ) ( ) Male
( ) ( ) Female

12. Age:
( ) ( ) Under 20
( ) ( ) 20 – 30
( ) ( ) 31 – 64
( ) ( ) 65 or above

13. Do you have a valid driver’s license?
( ) Yes
( ) No

14. Number of cars in your household:
( ) 0
( ) 1
( ) 2
( ) 3 or more

15. Household size:
( ) 1
( ) 2
( ) 3
( ) 4
( ) 5 or more
( ) 4 or more

16. Total household income ($/year):
( ) Under $25,000
( ) $25,000 - $50,000
( ) $50,000 - $75,000
( ) $75,000 or more

17. If you have some suggestions to improve the transit service or increase transit use, please elaborate here.
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Thank you very much!
APPENDIX D. LEP TRAVEL NEED SURVEY QUESTIONNAIRE IN RUSSIAN

Проблемы пассажиров и их реализация

№ __________________________ Дата __________________________ Инспектор __________________________

1. Использовали ли Вы общественный транспорт в Нью-Джерси в течение последнего года
   ( ) Нет, пожалуйста, переходите к вопросу № 6 на следующей странице
   ( ) Да, пожалуйста, переходите к вопросу № 2

2. Пожалуйста заполните следующую таблицу:

<table>
<thead>
<tr>
<th>Сколько поездок в месяц вы осуществляетете:</th>
<th>Цель поездки: (работка, школа, прем пищи, отдых, покупки, деловые встречи, посещение друзей, доктора или др.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Автобусом</td>
<td></td>
</tr>
<tr>
<td>Метро</td>
<td></td>
</tr>
<tr>
<td>Железная дорога</td>
<td></td>
</tr>
</tbody>
</table>

Транспортная информация: Имеет ли проблема при прослушивании информации?

( ) Да, проблема. Перейдите к вопросу № 7 на следующей странице
( ) Нет, проблем нет.

Достаточно ли подобрано на видах транспорта:

( ) Не достаточно
( ) Достаточно

Передвижение на общественном транспорте:

( ) Недостаточно
( ) Достаточно

4. Увеличил ли вы проведенные перелеты?
   ( ) Очень повышек
   ( ) Увеличил
   ( ) Повышек не провел

5. Были ли проблемы с предварительной зарядкой батареи?
   ( ) Да, проблемы
   ( ) Нет проблем
   ( ) Не зарядка

6. Нужно ли предупреждение на маршруте?
   ( ) Да, требуется
   ( ) Нет

7. Были ли вы довольны действующим маршрутом?
   ( ) Очень довольен
   ( ) Довольны
   ( ) Хуже

8. Были ли вы довольны временем прибытия в Нью-Джерси?
   ( ) Очень довольен
   ( ) Довольны
   ( ) Хуже

9. Были ли вы довольны действующим маршрутом?
   ( ) Очень довольен
   ( ) Довольны
   ( ) Хуже

10. Были ли вы довольны действующим маршрутом?
    ( ) Очень довольен
    ( ) Довольны
    ( ) Хуже
5. Как вы считаете: каковы изменения необходимы для улучшения ваших поездок?

- Указания, брошюры и объявления на вашем родном языке
- Картинные указатели
- Переводчики
- Многоязычные телефонные линии
- Вебсайты с многоязычными текстами
- Другое

Пожалуйста переходите к вопросу № 8

<table>
<thead>
<tr>
<th>6. Почему вы не пользуетесь общественным транспортом</th>
<th>10. Насколько хорошо вы владеете английским языком?</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ) Нету маршрутов общественного транспорта</td>
<td>( ) Очень хорошо</td>
</tr>
<tr>
<td>( ) Транспорт очень дорогой</td>
<td>( ) Хорошо</td>
</tr>
<tr>
<td>( ) Поезда занимают много времени</td>
<td>( ) Плохо</td>
</tr>
<tr>
<td>( ) Не понимаю информацию на английском</td>
<td>( ) Не владею</td>
</tr>
<tr>
<td>( ) Не надежный</td>
<td></td>
</tr>
<tr>
<td>( ) Другое</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. Как вы передвигаетесь:</th>
<th>11. Пол</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ) Вожу сам</td>
<td>( ) Муж</td>
</tr>
<tr>
<td>( ) Вожу как пассажир</td>
<td>( ) Жен</td>
</tr>
<tr>
<td>( ) Пользоваю такси</td>
<td></td>
</tr>
<tr>
<td>( ) Другое</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Ваш родной язык:</th>
<th>12. Возраст</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ) Испанский, креольский</td>
<td>( ) до 20</td>
</tr>
<tr>
<td>( ) Итальянский</td>
<td>( ) 20-30</td>
</tr>
<tr>
<td>( ) Корейский</td>
<td>( ) 31-64</td>
</tr>
<tr>
<td>( ) Польский</td>
<td>( ) более 65</td>
</tr>
<tr>
<td>( ) Русский/Украинский</td>
<td></td>
</tr>
<tr>
<td>( ) Португальский</td>
<td></td>
</tr>
<tr>
<td>( ) Армянский</td>
<td></td>
</tr>
<tr>
<td>( ) Корейский</td>
<td></td>
</tr>
<tr>
<td>( ) Другой</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Как хорошо вы читаете по английскому</th>
<th>13. У вас есть действительные водительские права?</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ) Очень хорошо</td>
<td>( ) Да</td>
</tr>
<tr>
<td>( ) Хорошо</td>
<td>( ) Нет</td>
</tr>
<tr>
<td>( ) Плохо</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14. Количество автомобилей в вашей семье:</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ) 0</td>
</tr>
<tr>
<td>( ) 1</td>
</tr>
<tr>
<td>( ) 2</td>
</tr>
<tr>
<td>( ) 3</td>
</tr>
<tr>
<td>( ) 4</td>
</tr>
<tr>
<td>( ) 5 и более</td>
</tr>
</tbody>
</table>
15. Количество членов семьи:

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 и более</td>
</tr>
</tbody>
</table>

16. Общий семейный доход ($/год)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>До $25,000</td>
<td>$25,000-$50,000</td>
<td>$50,000-$75,000</td>
<td>$75,000 и более</td>
</tr>
</tbody>
</table>

17. Если у вас есть предложения по улучшению работы общественного транспорта, или по использованию его в целом, напишите ниже.

Большое спасибо.
APPENDIX E. DISCUSSION GUIDELINE FOR FOCUS GROUPS

Questions for Focus Group

1. Have you used public transit, such as bus, subway, light rail, and train, in New Jersey within the past year?
2. What kind of public transit do you use?
3. How many trips do you make in a month?
4. What is the trip purpose?
5. Are you satisfied with the transit services?
6. Do you have trouble in understanding the transit information?
7. Is the transit information useful?
8. What changes do you think should be done to improve your transit experience? What are the reasons you did not use transit? How do you get around?
9. If you have some suggestions to improve the transit service or increase transit use, please elaborate here.
10. Please record the following information

<table>
<thead>
<tr>
<th>Native language</th>
<th>Spanish</th>
<th>Chinese</th>
<th>Russian</th>
<th>Portuguese</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Italian</td>
<td>Polish</td>
<td>Korean</td>
<td>Arabic</td>
</tr>
<tr>
<td>English proficiency</td>
<td>Very well</td>
<td>Well</td>
<td>Not well</td>
<td>Not at all</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Age range</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Valid driver’s license</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cars in your household</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3+</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Household size</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4+</th>
</tr>
</thead>
</table>
APPENDIX F. FOCUS GROUP DISCUSSIONS

To present the focus discussions, we have grouped the various sessions under different language headings, even though most of the issues and responses are not language specific. The format, consistent with most focus group discussions, is organized and easy to follow.

F.1 The Hispanic Focus Group

On May 29th 2003, Dr. Schachter met with two Spanish/Portuguese speaking adult education classes in the Ironbound Community Corporation in Newark, New Jersey.

The first class was for basic ESL students. The class members were made up of 24 women and 6 men. The native language of about a quarter of the students (7) was Portuguese and the rest Spanish (23). The participants were mostly in their 20s and 30s. About 60 percent of them (18) had driver’s licenses and the rest (12) did not. About two thirds of the group (21) had a family car, and the others did not.

They all used public transit to get to work. Eleven people also used it to visit family. None used it for shopping. They used the bus and the train (PATH, NJ TRANSIT). At least 16 people used it once a week or more; seven people used it five times a week or more.

They understood maps, timetables (except for one person), ticket machines and station signs. That is because many instructions and signs are already bilingual Spanish/English. They said that the announcements were not clear, and the microphones on the trains were poor, but that they were satisfied with the transit service.

They said that their biggest problem was that they do not know how to transfer from one train or bus to another. They would like people who speak Spanish or Portuguese in the stations to help them. They would like the addition of bilingual websites and phone lines.

The second class that Dr. Schachter met on the same day in the same location was also composed of ESL students. There were 16 class members, 9 males and 7 females. Their native language was split between Spanish (11) and Portuguese (6) with one person who grew up in a bilingual Spanish/Portuguese household. Most of the participants were in their 20s or 30s, except for two people in their 60s.
Fourteen people used public transit. They used the bus and commuter train. Two people never used public transit because they travel by car. One person said simply, “No. Now I have my car.” Seven people used public transit five times a week or more. Four people used it once a week or less. The other people were in between.

Satisfaction levels varied. Two people said they were satisfied. Two people said they were not satisfied. Eight people did not like either of those choices. They said the correct choice for them would be “so so.” Two people did not want to answer the question.

Again people said they understood maps, timetables, ticket machine instructions and signs because many are in Spanish already. Two people said they could not understand the announcements because people did not speak clearly and the microphones are of poor quality.

When asked “how can we improve the transit experience?” they answered that they would like to see people who speak Spanish and Portuguese in the stations so that the riders can ask questions. Their second choice would be a printed information guide in Spanish and Portuguese. They said that a language line would be helpful, but only if a competent clerk is in the station to give information, and a multilingual website would also be useful. Similar to the first group, the biggest problem of the second group was how to transfer from one train or bus to another.

On June 4, 2003, Dr. Schachter met with two groups of Spanish speakers in the Hispanic Development Corporation in Newark, New Jersey. The first group was composed of basic ESL people, nine people with very limited English and one bilingual facilitator. There were seven men and two women and their age ranged from 20s to 40s.

Seven people used public transit. Two people did not use it because they had cars. Types of transit accessed included buses, subways, and commuter trains. These people used transit every day job searches, shopping, hospital trips, and family visits.

The group members volunteered that their biggest problem was that bus drivers did not understand them, so the riders cannot ask questions about location or cost. Transfers were a big concern. These riders did not understand how much to pay for a transfer and they could not ask anyone in authority. They also had problems
understanding how much to pay for each “zone.” Emergency doors in vehicles only have English labels so these Spanish speakers did not understand the instructions. The concern was that they cannot communicate with transit system employees when they have individual questions.

They did not understand announcements, but they realized that even English-speaking people had a hard time because of the poor equipment. Some people had trouble understanding the timetables; they believed that instructions on the bus timetable should be bilingual. They said that the biggest problem with the timetables, however, was that they are inaccurate; they do not indicate when the bus actually arrives. They could understand the ticket machines and maps.

Several students volunteered that a bus driver behaved rudely to them when they tried to ask questions in Spanish or heavily accented English. At least six people had such experiences. One driver told a rider that she should not speak Spanish to him because this was a bus for Americans.

The group members did not want to rate themselves either “satisfied” or “dissatisfied” with public transit. They preferred terms such as “so so” or “regular.”

They were asked “What changes would get more transit information to them?” They said that their first choice would be transit employees who speak some Spanish (e.g., bus drivers who speak some Spanish, Penn Station information desk employees who speak some Spanish). They said that they want personalized communication that meets their needs in a specific, one-time situation.

Other useful changes they suggested were more Spanish on the bus timetable and a bilingual website. They did not think a language phone line would be helpful.

Dr. Schachter met with the second group on the same day at the same location. This group was composed of median ESL people, with twelve women and two men. Their age ranged from 20s to 70s with an average between 20 to 40 years old.

Seven people used transit and seven did not. Those who did not use transit say it was because they had cars. Transit users accessed buses, subways and trains every day. They used transit to go to school, work, stores, and homes of family and friends.
Group members said that the biggest problem is that bus drivers do not speak Spanish. The passengers have questions about “zones,” but the driver cannot understand them and, therefore, cannot help.

Again people said they had experiences where a driver became nasty after they tried to ask questions in Spanish or heavily accented English. Drivers told passengers to speak in English or asked why the person had come to this country if she didn’t speak English. One driver screamed, “This is America!”

Group members said that they could understand maps and timetables, but that the timetables are hard to get and they do not correspond to the times when the bus actually arrives. They said that they could understand the ticket machines but have a hard time with the announcements.

The second group was different from the first group when asked whether they are satisfied with the transit services. This group clearly indicated that they are satisfied with the transit services.

As for changes to be made to get more transit information, their first choice was for bus drivers who speak some Spanish. These riders suggested that drivers who don’t speak Spanish should at least be polite and try to help people who do not speak English well.

On being questioned, the riders said that they would also find it helpful to have Spanish-speaking people at information desks and bilingual schedules easily available. They called phone lines and a bilingual website “OK.”

**F.2 The Arabic Focus Group**

Our focus groups with Arabic speakers were all conducted at the International Institute of New Jersey located in Jersey City, New Jersey. On May 28, 2003, Dr. Schachter met with a small group of three women with very limited English ability and two Arabic/English speaking facilitators.

The ages of the participants ranged from 30 to 45. None of them had driver’s licenses; therefore they used public transit, bus and train, five days a week on average. They use public transit for shopping, for visiting relatives and friends in New Jersey and New York, and for seeking employment. Public transit was important for them because they felt that taxis were too expensive. Public transit was crucial for their families because their husbands used the family autos to go to work.
However, they were not satisfied with the transit services. The reasons follow:

1. Not enough information appears in Arabic or French, a second language that they can read and understand. They have most trouble understanding maps and ticket machine instructions.

2. In stations, neither maps nor machines have Arabic text. If a traveler wants to ask a question to a station employee, he or she cannot find a person who speaks Arabic or French.

The suggestions that they made to get more transit information to them follows:

1. Their first choice for assistance would be to have information in Arabic or French on the maps and ticket machines in addition to English and Spanish.

2. Their second choice would be to have an Arabic or French speaker at the station who could give them assistance.

3. When being asked about a multilingual phone line at the station, they said that would be useful.

4. A multilingual website is not useful to them since they do not all have access to personal computers.

The women noted that a major transportation problem for them is that the state does not provide direct transit along routes they want to use. They said that transit is not designed to take them where they want to go. For example, they added, that there is no easy, direct public transit between the Arabic communities of Jersey City and Paterson. They also said that there are insufficient public transit routes in Paterson itself. They felt that transit is not planned with their community’s needs in mind.

Dr. Doris Fleischer and Mr. Guilin Li hosted the second Arabic speakers’ focus group on June 21, 2003, at the International Institute of New Jersey, in Jersey City. The two Arabic speakers they met were especially well connected to the diverse community of Arabic speakers in New Jersey. One was a woman engaged in outreach and crisis intervention projects; the other was a male journalist writing for a leading Arabic-American newspaper. Although each emphasized different
issues, they agreed in all of their observations, so the record will seldom specify which speaker made which comment.

In the Arabic community, usually only men work while women mainly care for home and children; the traveling public tends to be male, going to and from work and traveling during the workday as part of their job responsibilities. Women and children do some traveling, primarily close to home for shopping, visiting and school. Although families tend to be large, most often they have only one car used solely by the male members of the family. For all travel, however, about 80 percent use public transportation, while about 20 percent use cars.

The profile of people from the well over twenty nations that make up Arab-American travelers varies greatly. Not only do dialects of the Arabic language vary although people generally understand one another, but also the major language other than Arabic in a specific country may be English, French, or another language. Also, the education levels differ from country to country, Egypt, one of the largest, may serve as a model. While roughly 20 percent of this population had college degrees, 80 percent are barely literate in their native language. Therefore, the journalist indicated that when he seeks information, he goes to web sites for school children so that he will be able to explain ideas in ways that will be accessible to most of his readers.

People in the community do indicate that they have problems with travel such as the following:

1. Too often when travelers get lost on trains or buses, they find it difficult to get the help that they need to plan their trip more appropriately, as well as to correct mistakes while traveling. Those traveling from New Jersey to New York are especially intimidated about going to Port Authority and overwhelmed once they arrive there.

2. Many have problems regarding use of ticket machines, and many of these do not know how to secure the help they need when they face this difficulty.

3. Many find signs and maps unclear causing them to take the wrong bus or train, or go in the wrong direction.

4. There are no direct ways, using public transportation, of getting from one destination to another on many of the routes traveled by this population, most notably from Jersey City to Paterson. Sometimes, one has to first go
to Newark, or even to New York City, to get from one New Jersey site to another.

5. There are not enough local buses, causing people to have to walk over a mile to get to the bus traveling to the main artery of a locality. References were made specifically to the cities of Paterson and Union.

6. Too often, bus drivers appear rude, even disrespectful, to customers, sometimes closing bus doors as people rushing to catch bus are about to board.

7. Workers who require drivers licenses in order to secure employment are denied such licenses, not because of lack of driving ability, but because such licenses will serve as identification.

8. Trains and light rail vehicles often arrive infrequently, forty minutes is not uncommon, and remain in the station for only a brief period of time, as little as two minutes. For example, for a person with a mobility problem, or if a ticket machine is broken, such a schedule is unacceptable. Some routes mentioned in this regard are the PATH train to Newark and NJ TRANSIT trains to Edison.

Some solutions to the above problems were suggested:

1. Brochures explaining travel routes and schedules, as well as procedures in using ticket machines, should be easily available in Arabic. Arabic media outlets should also be used for this purpose. Access to an Arabic speaker via telephone would be welcome. Because people in this community will share information, such knowledge will be widely circulated.

2. Unlike brochures, which should be language specific, signs should be simple and clear, using pictograms when possible. Use of international travel signs should be the goal.

3. Maps should be large and easily understood. Routes should be clearly designated by means of colors, numbers, or letters.

4. The variety of bus routes should be increased to satisfy rider needs.

5. The number of trains and light rail vehicles should either be increased, or such vehicles should remain on station platforms for longer periods.
6. Training in courtesy should be continuous for drivers, and incentives for drivers to be considerate, such a special commendations determined by passengers, should be in place.

7. Driver’s licenses and proof of identity should be separate entities.

In general, Arabic-speaking transportation consumers are hopeful that New Jersey Department of Transportation and NJ TRANSIT will recognize the travel requirements of this growing population in the state and take appropriate action to meet consumer needs.

**F.3 The Polish Focus Group**

On July 1, 2003, Dr. Fleischer and Mr. Guilin Li met with Polish speakers who work at the United Poles and Federal Credit Union of America in Perth Amboy, New Jersey. Because of their work, they were able to discuss not only their own travel experiences, but also reflect on the general experiences of the Polish-speaking traveling public. Although families of Polish speakers tend to be small, commonly two parents and two children, all those in the family use public transportation—bus, train, and light rail—regularly, for work, school, shopping, entertainment, etc. Contributing to this behavior is the fact that public transit is such an intrinsic part of the culture in Poland.

At the same time, most adults acquire individual automobiles once they reach driving age. Families, therefore, tend to have several cars. Of course, there tend to be fewer automobiles in families living in densely populated areas where parking is a significant problem. Nonetheless, whether or not those of driving age own their individual cars, once they are legally able to drive, they acquire a driver’s license.

A significant number of Polish new arrivals are able to communicate in English. Since Polish speakers come from one specific country unlike Arabic speakers who are from many diverse nations, even those Polish speakers who cannot communicate in English tend to be part of a very close-knit community. If they do not speak English well enough to travel alone, they are accompanied by bilingual members of the Polish community and taught how to use public transportation, or to drive to get to their destination. One effect of this strong support system is that new arrivals from Poland assimilate rather quickly, both to the culture and language of the United States. There is some variation, however. For example those new arrivals from Poland settling in Perth Amboy will tend to become
proficient in English more quickly than those who settle in, say, Jersey City, where Poles are more likely to retain their language and Polish identity for longer periods of time.

For everyday activities, generally short trips within the neighborhood, the car is the transportation mode of choice as soon as the new arrivals from Poland can afford to have a car and have learned to navigate in the area. For longer trips, most would prefer public transportation, but there are disincentives to this mode of travel:

1. There is no express train, for example, from Perth Amboy to Newark, so even in rush hour, it takes less time to drive when one factors in waiting for public transportation and walking to one’s destination from the train station.

2. In too many cases, the use of public transportation is considered “scary,” even “a death wish,” by Polish-speaking travelers, especially at night, because of what are perceived to be dangerous areas.

3. Because buses arrive so infrequently, people are reluctant to use them, and because this reluctance keeps the numbers of the riding public down, buses come infrequently. This situation is seen as a vicious cycle that does not serve those who would prefer buses to private autos, nor does this situation serve the general public in obvious ways, including increase in traffic congestion and pollution.

4. Since buses and trains often arrive infrequently, it is important to have accurate schedule information. These schedules are, however, not as easily available as they should be. One suggestion offered was the use of the New Jersey Polish-American newspaper, which most Polish speakers read regularly.

5. Because public transit does not go to many areas to which Polish speakers travel, they are forced to use automobiles.

6. Some train rides are so expensive that using a car often seems cheaper.

Factors that do encourage use of public transportation are the difficulty of finding parking in some areas, as well as the high cost of auto insurance. “Park and Ride” to buses and trains is considered very useful. Also, there is hope that the ferry system will be augmented so that it will serve as an increasing mode of transportation. In general, Polish transportation consumers are enthusiastic about
public transit and would like to see these improvements made that they believe will serve the public more efficiently while also being cost-effective.

F.4 The Russian Focus Group

On June 26, 2003, at the East Brunswick Public Library, Bob and Arleen Dresnack met with a number of Arleen’s former ESL students. The students reside in East Brunswick, New Brunswick, and Highland Park in Middlesex County. Those living in the latter two municipalities are in close proximity to both bus and commuter rail lines, whereas the East Brunswick residents have only relatively limited bus service.

The group, as a whole, is highly educated. However, the ESL program in question, offered by the Jewish Family Vocational Service in Middlesex County, is intended only to provide sufficient English so that Jewish refugees from Russia can enter the workplace. Many in this group who are motivated take additional and more advanced ESL classes at Middlesex County College after securing jobs. In the main session, the former students queried still have LEP, although a few are more proficient in the English language.

The basic problems faced by the students in accessing public transportation are as follows:

1. No bus service on the weekend for local bus routes in East Brunswick, which primarily are commuter runs.

2. The above buses, even on weekdays, do not run after 6:40 PM. As such, while one can take the local bus to New Brunswick to access a rail line to Newark or New York City, one cannot get back to local neighborhoods in East Brunswick from New Brunswick by public transportation in the evenings.

3. Some bus lines, e.g. bus # 811 in East Brunswick, run service an hour apart. One spends a lot of waiting time to insure that they will be able to get on the bus at the desired time.

4. Local buses should be provided to get to/from the Transportation Centers in East Brunswick, which provide bus service to Manhattan. At present, unless you have a car or take car service, you can’t utilize the above centers.
5. In some cases, one who lives in New Jersey and works in New Jersey, e.g. reside in East Brunswick and work in Paramus, must travel into and out of Manhattan to get to and from work.

When asked about how to improve services or getting more information, the participants suggested that the bus stops should have shelters, which provide route maps and a schedule. The route map should depict each stop and the associated name of stop. At each bus shelter there should be posted a telephone number to call for information. Hopefully, a translator or at least a tape in various languages can be accessed to answer pertinent and common questions. Another suggestion is to have smaller buses run more often on evenings and weekends, which may alleviate some of the above problems.

F.5 The Mixed Language Focus Group

On June 25, Dr. Brooks administered the survey to a group of five ESL students at Zoni Language Center in Manhattan. All five live in New Jersey and commute to Manhattan via public transportation. They were all male, ranging in age from 20 to 35. Four were Arabic speakers, and one student spoke Urdu. Members of this group speak and understand English at a low intermediate level.

While there was agreement that public transportation in New Jersey was adequate, group members expressed frustration about bus service. One student stated that he had to walk almost a mile to catch the bus that he rides into Manhattan, and had to sometimes wait an hour for a bus to come. He said, however, that this was his only choice because there was absolutely no train service.

The rest of the group quickly agreed with him and offered their stories about how inconvenient the routes and schedules were for them. For all five of these men, PATH train service was occasionally used, but mainly for leisure activities such as visiting Manhattan for recreation. On these occasions, all said they would take a bus to the train, or ask a friend to take them to the train.

The bulk of the discussion addressed a more troubling problem. There was a unanimous agreement that NJ TRANSIT personnel were prejudiced, and that this LEP population experienced discrimination, especially from bus drivers. One participant said the bus drivers practiced “racial profiling.” “More than regular people, bus drivers think we are terrorists because we are Muslim. Sometimes they don’t stop when they see me, and I lose money for missing work,” he stated. Others described instances of verbal abuse and general disrespect.
One member suggested bus drivers needed training for cultural sensitivity. The emotional intensity of the group’s condemnation of racially biased bus drivers suggests this may be an important issue to address.

On June 29, Dr. Brooks met with twelve lower level Zoni Language Center students in West New York, New Jersey. All lived in New Jersey, and all took public transportation, most frequently the bus. The majority of the group was Mexican; two were from Colombia, and one from Brazil. Ages ranged from 20 to 37, with 3 females and nine males.

Like the previous Zoni group, there were general complaints about the scheduling. In fact, in the area that most live there are private “small white buses” that run much more often than “regular” buses, are cheaper, and generally provide better service. The only compromise is time. Going to Manhattan on a regular bus is quicker, one participant explained; however, on the trip via the white buses, the drivers are friendly and play Latin music.

The mention that the white bus drivers were friendly prompted a discussion of NJ TRANSIT rudeness. There was unanimous agreement. One female participant explained that every day she would smile at the driver and say good morning. He never smiles and furthermore acts rudely to her and most other riders who get on the bus along the way.

Another participant said that he had experienced rudeness from “information-givers” at Penn Station in Newark. He said one woman ignored him and when he asked again about a bus route, she laughed at him. He believed she was laughing at his English.

The session ended with one woman summarizing the discussing by saying, “Mexicans are poor. They don’t like us, but we pay like everyone. Why I have to wait one hour for a bus to get to work? It’s not right.”
APPENDIX G. THE QUESTIONNAIRE FOR TRANSIT AGENCIES
Survey of best practice services for Limited English Proficiency (LEP) travelers

ID. ___________________ Surveyer: ______________________________

Date: _______________ Contact: _______________________________

Name of the Transit System: ________________________________

Operating Agency: ________________________________

Service Region: ________________________________

1. Type of Transit Services:
   (    ). Commuter Rail
   (    ). Light Rail
   (    ). Heavy Rail
   (    ). Bus
   (    ). Other, please specify ________________________________

2. Is there a written agency plan for serving Limited English Proficiency (LEP) travelers?
   (    ). Yes. Would you please send us a copy?
   (    ). No.
   (    ). Under production.

3. Would you please name the top three languages other than English spoken by your riders?
   I. ___________
   II. ___________
   III. ___________

4. Do you use any multi-language announcements?
   (    ). No.
   (    ). Yes. Please specify the languages and locations.
         ___________   ___________
         ___________   ___________
         ___________   ___________

5. Is there timetable or route map in languages other than English?
   (    ). No.
   (    ). Yes. Please specify the languages used.
         ___________   ___________   ___________   ___________   ___________.
6. Are your ticket machines accessible via other languages besides English?
   ( ) No.
   ( ) Yes. Please specify the languages used.
   ________________________________________________________________

7. Do you provide multilingual phone lines?
   ( ) No.
   ( ) Yes. How do you publicize it?
   ________________________________________________________________

8. Do you staff information booths with multilingual persons?
   ( ) No.
   ( ) Yes. What is the utilization rate? ____________________________

9. Is there a multi-language website for your agency?
   ( ) No.
   ( ) Yes. Would you please give us the address?
   ________________________________________________________________

10. Do you use pictograms?
    ( ) No.
    ( ) Yes. Would you please give us a list of signs that you use?
    ________________________________________________________________

11. What other strategies do you use to provide information to LEP clients?
    ________________________________________________________________
    ________________________________________________________________

12. Does your organization have a system for receiving and processing complaints from LEP travelers?
    ( ) No.
    ( ) Yes, Please specify __________________________________________.

13. Do you provide training for transit employees to develop their ability to interact courteously with LEP populations?
    ( ) No.
    ( ) Yes, Would you please send us sample materials?

14. What are the estimated costs of your programs to help LEP people use public transit?
    ________________________________
15. Do you have a plan for dealing with emergencies or changes in procedures?
(   ) No.
(   ) Yes. Please send us a copy of the plan.

16. Do you have any mechanism for evaluating the success of these procedures?
(   ) No.
(   ) Yes. Please specify ________________________________.

17. What is your greatest success in providing services for LEP users?
____________________________________________________________________________________
____________________________________________________________________________________

18. What is presently your greatest need to better serve LEP users?
____________________________________________________________________________________
____________________________________________________________________________________

19. In your opinion, are the above survey questions relevant to the services you provide?
(   ) Very relevant
(   ) Relevant
(   ) Somewhat relevant
(   ) Not relevant at all.

20. Please send the related information to the following address:

Dr. Rachel Liu,
Department of Civil and Environmental Engineering
New Jersey Institute of Technology
University Heights, Newark NJ 07102

Thank you very much.
## APPENDIX H. MSAS WITH MOST LEP POPULATION

<table>
<thead>
<tr>
<th>MSA/CMSA</th>
<th>Total LEP Population</th>
<th>Total LEP Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles--Riverside--Orange County, CA CMSA</td>
<td>2,024,765</td>
<td>1</td>
</tr>
<tr>
<td>New York--Northern New Jersey--Long Island, NY--NJ--CT--PA CMSA</td>
<td>1,541,937</td>
<td>2</td>
</tr>
<tr>
<td>San Francisco--Oakland--San Jose, CA CMSA</td>
<td>551,266</td>
<td>3</td>
</tr>
<tr>
<td>Miami--Fort Lauderdale, FL CMSA</td>
<td>523,795</td>
<td>4</td>
</tr>
<tr>
<td>Chicago--Gary--Kenosha, IL--IN--WI CMSA</td>
<td>522,238</td>
<td>5</td>
</tr>
<tr>
<td>Houston--Galveston--Brazoria, TX CMSA</td>
<td>379,762</td>
<td>6</td>
</tr>
<tr>
<td>Dallas--Fort Worth, TX CMSA</td>
<td>354,036</td>
<td>7</td>
</tr>
<tr>
<td>Washington--Baltimore, DC--MD--VA--WV CMSA</td>
<td>228,630</td>
<td>8</td>
</tr>
<tr>
<td>Phoenix--Mesa, AZ MSA</td>
<td>199,335</td>
<td>9</td>
</tr>
<tr>
<td>San Diego, CA MSA</td>
<td>191,069</td>
<td>10</td>
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<tr>
<td>Boston--Worcester--Lawrence, MA--NH--ME--CT CMSA</td>
<td>187,492</td>
<td>11</td>
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<tr>
<td>Atlanta, GA MSA</td>
<td>152,775</td>
<td>12</td>
</tr>
<tr>
<td>Philadelphia--Wilmington--Atlantic City, PA--NJ--DE--MD CMSA</td>
<td>137,607</td>
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<tr>
<td>Denver--Boulder--Greeley, CO CMSA</td>
<td>114,233</td>
<td>14</td>
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<tr>
<td>McAllen--Edinburg--Mission, TX MSA</td>
<td>107,224</td>
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<tr>
<td>El Paso, TX MSA</td>
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<tr>
<td>Fresno, CA MSA</td>
<td>101,468</td>
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<td>Seattle--Tacoma--Bremerton, WA CMSA</td>
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<td>Las Vegas, NV--AZ MSA</td>
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<td>Sacramento--Yolo, CA CMSA</td>
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<td>Detroit--Ann Arbor--Flint, MI CMSA</td>
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<td>Tampa--St. Petersburg--Clearwater, FL MSA</td>
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<td>Salinas, CA MSA</td>
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<td>Honolulu, HI MSA</td>
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<td>Charlotte--Gastonia--Rock Hill, NC--SC MSA</td>
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<td>MSA/CMSA</td>
<td>Total LEP Population</td>
<td>Total LEP Rank</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---------------------</td>
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<tr>
<td>Salt Lake City--Ogden, UT MSA</td>
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<td>Laredo, TX MSA</td>
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<td>Raleigh--Durham--Chapel Hill, NC MSA</td>
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<td>Tucson, AZ MSA</td>
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<td>Modesto, CA MSA</td>
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<td>Santa Barbara--Santa Maria--Lompoc, CA MSA</td>
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<tr>
<td>Cleveland--Akron, OH CMSA</td>
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<td>Greensboro--Winston-Salem--High Point, NC MSA</td>
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<td>Milwaukee--Racine, WI CMSA</td>
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<td>Kansas City, MO--KS MSA</td>
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<tr>
<td>St. Louis, MO--IL MSA</td>
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</table>
APPENDIX I. WMATA’S METRO POCKET GUIDE

Thanks for using Metro
It’s clean, modern, safe and easy to use. No wonder Metro is considered the nation’s finest transit system.

Metrorail fares
- Each passenger needs a farecard to enter and exit.  
  (Up to two children under age five may travel free with a paying customer.)
- Fares are based on when and how far you ride. Pay regular fares weekdays 5:30 a.m. to 9:30 a.m. and 3-7 p.m.
- Pay reduced fares at all other times.
- People with disabilities and people over age 65 are eligible for discount fares. Please see the station manager for details.
- Large maps in each station show fares and travel times. Please see the station manager if you have any questions.
- Farecard machines are in every station. Bring small bills because there are no change machines in the stations and farecard machines only provide up to $5 in change (in coins). Specially marked machines accept credit and debit cards.

One Day Passes
- Get one day of unlimited Metrorail rides with a $6 One Day Pass. Buy it at a Metrorail Farecard machine in Metro stations.  
  Use it after 9:30 a.m. until closing on weekdays, and all day on weekends and federal holidays.
- Get a day of unlimited Metrorobus rides with a $5 Regional One Day Pass. Buy it from the bus driver. Use it on any regular Metrorobus and most other local bus systems in the area.

Neighborhood maps
Free maps are available at each station manager’s booth to help you find nearby points of interest.

Hours of service
Open: 5:30 a.m. Mon–Fri. 7 a.m. Sat–Sun.  
Close: midnight Sun–Thurs. 3 a.m. Fri–Sat. nights  
Last train times vary. To avoid missing the last train, please check the last train times posted in stations.

Traveltips
- Buy a roundtrip farecard to avoid lines at farecard machines after events.
- If possible, avoid riding Metro between 4 and 6 p.m. weekdays.
- During high tourist season, use other downtown Metro stations besides Smithsonian Station.
- If you lose an item on the bus or train in a station, call Lost & Found at 202-962-1195 or go online to metroopensdoors.com.

Getting to and from the airport
Ronald Reagan Washington National Airport: take the Yellow or Blue Line.
Dulles take the Orange Line to West Falls Church-VTU/ UVA station and take the Washington Flyer shuttle (runs every 30 minutes). Or take Metrobus 5A (runs every hour) from L’Enfant or Rosslyn stations or the Herndon-Monroe Park and Ride lot.
BWI: take the Green Line to Greenbelt Metrorail station and take Metrobus express route E80. The shuttle runs every 40 minutes between 6 a.m. and 10 p.m.

Plan your Metro trip online with The RideGuide at metroopensdoors.com.

Information subject to change.

Metro Pocket Guide
Mobility Information Needs of Limited English Proficiency Travelers
首都地鐵票價

每位乘客均須購買鋁箔票方可進站，（一位購票乘客最多可攜帶兩名五歲以下的兒童免費搭乘地鐵。）

票價按搭乘地鐵的時間和距離計價，週日以及下午5時30分至6時30分和下午8時至7時支付普通費用，所有其他時間均支付減價費用。

每個地鐵站內張貼的線路圖會顯示票價和行車時刻表。若有問題，請向地鐵站經理詢問。

每個地鐵站內均設有售票機，請攜帶小面值的鈔票，若購車站內沒有換鈔機，售票機最多可找回5美元的現金（硬幣）。有些售票機接受信用卡和提款卡。

一日通行票

若購買5美元的一日通行票，即可在一日內無限制地搭乘地鐵。請於地鐵站的通行票/普通車票售票機購買一日通行票。請在週日上午8時30分之後出地鐵站之前使用。週末和聯邦假日可全天使用。

若購買3美元的區域一日通行票，即可在一日內無限制地搭乘地鐵和至。請在購車站內購買通行票，可在任何普通車票和大多數其他地方公共汽車系統中使用。

臨近區域地圖

可在每個地鐵站經理工作亭中索取免費地圖，幫助您查找附近的觀光點。

服務時間

開放：星期一至星期五上午8時30分
星期六至星期日晚上7時

關閉：星期日至星期四晚11時
星期五至星期六凌晨4時

最後一班地鐵的時間可能不同。當您出夜間旅行時，請查閱地鐵站張貼的最後一班地鐵的時刻表，以防錯過最後一班地鐵。

旅行提示

請購買雙程車票，避免參加活動後在售票機處排隊等候。

如果可能，避免在週日下午4時至6時之間搭乘地鐵。

在旅遊高峰期，請史密森尼（Smithsonian）站外。

三級交通

華盛頓里根國家機場（Ronald Reagan Washington National Airport）：請搭乘黃線或藍線地鐵。

杜勒斯機場（Dulles）：請搭乘黃線至West Falls Church-VT/UVA站，然後轉乘Washington Flyer列車。

杜勒斯機場（Dulles）：請搭乘黃線至West Falls Church-VT/UVA站，然後轉乘Washington Flyer列車。

BWI機場：請搭乘綠線地鐵至Greenbelt地鐵站，然後轉乘BWI地鐵列車至機場。列車在上午6時至下午10時之間每40分鐘一班。

所提供資訊隨時可能更改。
**Guide de poche du Métro**

**Prix des tickets**
- Chaque passager doit disposer d'un ticket d'admission (darecard) pour entrer et sortir (deux enfants de moins de 5 ans peuvent voyager gratuitement avec un client disposant d'un ticket d'admission).
- Les tarifs sont déterminés en fonction de votre destination et de l'heure du voyage. Les tickets sont au plein tarif pendant les jours de la semaine, de 5h30 à 9h30 et de 15h00 à 19h00. Ils sont à tarif réduit le reste du temps.
- De grands panneaux affichés dans toutes les stations indiquent les tarifs applicables et les heures de voyage. Prière de vous adresser au directeur de la station pour toute autre question.
- Des distributeurs de tickets sont placés dans chaque station. Mannérez-vous de petites coupures car il n'y a pas de distributeur de monnaie dans les stations et les distributeurs de tickets ne rendent la monnaie que sur 5,00 € (en pièces). Certains distributeurs acceptent les cartes de crédit et les cartes de débit.

**Carte journalière**
- Profitez du Métro pendant toute la journée, sans aucune restriction, grâce à la carte journalière vendue au prix de 6,00 €. Achetez-la à l'issue des distributeurs de cartes d'abonnement/tickets situés dans les stations. Vous pouvez les utiliser à partir de 9h30, jusqu'à la fermeture, du lundi au vendredi, et toute la journée pendant les fins de semaine et les jours fériés.
- Voyages en métrobus toute la journée, sans aucune limitation, grâce à la carte journalière valable dans la région, vendue au prix de 3,00 €. Achetez-la auprès du chauffeur du bus. Vous pouvez l'utiliser dans l'importe quel métrobus et dans la plupart des systèmes locaux de transport par bus de la région.

**Plans de quartier**
- Des cartes sont mises gratuitement à votre disposition, au guichet du directeur de station, afin de vous aider à retrouver les différents lieux d'intérêt culturel du quartier.

**Heures de service**
- Ouverture: 5h30 du lundi au vendredi
  - 7h00 les samedis et dimanches
- Fermeture: Minuit du dimanche au jeudi
  - 3h00 les vendredis et samedis soirs
- L'heure des derniers trains peut varier. Lorsque vous voyagez tard le soir, prenez soin de vérifier l'heure du dernier train, indiquée dans chaque station, afin de ne pas le manquer.

**Conseil aux voyageurs**
- Achetez un ticket aller-retour pour éviter les files d'attente aux distributeurs après un événement sportif ou cultural quelconque.
- Si possible, évitez de prendre le Métrobus entre 16h00 et 18h00 pendant les jours de la semaine.
- Pendant la haute saison touristique, utilisez d'autres stations de Métro que la Station Smithsonian.

**Pour se rendre à l'aéroport**
- Dulles: prenez la ligne Orange jusqu'à la Station West Falls Church-VIR/USA, puis prenez la navette Washington Flyer (elle circule toutes les 30 minutes) jusqu'à l'aéroport. Vous pouvez également prendre le Métrobus SA (il circule toutes les heures) depuis les Stations L'Enfant ou Rosslyn ou depuis la zone de stationnement Herndon-Monroe.
- BWI: prenez la ligne Verte jusqu'à la Station Greenbelt Metrorail, puis prenez le Métrobus express, route 530, jusqu'à l'aéroport. La navette circule toutes les 40 minutes entre 6h00 et 22h00.

*Instructions sujets à modification. 7/01*
Metrorail-Fahrpreisinformationen

Jeder Fahrgast benötigt zum Eintritt in die bzw. zum Verlassen der Metro-Stationen eine Fahrkarte. Bis zu zwei Kinder unter 5 Jahren dürfen in Begleitung eines zahlenden Fahrgastes kostenlos mitfahren.

Die Fahrpreise berechnen sich nach der Länge der Fahrt und der Fahrplanzeiten. Hauptverkehrszeiten gelten werktags von 5:30 – 9:30 Uhr und 15:00 – 19:00 Uhr. Zu allen anderen Zeiten gelten verminderte Preise.

An jeder Station hängen große Pläne aus, an denen die Fahrpreise und -zeiten hervorgehoben. Falls Sie Fragen haben sollten, wenden Sie sich bitte an den Stationsleiter.


Tageskarten


Um einen Tag lang beliebig oft mit Metrobussen fahren zu können, kaufen Sie eine Tageskarte („Regional One Day Pass“) für US$ 3,— vom Busfahrer. Damit können Sie beliebig viele Fahrten auf allen regulären Metrobuslinien und mit den meisten anderen regionalen Buslinien unternehmen.

Orientierungskarten

An den Kiosken der Stationsleiter sind kostenlose Straßenkarten erhältlich, mit deren Hilfe Sie die Umgebungseingänge oder andere interessante in unmittelbaren Stationsbereich leichter finden können.

Betriebszeiten

Öffnungszeit: 5:30 Uhr Mo–Fr, 7:00 Uhr Sa–So
Betriebsschluss: 0:00 Uhr So–Do, 3:00 Uhr Fr–Sa

Die Abfahrtszeiten für die letzten Züge sind für die einzelnen Stationen verschieden. Wenn Sie spät unterwegs sind, lesen Sie bitte die jeweiligen letzten Abfahrtszeiten an den Stationen, um den letzten Zug nicht zu verpassen.

Tipps

- Um lange Schlangen nach Veranstaltungen zu vermeiden, empfehlen wir, dass Sie gleich Ihre Fahrkarte für die Hin- und Rückfahrt kaufen.
- Vermeiden Sie es möglichst, zwischen 16:00 und 18:00 Uhr werktags mit der Metro zu fahren.
- Benutzen Sie während der Hauptverkehrszeiten auch andere Metro-Stationen in der Innenstadt als die Station „Smithsonian“.

Flughafen-Transport

Ronald Reagan Washington National Airport: Nehmen Sie die „Yellow“ oder „Blue Line“.


BWI: Nehmen Sie die „Green Line“ zur Metrorail-Station „Greenbelt“ und fahren Sie den Metrobus Express-Route E30 zum Flughafen. Dieser Zubringerverkehr zwischen 6:00 und 22:00 Uhr alle 40 Minuten.
Costo dei biglietti della Metropolitana (Metrorail)

- Ogni passeggero deve avere un biglietto (farecard) per poter entrare e uscire. (Fino a due bambini sotto i 5 anni possono viaggiare gratuitamente con un passeggero pagante.)
- I costi sono basati sulla lunghezza del percorso desiderato e sull'ora della giornata. Si paga la tariffa regolare tra le 5:30 e le 9:30 e tra le 15 e le 19 di ogni giorno lavorativo. Si paga tariffa ridotta in qualsiasi altra ora.
- In ogni stazione delle mappe in grande scala elencano i costi dei biglietti e il tempo necessario per i vari percorsi. Si prega di interpellare il capostazione se si volessero rivolgere altre domande.

Abbonamenti per un giorno (One Day Pass)

- Con 6 dollari potete acquistare un biglietto che vi dà diritto a un numero illimitato di corsi per un giorno (One Day Pass). Lo si può acquistare presso le macchine per i biglietti (Passeur/Farecards) nelle stazioni della Metropolitana. Utilizzatelo dopo le 9:30 fino all'ora di chiusura nei giorni lavorativi, a tutto il giorno il sabato e la domenica e nei giorni dichiarati festivi dal Governo federale.
- Con 3 dollari potete acquistare un biglietto che vi dà diritto a un numero illimitato di corsi sugli autobus Metrobus (Regional One Day Pass). Lo si può acquistare dal conducente dell'autobus. Utilizzatelo su ogni normale autobus Metrobus e sulla maggior parte degli autobus delle altre reti locali della nostra regione.

Piantine dei quartieri

Presso i chioschi del capostazione sono disponibili delle carte gratuite per permettervi di trovare i punti interessanti del quartiere circostante.

Ore di funzionamento

Apertura: 5:30 lunedì - venerdì 7:00 sabato - domenica
Chiusura: 24:00 domenica - giovedì 3:00 sabato - domenica
L'orario dell'ultimo treno varia. Quando si desidera viaggiare tardi la sera, si prega di verificare l'orario dell'ultimo treno esposto nelle stazioni in modo da non perderlo.

Suggerimenti per le corse

- Se si acquista un biglietto di andata e ritorno si evitano le code alle macchine per i biglietti dopo eventi che richiamano molto pubblico.
- Se possibile, evitare di usare il sistema Metro tra le 16:00 e le 18:00 dei giorni lavorativi.
- Durante le prime del sistema Metro cerca di usare stazioni Metro del centro città diverse da quella dello Smithsonian.

Corse per e dall'aeroporto


Per l'aeroporto Dulles prendere la linea Arancio fino alla stazione West Falls Church-VT/UVA e poi prendere la navetta Washington Flyer (ogni 30 minuti) fino all'aeroporto.

Oppure prendere il Metrobus 5A (ogni ora) dalle stazioni L'Enfant o Rosslyn o dal parcheggio Pentagon Park and Ride.

Per l'aeroporto BWI prendere la linea Verde fino alla stazione Metrorail di Greenbelt e poi il Metrobus espresso 830 fino all'aeroporto. Questa navetta funziona ogni 40 minuti tra le 6:00 e le 22:00.

Nota: informazioni sono soggette a variazioni. 7/01
料金

利用客でお一人ごとに乗車券（フェアカード）が必要となります。（ただし、乗車券をお持ちのお客様1人につき5才以下のお子様2名までは無料）

料金はご利用になる時間帯と目的地までの距離によって異なります。普通料金：平日午前5時30分～午前9時まで、過夜料金：それ以外の時間帯

各駅には料金表と所要時間が掲載された大型路線図が掲示されております。不明な点は各駅の係員にお尋ねください。

乗車券販売機は各駅に設置されています。ただし、おまわりは各販売機につき最も多い5ドル（硬貨のみ）しか出ませんので、小さいお札や小銭をご用意ください。両替機はありませんのでご注意ください。

一部の販売機ではクレジットカードやデビットカードを受け付けています場合もあります。

1日パス

メトロを1日中無制限に利用できる1日パス（6ドル）は、各駅のバス/乗車券販売機で購入できます。平日の場合は午前9時30分からメトロ終了時間まで。また週末と祝祭日は始発から终了まで1日利用可能です。

メトロパスを1日中無制限に利用できる地域1日パス（3ドル）は、バスの運転手からお買い求めください。この1日パスはメトロパスのほか、ほとんどの地元バス会社に適用します。

周边地図

各駅の改札口付近にある係員ブースには、周边地域の観光スポットなどが掲載された地図（無料）が用意されていますのでご利用ください。

メトロ運行時間

始発：月曜～金曜：午前9時30分 土曜・日曜：午前8時
終了：日曜～木曜：午前12時 金曜：午前3時

終了時刻は駅によって異なります。夜遅くなる場合は、終電に遅れないよう各駅に再掲載された終電時刻をあらかじめお調べください。

ご利用のヒント

往復チケットを購入すると、高価なグリーンライオン・シャトルバスに空港へ（3分毎に運行）。また、「L'Enfant」駅、「Rosslyn」駅、あるいは「Henderson-Monroe Park and Ride」バス乗り場からメトロパスSA（1時間毎に運行）にて空港へ。

空港への行き方

グリーンライオンの「West Falls Church-VTU/ULA」駅下車、ラッシュ・フライヤー・シャトルバスにて空港へ（30分毎に運行）。また、「L'Enfant」駅、「Rosslyn」駅、あるいは「Henderson-Monroe Park and Ride」バス乗り場からメトロパスSA（1時間毎に運行）にて空港へ。

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内容は変更されることがあります。
메트로 천천히(Disconnected) 이용

메트로에서 타거나 내릴 때마다 유로 승차권(farecard)이 있어야 합니다. (송객 한 명당 품취료로 메트로를 이용할 경우에는, 현금 메트로에서 승차한 후 5개 이상의 아이들은 2명까지 무료 이용이 가능합니다.

요금은 승차 시간과 승차 기지에 따라 결정됩니다. 정일 오전 9:30~9:30까지 오후 3:37에서는 정규 요금이, 그리고 그 외의 시간대에는 할인 요금이 적용됩니다.

전철의 경우 터미널 메트로 지도가 있으며, 요금과 승차 시간 안내도 나와 있습니다. 공급하는 카드 있으면서 전 환영 받으십시오.

보도와 같이 메트로에서 지도가 있으면, 요금과 승차 시간 안내도 나와 있습니다. 공급하는 카드 있으면서 전환적 터미널 지도에 표시되어 있습니다. 일부 지하철에서는 상용 카드나 철도카드(‘메트로 카드’)를 사용할 수 있습니다.

“편의지역 배송”

5번 ‘관련지역 배송’을 구입하시면 메트로 전환을 하루 종일 무제한 이용하실 수 있습니다. 이 패스는 메트로 하루 배송/권한장을 가진 자가 이용할 수 있습니다. 치료

계는 오전 9:30부터 운행 종료 시간까지. 그리고 주말과 연휴에는 하루 종일 사용하실 수 있습니다.

5번 ‘리지어널 배송’(Regional One Day Pass)를 구입하시면 메트로 버스를 하루 종일 무제한 이용하실 수 있습니다. 버스 전환시기까지 구입하시면 됩니다. 

해당 지역 내에서, 모든 정규 메트로 버스 그리고 아울러 대부분의 기차 시내버스에 사용하실 수 있습니다.

부근 지도

부근에서 관광 가심의 가능한 곳들을 쉽게 찾아가실 수 있도록 각 첨단에 담당자 근무 청구에 해당용 무료 지도가 비치되어 있습니다.

메트로 포켓 가이드

공항에 오가는 전철 노선 안내

포드텐 바이어헌 트랜검 비행장 공항, 멜로우 또는 블루 하브를 타실 시.

렌트폰 공항: 오전 8:30 ~ 오후 4:30 메트로 푸스 차량 VTU/UVU 약까지가 체험할 수 있으며 200만 관광객으로 운영을 하고 공항까지 가신 만큼 보는 만, 또한 허리방석의 휴식 Park & Ride 코치에서 메트로 푸스 5A(공항 구간)를 타서 됩니다.

BWI 그린 랜드 타고 그린랜드 메트로 천천히 가서 메트로 푸스 메트로 푸스 노선 580 등을 타고 공항까지 가실시, 서쪽 

메트로는 오전 6시에서 오후 10시까지 메트로 분리합니다.
**Tarifas do Metrorail**

- Cada passageiro necessita de um passe de entrada e saída. (Até duas crianças menores de 5 anos podem viajar gratuitamente quando acompanhadas de um adulto pagante.)
- As tarifas estão baseadas nos horários e distâncias da viagem. Tarifas normais são cobradas durante a semana entre as 06:30 e 09:30 e 15:00 e 19:00 horas. Tarifas reduzidas são cobradas em todos os demais horários.
- Mapas grandes, localizados em cada estaçao, indicam as tarifas e os horários de operação. Em caso de dúvida, entre em contato com o gerente de estação.
- As máquinas de passes se encontram disponíveis em todas as estações. Como não existe máquina para trocar dinheiro nas estações, traga troco. As máquinas de passes só dão troco (em moedas) para no máximo 5 dólares. Algumas máquinas aceitam cartões de crédito ou débito.

**Horário de serviço**

- **Abrir:** 08h30 de Segunda a Sexta
  07h00 Sábados e Domingos
- **Fechamento:** Meia-noite, de Domingo a Quinta
  03h00 Sextas e Sábados
- Os horários do último trem variam. Para não perder seu trem, verifique os horários do último trem quando viajar tarde da noite. Os horários estão publicados nas estações.

**Dicas de viagem**

- Para evitar filas, adquira um passe de ida e volta nas máquinas de venda após eventos.
- Se possível, evite usar o Metrorail no horário entre as 16:00 e 18:00 horas durante a semana.
- Durante a alta estação de turismo, utilize outras estações do Metrorail no centro da cidade além da estação Smithsonian.

**Como chegar e sair dos aeroportos**

- Dulles: tome a linha Laranja até a estação West Falls Church-VTU/UV. O metrô não chega a Dulles, então você será transferido para o Metrorail.

**Passes válidos por um dia**

- Ganhe um dia de viagens ilimitadas no Metrorail comprando um Passe Válido por Um Dia por 6 dólares, que pode ser adquirido na máquina de Passes nas estações do Metrorail. Este passe pode ser usado durante a semana a partir das 06:30 horas até o horário de fechamento e em qualquer horário durante os finais de semana e feriados nacionais.
- Ganhe um dia de viagens ilimitadas no Metrobus comprando o Passe Regional Válido por Um Dia por US$ 3. Este passe pode ser comprado do motorista de ônibus e usado em qualquer Metrobus normal e na maioria dos outros sistemas de ônibus locais.

**Mapas dos bairros**

Mapas gratuitos se encontram disponíveis em cada estação de gerente de estação para ajudá-lo a encontrar pontos de interesse próximos.
Tarifas del tren Metrorail

- Todos los pasajeros necesitan un boleto \"farecard\" para entrar y salir. (Hasta dos niños menores de 5 años pueden viajar gratis con un cliente que paga pasaje.)
- Las tarifas se basan en el lugar que lo toma y en la distancia que viaja. Pagará las tarifas regulares entre semana de las 5:30 a las 9:30 a.m. y de las 3 a las 7 p.m. Pagará tarifas reducidas el resto del tiempo.
- Los mapas grandes de cada estación muestran las tarifas y los tiempos de viaje. Hable con el gerente de la estación si tiene alguna pregunta.
- Hay máquinas de boletos en cada estación. Lleve billetes de baja denominación porque no hay máquinas de cambio en las estaciones y las máquinas de boletos solamente ofrecen cambio de hasta $5 (en monedas). Algunas máquinas aceptan tarjetas de crédito y de débito.

Pases de un día

- Obtuve un día de viajes ilimitados en el Metrorail con un Pase de un día de $8. Comprelo en las máquinas de pases y boletos de las estaciones del Metro. Úselo después de las 5:30 a.m. hasta la hora de cierre entre semana, y todo el día los fines de semana y los días de fiesta nacional.
- Obtuve un día de viajes ilimitados en los autobuses del sistema Metrobus con un Pase regional de un día de $3. Compruébelo al vender el autobús. Úselo en cualquier Metrobus regular y en la mayoría de los demás sistemas locales de autobuses del área.

Mapas de la comunidad

Hay mapas gratis disponibles en cada estación en la caseta del gerente de la estación para ayudarle a encontrar sitios de interés cercanos.

Horas de servicio

- Abre: 5:30 a.m. de lunes a viernes
- 7 a.m. los sábados y domingos
- Cierra: a medianoche de domingo a jueves
- 3 a.m. los viernes y sábados por la noche

Los horarios de los últimos trenes varían. Cuando vaya a viajar tarde por la noche, consulte los horarios de los últimos trenes colocados en las estaciones para que no se le pase el último tren.

Consejos de viaje

- Compre un boleto de ida y vuelta para evitar las colas de las máquinas de boletos después de los eventos.
- Si es posible, evite viajar en el Metro entre las 4 y las 6 de la tarde entre semana.
- Durante la temporada alta de turismo, use otras estaciones del Metro en el centro de la ciudad aparte de la estación Smithsonian.

Vías de ida y vuelta al aeropuerto

- Dulles: tome la Línea Anaranjada hasta la estación West Falls Church-VT/UV, y tome el autobús Washington Flyer (pasada 30 minutos) al aeropuerto. O tome el autobús Metrobus 5A (pasada cada hora) en la estación L'Enfant o en la estación Rosslyn en el estacionamiento Park and Ride Herndon-Morest.
- EWR: tome la Línea Verde hasta la estación Greenbelt Metrorail y tome el Metrobus de la ruta exprés 830 al aeropuerto. El autobús pasa cada 40 minutos entre las 6 de la mañana y las 10 de la noche.
ViệcMetro

- Mỗi khách hàng đều phải có thẻ và (farecard) để lên xuống tàu. (Màn hình chờ ở trạm đều đặt 5 tư duy nếu đi với một khách hàng tàu sẽ về)
- Giá vé tùy thuộc thời gian và khoảng cách. Giá thường lệ là hàng ngày từ 5:30 tới 9:30 sáng và 3:00 tới 7:00 chiều. Giảm giá vé cho các ngày khác.
- Bản đồ tàu mới tàu có giá gốc và thời gian. Các quan lý snippets không có tốc độ khác.
- Có máy bán thẻ vé tàu mới, đến mang chồng tiền và máy bán thẻ chi có thể bán lớn tới 50.000 (khi tính tiền). Một số máy khác ở bảng thẻ tiền đúng (credit card) hay thẻ ngân (debit card).

Về một ngày

- Đi xe Metrorail trong một ngày không giới hạn bằng chỉ từ $6.00 One Day Pass, mua vé tại các trạm Metro có máy Passes/Farecards. Sử dụng sau 9:30 sáng cho đến giá dương cửa, và cả ngày cuối tuần cũng như ngày lễ nghỉ.
- Đi một ngày không giới hạn với xe Metromover chi trả 50.00 Regional One Day Pass, mua qua tài xế xe buýt. Đăng cơ benöt git xe buýt thông thường và đầu hiệu trên bảng xe buýt địa phương trong vùng.

Bản đồ vùng lớn

Chống tị cùng cấp bản đồ màu phù hợp với mỗi quầy quân lý trạm để giúp quý vị tìm ra các khu khác.
APPENDIX J. TRI-COUNTY “HOW TO RIDE” GUIDE

Handy phone numbers
Customer Service .......... 503-238-RIDE(7433)
TTY .................................. 503-238-5811
Senior & Disabled Citizen Info .......... 503-962-2455
Call-A-Bus schedules by phone .......... 503-231-3199
Lost & Found .................. 503-962-7655

Where to get tickets, passes and schedules
Tickets, passes and schedules are available online at trimet.org, at TriMet’s Customer Assistance Office in Pioneer Courthouse Square, and at Safeway, Fred Meyer and most Albertsons stores.

Como Viajar

Cómo Viajar

Cách sử dụng xe buýt và

시내 버스 이용 방법

乗車須知

Plan your trip on trimet.org

Effective
August 31, 2003
Welcome aboard!
Welcome to TriMet, your local public transportation service. TriMet provides bus, light rail train, LIFT, carpool and bicycle services. The train is called MAX.

Using TriMet is the best way to get around Portland, and it's easy. Start by picking up a schedule for the routes you want to ride.

Get ready to ride
1 Reading your schedule
Be sure you have the correct day. Buses and MAX use different schedules on weekdays, Saturday and Sunday. On these holidays use Sunday schedules: New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas.

Make sure you have the correct bus number and name; some lines have the same number but two names.

Timepoints at the top of the schedule name major stops along the route. Reading from left to right tells you how long it takes to get from point to point along the route. Reading from top to bottom tells the departure time at each timepoint.

2 Getting on and off the bus
Look for one of these signs that mark bus stops. Wave to the operator as your bus approaches, board through the front door and pay your fare or show your transfer or Monthly Pass. Please yield front seats to senior citizens and customers with disabilities. Relax until you near your stop. Pull the bell cord to tell the operator that you want off. Leave through the back door if possible.

Getting on and off MAX
Be sure you have your fare before you get on the train. MAX stops at all stations. If the doors facing the platform do not open automatically, just press the lighted button near the door.

How much to pay

<table>
<thead>
<tr>
<th>Fare</th>
<th>Single Fare</th>
<th>10 Tickets</th>
<th>Monthly Pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-Zone</td>
<td>$1.60</td>
<td>$15.50</td>
<td>$58.00</td>
</tr>
<tr>
<td>2-Zone</td>
<td>$1.30</td>
<td>$12.50</td>
<td>$4.70</td>
</tr>
<tr>
<td>1-Zone</td>
<td>$1.30</td>
<td>$12.00</td>
<td>—</td>
</tr>
<tr>
<td>Honored Citizen</td>
<td>$0.60</td>
<td>$5.00</td>
<td>$16.00</td>
</tr>
<tr>
<td>Youth</td>
<td>$1.00</td>
<td>$9.50</td>
<td>$34.00</td>
</tr>
</tbody>
</table>

ID IS REQUIRED for Honored Citizens (65+ or disabled) and for Youth (18 or younger). Up to three children age 6 and under may ride free with a fare-paying passenger.
RIDES ARE FREE IN FARELESS SQUARE—downtown and in the Lloyd District. Downtown boundaries are the Willamette River, NW Irving, and I-405. Across the river, Lloyd area buses and MAX stops along Holladay Street to Lloyd Center/NE 11th Avenue and Multnomah Street to 13th are free.
How to pay on the bus

There are several ways to pay—you can pay cash when you board, buy tickets from a TriMet ticket outlet or ticket machine, or save money by buying a Monthly Pass in advance.

Cash or ticket

Put exact change (coins or bills) or ticket in farebox on buses. Operators do not make change. The operator will give you a transfer. Keep your transfer until you have completed your trip. Your transfer is your receipt.

Monthly pass

Show your pass to the bus operator.

3 Transfers

Use your transfer to switch between buses and MAX. Check the time torn at the top to see when your transfer expires. Until that time you can board any bus or MAX. If the time expires while you are riding, the transfer is still good until you get off.

Using a ticket machine

Single tickets come from the machine stamped with the date, expiration time and zone.

Other, unstamped tickets must be stamped in the validator next to the ticket machine at MAX stations. Keep your ticket or transfer until you leave the station after your ride.

Monthly Passes may be purchased from some ticket machines.

MAX drivers do not check fares; fare inspectors randomly check fares. Anyone not paying proper fare may be fined up to $250, excluded from the system, or arrested.

4 Tips for easy riding

We appreciate your cooperation in following these rules:

- No smoking
- Yield front seats to senior citizens and customers with disabilities
- Fare receipt (transfer, ticket or pass) required
- Animals in closed containers only
- No open food or beverage containers
- Keep head and hands inside bus
- Use radios with headphones only
- Do not put your feet on seats
TRIMET

10 :30
9
8 :30
7
6
5 AM

KEEP THIS TRANSFER AS YOUR RECEIPT

M J I E
X D B C
A H Y

All Zones

2 Zones
3-2 2-1

1 Zone
1 2 3

Questions?

Call 503-238-7483 (TTY 503-238-5511), Monday–Friday, 7:00 a.m.–9:30 p.m.

To connect to an interpreter, simply wait for instructions in your language. A friendly Trimet customer service representative, working through the interpreter, will help you with:

- Trip planning and fares
- How to ride Trimet’s MAX light rail trains and bus
- Lost and found
- Blinds on Trimet
- Accessible services for elderly and disabled riders

Visit Trimet’s website at trimet.org for more information, including Trimet’s Online Trip Planner.

Thank you for riding Trimet.
Bienvenidos!  
Bienvenidos a TriMet, su servicio de transporte público. TriMet cuenta con servicio de autobuses, tren eléctrico, LIFT, servicio de transporte compartido y de bicicletas. El tren eléctrico se llama MAX.

Utilizando TriMet es la mejor forma de recorrer Portland, y también es fácil. Comience por recoger los horarios con las rutas por las que usted quiere viajar.

Prepárese para viajar

1. Cómo leer su horario
   Asegúrese de que está mirando el día correcto. Los autobuses y el MAX tienen distintos horarios para los días de semana, los sábados y los domingos. Para los siguientes días feriados también use el horario del domingo: Año Nuevo, el Día de Memorial, el Día de Independencia, el Día del Trabajador, el Día de Acción de Gracias y Navidad.

   Asegúrese de tener el número y nombre correcto de autobús. Algunas líneas de autobús tienen el mismo número, pero tienen dos nombres distintos.

   Los lugares mencionados en la parte superior del horario son las paradas principales a lo largo del recorrido. Si los días feriados, es decir, la cita cuatro tercios tardarán en ir de un punto a otro a lo largo del recorrido. Si los días finales, algunos de su día de viaje en cada uno de los lugares mencionados.

2. Subiendo y bajando del autobús
   Busque uno de estos puntos que indica la parada del autobús. Cuando el autobús está cerca haga una señal al conductor, suba por la puerta detrás y pague su billete o muestra su tarjeta o pase mensual.

   Por favor ceda los asientos a los que lo necesita. Si los pasajeros con discapacidades físicas. Decorese hacia que esté cerca de su parada. De un toque al conductor de dudar para hacerlo saber el conductor que desea bajar. Si lo permite el horario por la puerta trasera.

   Subiendo y bajando del MAX
   Antes de subir, asegúrese de tener su boleta, MAX para en todas las estaciones. Si las puertas que están frente a la estación no se mueven. Autónomamente, grabe el lugar rumbo que se ha instalado de la puerta.

   Pagando su boleta
   Los boletos de autobuses y el MAX incluyen los viajes y

Добро пожаловать!
Добро пожаловать в Трай-Мет, Вашу местную службу общественного транспорта. Трай-Мет предоставляет услуги автобуса, трамвая, LIFT, организовывает совместные поездки на работу, а также услуги по перевозке велосипедов. Трамвай называется MAX.

Самый удобный и простой способ передвижения в Портленде это пользование услугами Трай-Мет. Начните наше знакомство с изучением расписания маршрутов, которыми Вы планируете пользоваться.

Подготовьтесь к поездке

1. Как читать расписание Вашего маршрута
   Удостоверьтесь в правильности выбранного дня недели. Автобусы и MAX движутся по разным расписаниям в рабочие и в выходные дни. В нижеперечисленные праздничные дни используйте воскресное расписание: Новый Год, Мемориальный День, День Независимости, День Труда, День Благодарения и Рождество.

   Удостоверьтесь в правильности номера и названия автобуса, которую автобус имеет после остановки, но не дождитесь автобуса.

   Также приедет и на другую платформу передачи установленный на платформе информационный атрибут. Попытка проверить, на какой платформе автобус стоит, откройте двери на платформе автобусной платформы. Наконец, откройте двери на платформе автобусной платформы.

   Как сесть и сидеть с MAX-ом
   Обязательно остановите перед входом, как сидеть на красном. MAX останавливается на красном.
Chào mừng quý khách!
Xin chào đón quý khách đến TriMet, một công ty quản
chức cung cấp dịch vụ giao thông công cộng. TriMet cung
cấp các dịch vụ như xe buýt, xe điện, LIFT (giúp người tàn
tật), dịch vụ giúp người đi chung xe, và các dịch vụ
giúp người sử dụng xe đạp. Xe điện được gọi là xe MAX.
Đồng hồ thông TriMet là cách hay nhất để dễ dàng đi
dạo đi ở trong khu vực Portland. Trong thời, bạn phải có
tổng biếu lưu hành của tuyến đường bạn muốn đi.

Hány chuẩn bị sẵn sàng

1. Độc Thống biếu lưu hành.
Nên xem đúng ngày mùng muộn đi. Xe buýt và MAX
chỉ các giờ giấc khác nhau vào những ngày làm việc,
Thứ Hai và Chủ Nhật. Bạn hãy dùng thời biếu của ngày
Chủ Nhật vào những ngày lễ sau đây: Tết Độc Lập,
Ngày Chiến sĩ Trảm Vọng (Memorial Day), Lễ Độc Lập
(Independence Day), Lễ Tạ ơn (Thanksgiving) và Giáng.
Sinh.
Nên nhớ chính xác số và tên của xe buýt, đời khi xe
có không chuyển lại thì tiến.

2. Làm hay xử dụng xe buýt.
Nên chủ một trong những điều này để có giữ
trong các mùa xe buýt. Hãy lấp một chỗ cần thiết mới khi
xe buýt tự diligently, xe xe bị obra và đi chậm. Việc
vì lòng tin chúng tôi không phải là chúng tôi có giữ
ông chờ xe buýt, nên ngày chuyển chỗ để có giữ quán
trực truy xe buýt. Các nhà buýt, xe buýt. Các nhà
buýt, xe buýt.

3. Trại tiền vé
Để xem xe buýt, bạn cần tiền để đi di chuyển, MAX
ngừng ở một điểm. Nếu bạn muốn đi, bạn hãy mua một di động để có tiền.

4. Trá ánh
Để xem xe buýt, bạn cần tiền để đi di chuyển, MAX
ngừng ở một điểm. Nếu bạn muốn đi, bạn hãy mua một di động để có tiền.
## MTA Service Information

**MTA on the World Wide Web:** [www.mta.info](http://www.mta.info)

### MTA New York City Transit

- **Subway and bus information:** 718-330-1234, 718-596-8273 (TTY)
- **Service status hotline:** 718-243-7777
- **Customer service:** 718-330-3322
- **Non-English-speaking customers:** 718-330-4847
- **Escalator and elevator hotline (24 hours):** 800-734-6772, 718-596-8273 (TTY)
- **Accessible travel information (6am to 9pm):** 718-596-8585
  - **Access-A-Ride:** 877-337-2017
  - (paratransit for customers who cannot use regularly scheduled trains and buses)
  - **MTA Staten Island Railway:** 718-966-7478

### MTA Long Island Rail Road

- **Travel information:** 718-217-LIRR (5477)
- **Travel information (calling from New York City):** 718-558-3022 (TTY)
- **Travel information (calling from Nassau):** 516-822-LIRR (5477)
- **Travel information (calling from Suffolk):** 631-231-LIRR (5477)

### MTA Long Island Bus

- **Travel information:** 516-228-4000, 516-228-4002 (TTY)
  - (including Farmingdale Shuttle, Woodbury Shuttle, Merrick Shuttle, and Able-Ride – paratransit for Long Island customers)

### MTA Metro-North Railroad (including Hudson Rail Link)

- **Travel information (from New York City):** 212-532-4900
- **Travel information (from all other areas):** 800-METRO-INFO
  - 800-724-3322 (TTY)

### MTA Bridges and Tunnels

- **E-ZPass® information, applications, customer service locations:** 212-360-3000
- **800-333-TOLL (8655)**

### MTA New York Transit Museum

- **718-243-8601**

### MTA Public Meeting Hotline

- **212-878-7199**

### Reduced-Fare and MetroCard Information

- **MTA Reduced-Fare Office:** 718-243-4999
- **MetroCard inquiries (calling from New York City):** 212-METROCARD (212-636-7622)
- **MetroCard inquiries (calling from all other areas):** 800-METROCARD (800-636-7622)
Getting Around New York by Public Transportation

The Map shows MTA subways, railroads, toll bridges, and tunnels, as well as selected connecting trains, buses, ferries, and other crossings. Each subway line or railroad line has a different color.

MTA New York City Transit Subway connects 4 of the city's 5 boroughs. Runs 24 hours a day, 7 days a week, but not all trains run at all times. Questions? Ask a station clerk. Or, for subway help in English, call 1-718 330-1234, 24 hours a day. For help in all other languages, call 1-718 330-4847, 7 a.m. to 7 p.m.

MTA Railroads connect New York City with towns as far as 115 miles to the east (Long Island Railroad, LIRR), and 74 miles to the north (Metro-North Railroad, MNR). Trains run on schedules listed in timetables in stations.

Cost of Ride: No matter how far you ride, subway, local bus, and Staten Island Railway base fare is $2.00, payable by MetroCard. (MetroCard is sold at all subway stations and 3,500 stores). Railroad fares are distance-based; tickets can be bought at stations or on trains.

MetroCard: Two kinds: (1) Pay-Per-Ride – sold in amounts from $4 to $80 – also allows one free transfer from subway to bus, bus to subway, or bus to bus in a two-hour period. Rides cost 20% less when you buy a Pay-Per-Ride MetroCard worth $10 or more. (2) Unlimited Ride – $7 for the 1 day Fun Pass; $21 for 7 days; and $70 for 30 days.

Riding the Subway: Signs outside stations have colored circles showing letters or numbers of train lines that stop there. After you pay your fare and go through the turnstile, follow signs for the line you want. At the platform edge, overhead signs indicate which trains stop there, destinations, and hours of operation. Service changes are posted on platform pillars.

Emergencies: Look for a police officer: NYC Police Department patrols the subways; MTA police patrol LIRR and MNR. In subway stations, go to the clerk at the booth or look for a telephone and call 911 (free). On subway trains, the operator is at the front of the first car; the conductor is in the middle of the train. On railroads, conductors walk through trains.
利用公共交通工具通行至纽约

地图标明捷运局的地铁、铁路、付费桥梁、隧道和某些火车、巴士、和渡船路线。每一端地铁或火车线路都有不同的色彩标明。

(MTA) 地铁连接本市五大区的四个区，每天二十四小时，每周七天运营。但是并不是所有车辆都全天运行。如有问题，请向车站服务人员查询，或致电询问地铁情况。二十四小时英语热线为1-718-330-1234，其他语言可在每日上午七时至晚上七时致电1-718-330-4847。

(MTA) 铁路连接纽约市和其他城镇，东至一百八十五公里处（长岛铁路-LIRR），北至一百一十九公里处（大都会北铁路-MNR）。火车按车站张贴的时间表准时运行。

票价：不论您乘坐多少站，地铁、巴士、和史坦登岛铁道均为两美元，用捷通卡付散。（捷通卡在所有地铁站和三千五百家商店出售。）火车票价则根据路程长短，在火车站或火车上购买。

捷通卡：有两种：（一）按乘次付费：售价四美元至八十美元，您可在两小时内免费转乘一次，从地铁转巴士，从巴士转地铁，或从巴士再转巴士。购买十美元或以上的捷通卡可享受百分之二十的优惠。（二）无限次乘坐——一日七美元（通勤卡）、七日二十一美元、以及三十日七十美元。

乘坐地铁：地铁站外有彩色圆圈标明地铁路线号码或在该站停靠的路线。您付足并通过转盘入口后，跟着您要乘坐的车辆标志前进。月台及上方有标志指向在该月台停的车辆、前往何处、运行时间等。运行情况若有变动则在月台柱子上张贴通告。

紧急情况：请找警官。纽约市警察局负责巡逻各地铁站。（MTA）捷运局警察负责巡逻LIRR和MNR。在地铁站，可到售票处找工作人员或致电九一一（免费）。在地铁车厢内，司机在第一节车厢，管理员则在中间车厢内，在火车上，管理员在车厢来回走动。

MTA

Metro City Transit
Long Island Rail Road
Long Island Bus
Metro-North Railroad
Bridges and Tunnels

Going your way
Comment se déplacer dans New York grâce aux transports publics

La carte MTA comporte toutes les lignes de métro et ferroviaires de New York, les ponts et tunnels à péage, ainsi que certaines correspondances permettant d'accéder aux trains, aux bus, aux ferries et autres. Chaque ligne de métro et de train est dotée d'une couleur différente.

Le réseau de métro de la MTA relie 4 des 5 secteurs urbains de New York (le Bronx, Brooklyn, Queens et Manhattan) et fonctionne 24 heures sur 24, 7 jours sur 7 (à l'exception de certains trains à certaines heures). Si vous avez des questions, adressez-vous à un agent de station ou, pour obtenir de l'aide en anglais, composez le 1-718-330-1234, 24 heures sur 24. Pour obtenir de l'aide dans une autre langue, composez le 1-718-330-4847, entre 7 heures et 19 heures.

Les lignes ferroviaires de la MTA relient New York à ses banlieues, et s'étendent jusqu'à 185 kilomètres à l'est (Long Island Railroad ou LIRR) et jusqu'à 119 km au nord (Metro-North Railroad ou MNR). Les horaires des trains sont disponibles dans toutes les stations.

Prix des billets: Quelle que soit la distance parcourue, un trajet simple en métro, en bus ou sur la ligne ferroviaire Staten Island Railway est de 2 dollars. Ce tarif est payable avec la MetroCard, qui est vendue dans toutes les stations en plus de 3 500 magasins à New York. Les prix des billets de train sont, quant à eux, basés sur la distance parcourue. Ces billets peuvent être achetés soit dans les gares, soit à bord des trains.

Il existe deux types de MetroCard: (1) la carte «Pay-per-Ride» (trajets à l'unité), qui peut valoir de 4 à 80 dollars et qui donne droit à une correspondance gratuite de métro à bus, bus à métro, ou bus à bus dans les deux heures suivant le début du trajet (de plus, vous bénéficiez d'un rabais de 20 % lorsque vous achetez une MetroCard «Pay-per-Ride» de 10 dollars ou plus); et (2) la carte «Unlimited Ride» (trajets illimités), qui est soit journalière (la «Fun Pass» à 7 dollars), soit hebdomadaire (carte à 17 dollars), soit mensuelle (carte à 70 dollars).

Déplacements en métro: Les panneaux situés à l'extérieur de chaque station comportent des cercles de couleur indiquant les numéros ou les lettres correspondant aux lignes de métro passant par cette station. Une fois que vous êtes passé par le tourniquet, suivez les panneaux correspondant à la ligne que vous souhaitez prendre. Des panneaux situés en hauteur le long des quais comportent également les cercles de couleur correspondant aux lignes qui s'arrêtent sur ce quai, ainsi que leur destination finale et les heures auxquelles les trains circulent. Les changements de service ou d'horaire sont signalés par des affiches collées sur les piliers des quais.


Andando in Giro per New York
Usando i Trasporti Pubblici

La mappa mostra le linee della Metropolitana, delle Ferrovie, i pedaggi dei Ponti, dei Tunnel e le connessioni tra Treni, Autobus e Traghetti, e altri incroci. Ogni linea ferroviaria o Metropolitana ha un colore diverso.

La Metropolitana del MTA collega 4 dei 5 sobborghi della città, funziona 24 ore al giorno, 7 giorni alla settimana ma non tutti i treni viaggiano continuamente. Domande? Chiedete all'impiegato della stazione o per informazioni sulla Metropolitana in inglese, telefonate al 1-718-330-1234, 24 ore al giorno, per informazioni in altre lingue telefonate al 1-718-330-4847 dalle 7:00 alle 19:00.

La Ferrovia del MTA collega la città di New York ad altre città distanti fino a 185 km ad Est (Long Island Railroad, LIRR) e 119 km a Nord (Metro-North Railroad, MNR). I treni viaggiano seguendo l'orario esposto nelle stazioni.

Tariffe: Non ha importanza la distanza, la Metropolitana, gli Autobus e la Ferrovia per Staten Island hanno la stessa tariffa: $2 pagabili con la MetroCard (la MetroCard è in vendita in tutte le stazioni della Metropolitana e in circa 3,500 negozi). Le tariffe delle Ferrovie sono a secondo delle distanze; i biglietti si possono comprare nelle stazioni o sui treni.

MetroCard: Due tipi: (1) Pay-per-Ride venduta a partire da $4 fino a $80 - dà anche il diritto al trasferimento gratuito dalla Metropolitana all'Autobus, dall'Autobus alla Metropolitana, o tra Autobus entro 2 ore. La tariffa ha uno sconto del 20% quando comprate la MetroCard da $10 o superiore. (2) illimitata: $7 per 1 giorno ("Fun Pass") $21 per 7 giorni e $70 per 30 giorni.

Prendere la Metropolitana: Fuori dalla Stazione ci sono dei segnali circolari colorati che mostrano le lettere o i numeri delle linee dei treni che si fermano in quella Stazione. Dopo aver pagato la tariffa passate attraverso le barriere e seguite le seguenti linee che volete prendere. Nelle piazze ci sono segnali in alto che indicano i treni che fermano in quel luogo, le destinazioni e gli orari. Quando ci


Das MTA-Eisenbahnnetz verbindet New York City mit Städten bis zu 185 Kilometer östlich (Long Island Railroad, LIRR) und 119 Kilometer nördlich (Metro-North Railroad, MNR). Die Fahrpläne der Züge befinden sich jeweils an den Bahnhöfen.


대중 교통수단을 이용한 뉴욕 여행

지도에는 MTA 지하철, 철도, 유료교량 및 터널이외에도 주요 연결기지, 버스, 택시 및 기타 교차점들이 표시되어 있습니다. 각 지하철 및 철도 노선은 서로 다른 색깔로 구분되어 있습니다.

MTA 뉴욕시 지하철은 뉴욕시 5개 보로 중 4개 보로를 서로 연결합니다. 보통 주 7일 24시간 운행되나 일부 예외도 있습니다. 공휴일 점이 있으면, 역무원에게 문의하십시오. 지하철에 관하여 염여로 도움이 필요하면 하루 24시간 1-718-330-1234로 전화해십시오. 기타 인이나 도움이 필요하면 오전 7시에서 오후 7시 사이에 1-718-330-4847로 전화해십시오.

MTA 철도는 뉴욕시를 동서로는 185 킬로미터(통합일 dương철도, LIRR), 그리고 북남으로는 119 킬로미터(메트로-노스 철도, MNR)에 이르는 지역과 연결시켜 줍니다. 열차는 각 역의 시간표에 게시된 일정에 따라 운행됩니다.

승차요금: 지하철, 일반버스 및 스페인 아일랜드 철도의 요금은 거리에 상관없이 $2.00이며 요금은 메트로카드(MetroCard)로 지불할 수 있습니다. 메트로카드는 모든 지하철과과 3,500개의 상점에서 판매됩니다. 철도요금은 거리에 따라 계산되며, 티켓은 각 역과 열차 내에서 구입할 수 있습니다.

메트로카드: 두 가지 유형: (1) 일회용 승차(Pay-Per-Ride)-$4에서 $80 단위의 액수로 판매되며, 2시간 내에 지하철에서 버스로, 버스에서 지하철로 혹은 버스에서 버스로 1회에 한하여 무료로 갈아탈 수 있습니다. $10 이상의 일회용 승차 메트로카드를 구입할 경우 20%의 요금을 절약하실 수 있습니다. (2) 무제한 승차(Unlimited Ride)–1일용(“Fun Pass,” $7), 7일용($21), 30일용($70) 단위로 판매됩니다.

지하철 승차: 지하철역 외부의 표지판에는 그 곳에 정차하는 노선의 알파벳 혹은 번호가 서로 다른 색깔의 원형 안에 표시되어 있습니다. 요금을 지불하고 회전문을 통과한 뒤, 귀하가 원하는 노선의 표지판을 따라 가십시오. 플랫폼 가장자리 위쪽 표지판에는 그 곳에 정차하는 열차 노선, 방향과 운행 시간이 표시되어 있습니다. 운행상의 변경 사항은 플랫폼의 기마다 게시됩니다.

바른 방향: 경찰관을 찾아서요 지하철 승차는 뉴욕시 경찰국이, LIRR와 MNR 승차는 MTA 경찰이 가르쳐 드립니다. 지하철역의 경우, 메트로 카드에 넣어 알려거나 전화를 찾아 911(.Call)로 경찰서에 전화해요. 지하철 내의 경우, 기관사는 첫 번째 경찰 지정에, 그리고 차량은 열차 중앙에 있습니다. 기차의 경우, 차량이 각 열차를 순환하게 됩니다.

利用中の集団移動

この地図はニューヨーク市内のメトロ、鉄道、バスのルートを示しています。各鉄道および路線は異なる色で区別されています。

MTAニューヨーク市地下鉄は5つのブロードを相互に結び付けます。 NLBの時間外は24時間運行されている。祝日は運休がでます。必要であれば、1-718-330-1234に電話ください。-Colaに対しては、各駅の時刻表に記載された時間に従って運行されます。

料金: 地下鉄、普通バス、アイルランド鉄道の料金は距離に関係なく$2.00です。メトロカード(MetroCard)を介して支払いができます。メトロカードはニューヨーク市内のすべての鉄道および1,500以上の店舗で購入できます。チケットは各駅および電車内から購入できます。

メトロカード: 2つの種類: (1) ペンペイア(Pay-Per-Ride) - $4から$80の単位で、2時間以内にニューヨーク市地下鉄またはバスの間で自由に乗り換えすることができます。10ドル以上のペナペイア・メトロカードを購入した場合、20％の割引を得ることができます。(2) ウニリミットライド(Unlimited Ride) - 1日用(“Fun Pass,” $7), 7日用($21), 30日用($70)で提供されます。

地下鉄乗り換え: 地下鉄駅外の標識には、その駅に停車する路線のアルファベットや番号がそれぞれ異なる色の円形で表示されています。料金を支払って回りょうを通り、目標の路線の標識をたどってください。フロントラブルの近くの上側の標識には、停車する路線、方向、運行時間が示されています。運行上の変更は、フロントラブルの間で示されます。

正しい方向: 警察官を尋ねるか、911(Call)に電話してください。地下鉄駅の場合は、メトロカードに入れたり、電話をかけてください。地下鉄内の場合は、初回の警察官や、車両の中央にあります。車両の場合は、各列車を順次運行します。
tivos por trem, ônibus, barca e outras interligações. Cada linha do metrô e cada linha ferroviária tem uma cor diferente.


As linhas ferroviárias do MTA conectam a cidade de Nova York com municípios situados a mais de 184 km de distância para o Leste (LIRR, Estrada de Ferro de Long Island) e mais de 118 km ao Norte (MNR, Estrada de Ferro do Norte Metropolitana). Os trens correm nos horários indicados em tabelas nas estações.

Custo da viagem: Não importa a distância, o custo base do metrô, dos ônibus e do ramal da Ilha Staten é de $2,00, pago por cartão MetroCard. (O MetroCard é vendido em todas as estações do metrô e em 3500 lojas.) As viagens custam 20% mais barato quando se compra um MetroCard de $10 ou mais. O custo da passagem ferroviária é baseado na distância; os bilhetes podem ser comprados nas estações ou nos próprios trens.

MetroCard: São de dois tipos: (1) Pague-por-viagem, que é vendido em valores de $4 a $80 - também permite uma transferência gratuita do metrô para ônibus, de ônibus para ônibus, ou de ônibus para metrô, durante um período de 2 horas. (2) Passe sem-limite – $7 por 1 dia (“Fun Pass”), $21 por 7 e $70 por 30 dias.

Viagens de metrô: A sinalização do lado de fora das estações tem círculos coloridos mostrando as letras das linhas ou os números dos trens que nelas passam. Após pagar o ingresso e passar pela roleta, siga os sinais para a linha que desejar. Na beira da plataforma, sinais colocados ao lado indicam quais são os trens que param ali, os destinos e as horas de operação. Quaisquer mudanças no serviço são afixadas nas colunas da plataforma.

Emergências: Procure um policial. O Departamento de Polícia de Nova York patrulha o metrô; a polícia do MTA patrulha as linhas ferroviárias (LIRR e MNR). Dentro das estações do metrô, dirija-se ao funcionário no cubículo ou procure por um telefone para discar 911 (gratuito). Nos trens do metrô, o operador está no primeiro carro; o condutor estaria meio do trem. Nas linhas ferroviárias, o condutor circula pelo trem.

Los Ferrocarriles conectan la Ciudad de Nueva York hacia el Este con ciudades que se encuentran hasta 184 km (Long Island Rail Road) y hacia el Norte a 118 km (Metro-North Railroad). Los trenes circulan según los horarios que están indicados en los paneles de información de horarios en las estaciones.

Para usar el Metro: Las señales fuera de las estaciones tienen círculos de color que indican las letras de las líneas o el número de los trenes que paran ahí. Luego de pagar su pasaje y pasar a través del torniquete, siga las señales hacia la línea que usted necesita. Al borde del andén, señales en lo alto muestran los trenes que ahí paran, sus destinos y horas de circulación. Los cambios en el servicio se exhiben en los pilares del andén.

Emergencias: busque a un oficial de la policía; el
APPENDIX L. LAX TRAVELER’S TIPS IN FIVE LANGUAGE

Travel Tips Flyer-LAX

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**Smart Traveler Tips**

*The entire Los Angeles International Airport (LAX) community is committed to ensuring your personal safety and security while maintaining quality passenger service. These proven, time-saving tips will speed you through LAX. Highlighted tips are especially important, as they result from new federal aviation security laws. Enjoy your flight!*

**Before Going to LAX**

- Do NOT pack or bring prohibited items to LAX. For a complete list, visit the Transportation Security Administration website [www.TSATravelTips.US](http://www.TSATravelTips.US).
- Do NOT wrap gifts or boxes to be carried on or checked-in. They may be opened for inspection. Please bring tape or other materials for airline staff to wrap your items after inspection.
- Avoid wearing clothing, jewelry, and accessories that contain metal. Metal items may set off the alarm on the metal detector.
- Put all undeveloped film and cameras with film including videotape in your carry-on baggage. Checked baggage screening equipment will damage undeveloped film and videotape.
- Carry-on baggage is limited to one carry-on bag plus one personal item. Personal items include laptop, purse, backpack, briefcase, diaper bags or camera cases.
- Call your airline or travel agent to determine the airline’s baggage policy, including number of pieces you can bring and size and weight limits.
- Place identification tags in and on all of your baggage. Don't forget your laptop computer.
- Call your airline to confirm your flight and to learn how early you should arrive at LAX. Allow sufficient time for parking, transport to the terminals and security screening.
- Bring a government-issued photo identification for travelers 18 years and older.

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**At the Airport**

- Ticketed passengers only with a valid boarding pass are allowed beyond passenger screening checkpoints. Meet arriving passengers in baggage claim areas on the Lower/Arrival Level.
- Passenger pick-up and drop-off is permitted at terminal curbside. No parking at curbside is allowed. Unattended vehicles will be cited and towed away.
- If parking your vehicle, store belongings out of view, lock your car and take your parking ticket.
- Watch your belongings at all times.
- Effective December 31, 2002, all checked luggage must be screened by explosive detection equipment. At LAX, this screening will occur in the airline ticket lobbies or at curbside check-in (domestic flights only). To check luggage, simply go to your preferred check-in location (ticket counter, self-service computer kiosk or curbside).
- Before you get to the security checkpoint...
  - Do NOT bring drinks or other liquids to the security checkpoint unless they are in paper or Styrofoam™, sealed or seal-able/spill-proof containers. Food must be wrapped or in a container.
- Once you get in line... In, Out, Off
  - Put all metals in your carry-on bag. This includes jewelry, loose change, keys, mobile phones, pagers, and personal data assistants.
  - Take OUT your laptop computer. Place it in a bin, separate from its carrying case.
  - Take OFF your outer coat. Place it in a bin. Suit jackets and blazers do not have to be removed, unless requested by a security screener.

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**For more information**

- Passengers with disabilities, medical concerns or other special needs should contact their airlines, visit [www.TSATravelTips.US](http://www.TSATravelTips.US), call the TSA Consumer Response Center toll-free at 1-866-289-9073, or send an e-mail to [TSA-ConsumerResponse@tsa.dot.gov](mailto:TSA-ConsumerResponse@tsa.dot.gov).

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For LAX information, call 1-310-646-5252, visit the LAX website at [www.lawa.org](http://www.lawa.org), or listen to AltRadio 530 AM.
聰明旅客貼士

到達洛杉磯國際機場（LAX）之前

- 不要攜帶違禁物品進入LAX，並獲得詳細列表，請查看交通安全管理局的網站：www.TSAtravelTips.us。
- 不要包裝隨身攜帶或託運的物品或盒子，檢查時可能會被打開，請自備膠帶或其他材料，以便航空公司的工作人員在檢查之後將您的物品包裝起來。
- 更避免穿著帶有金屬裝飾的衣物，珠寶和飾品，金屬物品在金屬探測器前可能會發出警報。
- 將所有沒有標印的藥箱和裝有藥箱的藥箱放在行李箱內，行李檢查設備會認出沒有標印的藥箱。
- 職員協助行李遠離於一個手提行李內，無個人物品包括手提電腦、背包、書包、手提箱、包裝袋或紙箱護套。
- 請熟悉您的航空公司及航班，以瞭解航空公司的行李規定，包括可以攜帶的行李數量，以及大小和重量限制。
- 所有行李內部都要上鎖或標籤，請不要忘記在手提電池上貼標籤。
- 與您的航空公司聯絡，確認航班並瞭解自己應該提前多少時間到達LAX，要充分考慮泊車、過檢準備和安全檢查的時間。

在機場

- 遵守有關規定，旅客才可以進入機場檢查站及區域，請在登機/到達前領取行李。
- 旅客可以在抵達時上下車，不可在路旁停車，無人監管的車輛將被傳訊並罰款。
- 切勿飲酒，請不要把個人財物放在窗邊，把醉酒者和車輛取回車庫。
- 時刻留意您的個人財物。
- 由2002年12月31日起，所有機場託運的行李已必須接受防爆檢測
- 換乘盡量避免在LAX停留，並請確保您的行李可以通過行李檢查。
- 乘客在遙控門外等候，請按照指示在遙控門接受檢查。

入境中國機場之前

- 不要攜帶乾貨或液體，以免造成無益影響。
- 要在入境時準備好所有托運物品，並在入境時進行詳細檢查。
- 乘客必須持有預訂的機票，並按預定日期及時間入境。

如要更多資訊

- 對戴頭盔或有其特徵的旅客，請聯繫其航空公司，查詢www.TSAtravelTips.us 網站。
- 有關TSA的資訊，請電台：1-866-289-9673，或者使用電子郵件：TSA-ConsumerResponse@tso.dot.gov。
- 有關LAX的資訊，請電台：1-310-446-6252，或者查看LAX網站：www.lax.org。

作爲一家在《政治報告》的Title 34下的註冊的郵資媒體，將郵資費和郵寄費，並承

by TCA 0000年1月

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旅行に役立つヒント

空港にて

- 行李検査チェックポイントの前はチェックをお持ちのお客様のみお入りになれます。荷物が適切な手荷物との区別ができず、荷物を盗難とするお手数をいただくお手数をお掛けください。
- 行李の乗り物はタクシーのカーテッド（運送）で行ってください。カーテッドは運送員ではありません。運送員には運送キップを切って Sheep してください。
- 車両の運送車は車両の運送車が存在する場所にいない。ドアをロックして車両を保全してください。
- 行李には常に気を配るようにしてください。

- 移民を含む長期に車両の運送車はタクシーで寄贈される場所で車両の運送車が存在する場所で切って Sheep を保全してください。

- 移民を含む長期に車両の運送車はタクシーで寄贈される場所で車両の運送車が存在する場所で切って Sheep を保全してください。

- 移民を含む長期に車両の運送車はタクシーで寄贈される場所で車両の運送車が存在する場所で切って Sheep を保全してください。

- 移民を含む長期に車両の運送車はタクシーで寄贈される場所で車両の運送車が存在する場所で切って Sheep を保全してください。

- 移民を含む長期に車両の運送車はタクシーで寄贈される場所で車両の運送車が存在する場所で切って Sheep を保全してください。

- 移民を含む長期に車両の運送車はタクシーで寄贈される場所で車両の運送車が存在する場所で切って Sheep を保全してください。

詳細の問合せ先

- 身体障害、聴覚の障害のあるお客様、その他の障害のあるお客様は航空会社に連絡することを、www.TSAFactsTips.US にアクセスするか、TSA 高度対応センターのフリーダイヤル（国際通話）を電話するか、または、TSA-ConsumerResponse@tsa.dot.gov まで電子メールでご連絡ください。

- 社団法人の一部の在日米日本人から当サービスを提供するとしている国際

- 聴覚の障害のあるお客様は航空会社に連絡することを、www.TSAFactsTips.US にアクセスするか、TSA 高度対応センターのフリーダイヤル（国際通話）を電話するか、または、TSA-ConsumerResponse@tsa.dot.gov まで電子メールでご連絡ください。

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Consejos para el viajero inteligente

Antes de ir a LAX


- NO envuelva regalos ni cajas que llevarán en el equipaje de mano o en el equipaje que envíe. Pueden ser abiertos para su inspección. Por favor traiga ropa u otros materiales para que el personal de la aerolínea embale sus artículos después de la inspección.

- Evite llevar puestos rena, joyas y accesorios que contengan metal. Los artículos de metal podrían activar la alarma del detector de metales.

- Ponga todas las películas sin revelar y las cámaras con película en su equipaje de mano. El equipo de inspección del equipaje no llevará la película sin revelar.

- El equipaje de mano se limita a un bolso de mano y un artículo personal. Los artículos personales incluyen computadoras portátiles, carteras, mochilas, maletines o estuches de cámaras.

- Llame a su aerolínea o agente de viajes para determinar las normas de equipaje de la aerolínea, incluyendo el número de bultos que puede traer y los límites de tamaño y peso.

- Coloque etiquetas de identificación sobre y dentro de todo su equipaje. No olvide su computadora portátil.

- Llame a su aerolínea para confirmar su vuelo y preguntar cuándo debe llegar a LAX. Llame con suficiente tiempo para estar en las terminales y pasar por los controles de seguridad.

- Para los viajeros de 18 años en adelante, traiga un documento de identificación gubernamental con foto.

En el aeropuerto

- Después de los controles de seguridad, sólo se permite el paso de los pasajeros con billete. Búsqueda a los pasajeros que llegan en las áreas para retirar el equipaje, en el nivel inferior (tercer piso).

- Se permite dejar y recoger pasajeros en el corredor de la vereda de la terminal. No se permite estacionar en el corredor de la vereda. Los vehículos que no estén atendidos recibirán una citación y serán remolcados.

- Si va a estacionar su vehículo, guíe sus pertenencias fuera de la vista, dérra su auto con llave y lleve el boleto de estacionamiento con usted.

- Vigile sus pertenencias en todo momento.

- A partir del 31 de diciembre del 2002, se debe inspeccionar todo el equipaje que se envíe con equipo para detección de explosivos. En LAX, esta inspección se llevará a cabo en los mostradores de billetes de las aerolíneas o en los mostradores de chequeo en el corredor de la vereda (vuelos nacionales solamente). Para chequear el equipaje, simplemente diríjase al sitio de chequeo que presta (mostrador de billetes, cabinas de autoventa por computadora o mostrador en el corredor de la vereda).

- Antes de llegar al puesto de control de seguridad...

- NO traiga bolsas ni otros líquidos al puesto de control de seguridad. N A menos que estén en envases de papel o plástico con un límite de envases de 16 oz (454 g) o llenado con líquidos que contengan 3 oz (85 g) de líquidos o menos.

- Una vez que se ponga en fila... META, SAQUE, QUITÉSE

- Meta sus artículos de metal en su bolsa de mano. Esto incluye joyas, monedas, llaves, teléfonos móviles, buscapersonas y accesorios de datos personales.

- SAQUE su computadora portátil. Colóquela en un recipiente, aparte de su estuche.

- QUITÉSE su abrigo. Colóquelo en un recipiente. No se necesitarán sacar los sacos y chaquetas de conjuntos y trajes a menos que se lo pida el inspector.

Para más información

- Los pasajeros con discapacidades, preocupaciones médicas u otras necesidades especiales deberán comunicarse con su aerolínea, visitar www.TSAtravelTips.US, llamar al Centro de Respuesta para el Consumidor de TSA al número sin cargo 1-866-289-6673 o enviar un mensaje por correo electrónico a TSA-ConsumerResponse@tas.dot.gov.

- Para información de LAX, llame al 310-646-5552, visite el sitio web de LAX www.lawa.org o escuche AirRadio 920 AM.

Comunicación del aeropuerto de Los Ángeles y de Conexiones Intercity para el Acta de Estadounidenses con Discapacidades de 1990 y otras federal, hará los arreglos razonables para asegurar un acceso equitativo a sus programas, servicios y actividades.
En el aeropuerto

- Después de los controles de seguridad, sólo se permite el paso de los pasajeros con billete. Busque a los pasajeros que llegan en las áreas para entrar el equipaje, en el nivel inferior de llegadas.
- Se permite fumar y recoger pasajeros en el corredor de la vereda de la terminal. No se permite estacionar en el corredor de la vereda. Los vehículos que no estén atendidos recibirán una multa y serán remolcados.
- Si va a estar con su vehículo, guarde sus pertenencias fuera de la vista, dérra su auto con llave y lleve el bolso de estacionamiento con usted.
- Vigile sus pertenencias en todo momento.
- A partir del 31 de diciembre del 2002, se debe inspeccionar todo el equipaje que se envíe con equipo para detección de explosivos. En LAX, esta inspección se llevará a cabo en los mostradores de billetes de las aerolíneas o en los mostradores de chequeo en el corredor de la vereda (sueños nacionales solamente). Para chequear el equipaje, simplemente diríjase al sitio de chequeo que prefiera (mostrador de billetes, cabina de autoservicio por computadora o mostrador en el corredor de la vereda).

Antes de llegar al puesto de control de seguridad
NO traiga bebidas ni otros líquidos al puesto de control de seguridad a menos que estén en envases de papel o plástico. La comida debe estar envueltada o en un recipiente.

Una vez que se ponga en fila...
META, SAQUE, QUÍTESE
Meta sus artículos de metal EN su bolsa de mano. Esto incluye joyas, monedas, llaves, teléfonos móviles, bOLSAS y otros artículos de metal.

Saque su computadora portátil. Colóquela en un recipiente, aparte de su estuche.

QUÍTESE el abrigo. Colóquelo en un recipiente. No es necesario quitarle los sacos y chaquetas de conjuntos y trajes a menos que se lo pida el inspector.

Para más información
Los pasajeros con discapacidades, preocupaciones médicas u otras necesidades especiales deben comunicarse con su aerolínea, visitar www.TSATravelTips.US, llamar al Centro de Respuestas para el Consumidor de TSA al número sin cargo 1-866-289-9673 o enviar un mensaje por correo electrónico a TSA-ConsumerResponse@tsa.dot.gov.
Para información de LAX, llame al 130-646-2522, visite el sitio web de LAX www.lawa.org o escuche el radio 530 AM.

Como una entidad cubierto bajo el Título II del acta de Estatutarios con Discapacidades, la Ciudad de Los Ángeles no discrimina en base a discapacidad y, bajo pedido, hará esfuerzos razonables para asegurar un acceso equitativo a sus programas, servicios y actividades.
## APPENDIX M. SAMPLE PICTOGRAMS

<table>
<thead>
<tr>
<th>TYPES OF PICTOGRAMS</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Smoking</td>
<td><img src="image" alt="No Smoking Pictogram Examples" /></td>
</tr>
<tr>
<td>Ticketing</td>
<td><img src="image" alt="Ticketing Pictogram Examples" /></td>
</tr>
<tr>
<td>Women’s and Men’s Restrooms</td>
<td><img src="image" alt="Women’s and Men’s Restrooms Pictogram Examples" /></td>
</tr>
<tr>
<td>Currency Exchange</td>
<td><img src="image" alt="Currency Exchange Pictogram Examples" /></td>
</tr>
<tr>
<td>Telephone</td>
<td><img src="image" alt="Telephone Pictogram Examples" /></td>
</tr>
<tr>
<td>TYPES OF PICTOGRAMS</td>
<td>EXAMPLES</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Stairs</td>
<td>![Stairs Example]</td>
</tr>
<tr>
<td>Elevator</td>
<td>![Elevator Example]</td>
</tr>
<tr>
<td>Parking</td>
<td>![Parking Example]</td>
</tr>
<tr>
<td>No Parking</td>
<td>![No Parking Example]</td>
</tr>
<tr>
<td>Customs</td>
<td>![Customs Example]</td>
</tr>
<tr>
<td>TYPES OF PICTOGRAMS</td>
<td>EXAMPLES</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Baggage</td>
<td>![Baggage Icon] ![Food Exit 113] ![Information Sign] ![Fire Extinguisher]</td>
</tr>
<tr>
<td>Food</td>
<td>![Cutlery] ![Food Signs] ![No Food Signs] ![No Smoking Signs]</td>
</tr>
<tr>
<td>No Food</td>
<td>![No Food or Drink Sign] ![No Food or Drink in this Area]</td>
</tr>
<tr>
<td>Information</td>
<td>![Information Sign] ![Flight Information Sign]</td>
</tr>
<tr>
<td>Fire Extinguisher</td>
<td>![Fire Extinguisher Signs]</td>
</tr>
<tr>
<td>TYPES OF PICTOGRAMS</td>
<td>EXAMPLES</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Exit/Entry</td>
<td>![Exit/Entry Examples]</td>
</tr>
<tr>
<td>No Exit/No Entry</td>
<td>![No Exit/No Entry Examples]</td>
</tr>
<tr>
<td>Taxi</td>
<td>![Taxi Examples]</td>
</tr>
<tr>
<td>Bus</td>
<td>![Bus Examples]</td>
</tr>
<tr>
<td>Departing and Arriving Plane</td>
<td>![Departing and Arriving Plane Examples]</td>
</tr>
<tr>
<td>Car Rental</td>
<td>![Car Rental Examples]</td>
</tr>
<tr>
<td>TYPES OF PICTOGRAMS</td>
<td>EXAMPLES</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Shopping</td>
<td>![Image of an airport shop]</td>
</tr>
</tbody>
</table>
Table 1. Top LEP municipalities in New Jersey, 2000

<table>
<thead>
<tr>
<th>Rank</th>
<th>Municipalities with Top # of LEP Population</th>
<th>Municipalities with Top Percentage of LEP Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Newark, ESSEX</td>
<td>West New York, HUDSON</td>
</tr>
<tr>
<td></td>
<td>33,808</td>
<td>36%</td>
</tr>
<tr>
<td>2</td>
<td>Elizabeth, UNION</td>
<td>Union City, HUDSON</td>
</tr>
<tr>
<td></td>
<td>23,644</td>
<td>35%</td>
</tr>
<tr>
<td>3</td>
<td>Paterson, PASSAIC</td>
<td>Passaic, PASSAIC</td>
</tr>
<tr>
<td></td>
<td>23,386</td>
<td>28%</td>
</tr>
<tr>
<td>4</td>
<td>Jersey City, HUDSON</td>
<td>East Newark, HUDSON</td>
</tr>
<tr>
<td></td>
<td>22,475</td>
<td>27%</td>
</tr>
<tr>
<td>5</td>
<td>Union City, HUDSON</td>
<td>Perth Amboy, MIDDLESEX</td>
</tr>
<tr>
<td></td>
<td>21,916</td>
<td>24%</td>
</tr>
<tr>
<td>6</td>
<td>Passaic, PASSAIC</td>
<td>Palisades Park, BERGEN</td>
</tr>
<tr>
<td></td>
<td>17,078</td>
<td>23%</td>
</tr>
<tr>
<td>7</td>
<td>West NY, HUDSON</td>
<td>Dover, MORRIS</td>
</tr>
<tr>
<td></td>
<td>15,434</td>
<td>23%</td>
</tr>
<tr>
<td>8</td>
<td>Perth Amboy, MIDSEX</td>
<td>Harrison, HUDSON</td>
</tr>
<tr>
<td></td>
<td>10,431</td>
<td>22%</td>
</tr>
<tr>
<td>9</td>
<td>North Bergen, HUDSN</td>
<td>Elizabeth, UNION</td>
</tr>
<tr>
<td></td>
<td>10,052</td>
<td>21%</td>
</tr>
<tr>
<td>10</td>
<td>New Brunswick, MIDSX</td>
<td>Guttenberg, HUDSON</td>
</tr>
<tr>
<td></td>
<td>8,147</td>
<td>19%</td>
</tr>
</tbody>
</table>
Table 2. Spanish speaking LEP population in New Jersey, 2000

<table>
<thead>
<tr>
<th>Rank</th>
<th>Municipalities with Top # of Spanish Speaking LEP Population</th>
<th>Municipalities with Top Percentage of Spanish Speaking LEP Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Newark, ESSEX 22,065</td>
<td>West New York, HUDSON 35%</td>
</tr>
<tr>
<td>2</td>
<td>Union City, HUDSON 21,373</td>
<td>Union City, HUDSON 34%</td>
</tr>
<tr>
<td>3</td>
<td>Paterson, PASSAIC 21,180</td>
<td>Passaic, PASSAIC 25%</td>
</tr>
<tr>
<td>4</td>
<td>Elizabeth, UNION 18,807</td>
<td>Perth Amboy, MIDDLESEX 23%</td>
</tr>
<tr>
<td>5</td>
<td>Passaic, PASSAIC 15,390</td>
<td>Dover, MORRIS 22%</td>
</tr>
<tr>
<td>6</td>
<td>West New York, HUDSON 14,938</td>
<td>East Newark, HUDSON 18%</td>
</tr>
<tr>
<td>7</td>
<td>Jersey City, HUDSON 14,682</td>
<td>Bound Brook, SOMERSET 17%</td>
</tr>
<tr>
<td>8</td>
<td>Perth Amboy, MIDDLESEX 9,825</td>
<td>New Brunswick, MIDDLESEX 17%</td>
</tr>
<tr>
<td>9</td>
<td>North Bergen, HUDSON 8,538</td>
<td>Elizabeth, UNION 17%</td>
</tr>
<tr>
<td>10</td>
<td>New Brunswick, MIDDLESEX 7,708</td>
<td>Guttenberg, HUDSON 17%</td>
</tr>
</tbody>
</table>
Table 3. Other (Non-Spanish) Indo-European language speaking LEP population in New Jersey, 2000

<table>
<thead>
<tr>
<th>Rank</th>
<th>Municipalities with Top # of Indo-European Speaking LEP Population</th>
<th>Municipalities with Top Percentage of Indo-European Language LEP Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Newark, ESSEX 11,175</td>
<td>Wallington, BERGEN 12%</td>
</tr>
<tr>
<td>2</td>
<td>Elizabeth, UNION 4,511</td>
<td>Garfield, BERGEN 9%</td>
</tr>
<tr>
<td>3</td>
<td>Jersey City, HUDSON 4,047</td>
<td>East Newark, HUDSON 8%</td>
</tr>
<tr>
<td>4</td>
<td>Garfield, BERGEN 2,638</td>
<td>Harrison, HUDSON 7%</td>
</tr>
<tr>
<td>5</td>
<td>Clifton, PASSAIC 2,613</td>
<td>South River, MIDDLESEX 7%</td>
</tr>
<tr>
<td>6</td>
<td>Kearny, HUDSON 1,988</td>
<td>Kearny, HUDSON 5%</td>
</tr>
<tr>
<td>7</td>
<td>Edison, MIDDLESEX 1,975</td>
<td>South Hackensack, BERGEN 5%</td>
</tr>
<tr>
<td>8</td>
<td>Linden, UNION 1,710</td>
<td>Cliffside Park, BERGEN 5%</td>
</tr>
<tr>
<td>9</td>
<td>Paterson, PASSAIC 1,493</td>
<td>Linden, UNION 5%</td>
</tr>
<tr>
<td>10</td>
<td>Irvington, ESSEX 1,414</td>
<td>Newark, ESSEX 4%</td>
</tr>
</tbody>
</table>
Table 4. Asian and pacific islander language speaking LEP population in New Jersey, 2000

<table>
<thead>
<tr>
<th>Rank</th>
<th>Municipalities with Top # of Asian/Pac. Is. Language Speaking LEP Population</th>
<th>Municipalities with Top Percentage of Asian/Pac. Is. Language Speaking LEP Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fort Lee, BERGEN 2,600</td>
<td>Palisades Park, BERGEN 14%</td>
</tr>
<tr>
<td>2</td>
<td>Jersey City, HUDSON 2,345</td>
<td>Fort Lee, BERGEN 8%</td>
</tr>
<tr>
<td>3</td>
<td>Palisades Park, BERGEN 2,295</td>
<td>Leonia, BERGEN 8%</td>
</tr>
<tr>
<td>4</td>
<td>Edison, MIDDLESEX 1,520</td>
<td>Ridgefield, BERGEN 6%</td>
</tr>
<tr>
<td>5</td>
<td>Camden, CAMDEN 999</td>
<td>Woodlynne, CAMDEN 5%</td>
</tr>
<tr>
<td>6</td>
<td>Atlantic City, ATLANTIC 910</td>
<td>Norwood, BERGEN 5%</td>
</tr>
<tr>
<td>7</td>
<td>East Brunswick, MIDDLESEX 768</td>
<td>Demarest, BERGEN 4%</td>
</tr>
<tr>
<td>8</td>
<td>Cherry Hill, CAMDEN 711</td>
<td>Tenafly, BERGEN 4%</td>
</tr>
<tr>
<td>9</td>
<td>Piscataway, MIDDLESEX 706</td>
<td>Northvale, BERGEN 4%</td>
</tr>
<tr>
<td>10</td>
<td>Paramus, BERGEN 681</td>
<td>Englewood Cliffs, BERGEN 4%</td>
</tr>
</tbody>
</table>
### Table 5. Other language speaking LEP population in New Jersey, 2000

<table>
<thead>
<tr>
<th>Rank</th>
<th>Municipalities with Top # of Other Language Speaking LEP Population</th>
<th>Municipalities with Top Percentage of Other Language Speaking LEP Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jersey City, HUDSON 1,401</td>
<td>Prospect Park, PASSAIC 1.8%</td>
</tr>
<tr>
<td>2</td>
<td>Paterson, PASSAIC 392</td>
<td>Haledon, PASSAIC 1.4%</td>
</tr>
<tr>
<td>3</td>
<td>Newark, ESSEX 295</td>
<td>Hopewell, MERCER 0.8%</td>
</tr>
<tr>
<td>4</td>
<td>Clifton, PASSAIC 252</td>
<td>Edgewater, BERGEN 0.7%</td>
</tr>
<tr>
<td>5</td>
<td>Bayonne, HUDSON 244</td>
<td>Jersey City, HUDSON 0.6%</td>
</tr>
<tr>
<td>6</td>
<td>Woodbridge, MIDDLESEX 215</td>
<td>North Plainfield, SOMERSET 0.5%</td>
</tr>
<tr>
<td>7</td>
<td>Franklin, SOMERSET 208</td>
<td>Norwood, BERGEN 0.5%</td>
</tr>
<tr>
<td>8</td>
<td>North Bergen, HUDSON 177</td>
<td>North Haledon, PASSAIC 0.5%</td>
</tr>
<tr>
<td>9</td>
<td>East Brunswick, MIDDLESEX</td>
<td>Hawthorne, PASSAIC 0.5%</td>
</tr>
<tr>
<td>10</td>
<td>Passaic, PASSAIC 132</td>
<td>Farmingdale, MONMOUTH 0.5%</td>
</tr>
</tbody>
</table>
Table 6. Top Non-English languages spoken at home in New Jersey

<table>
<thead>
<tr>
<th>Languages</th>
<th>Number of People (five years and over)</th>
<th>Percentage</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish or Spanish Creole</td>
<td>967,741</td>
<td>12.32%</td>
<td>1</td>
</tr>
<tr>
<td>Italian</td>
<td>116,365</td>
<td>1.48%</td>
<td>2</td>
</tr>
<tr>
<td>Chinese</td>
<td>84,345</td>
<td>1.07%</td>
<td>3</td>
</tr>
<tr>
<td>Polish</td>
<td>74,663</td>
<td>0.95%</td>
<td>4</td>
</tr>
<tr>
<td>Portuguese or Portuguese Creole</td>
<td>72,870</td>
<td>0.93%</td>
<td>5</td>
</tr>
<tr>
<td>Tagalog</td>
<td>66,851</td>
<td>0.85%</td>
<td>6</td>
</tr>
<tr>
<td>Korean</td>
<td>55,340</td>
<td>0.70%</td>
<td>7</td>
</tr>
<tr>
<td>Gujarathi</td>
<td>47,324</td>
<td>0.60%</td>
<td>8</td>
</tr>
<tr>
<td>French (incl. Patois, Cajun)</td>
<td>47,225</td>
<td>0.60%</td>
<td>9</td>
</tr>
<tr>
<td>Arabic</td>
<td>47,052</td>
<td>0.60%</td>
<td>10</td>
</tr>
<tr>
<td>German</td>
<td>41,025</td>
<td>0.52%</td>
<td>11</td>
</tr>
<tr>
<td>Russian</td>
<td>38,566</td>
<td>0.49%</td>
<td>12</td>
</tr>
</tbody>
</table>
### Table 7. Correlation between social economic indicators and LEP population

<table>
<thead>
<tr>
<th>LEP Categories</th>
<th>Age</th>
<th>Birth Place</th>
<th>Employment</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median Age</td>
<td>Under Age 18</td>
<td>25+&lt;9th grade</td>
<td>Foreign Born</td>
</tr>
<tr>
<td>Total LEP</td>
<td>-0.257</td>
<td>0.8036</td>
<td>0.9636</td>
<td>0.9273</td>
</tr>
<tr>
<td>Spanish Speaking LEP</td>
<td>-0.258</td>
<td>0.7187</td>
<td>0.9128</td>
<td>0.8587</td>
</tr>
<tr>
<td>Indo-European Language Speaking LEP</td>
<td>-0.173</td>
<td>0.7868</td>
<td>0.8558</td>
<td>0.798</td>
</tr>
<tr>
<td>Asian Language Speaking LEP</td>
<td>-0.111</td>
<td>0.4634</td>
<td>0.3421</td>
<td>0.5445</td>
</tr>
<tr>
<td>Other Language Speaking LEP</td>
<td>-0.148</td>
<td>0.6772</td>
<td>0.6292</td>
<td>0.7712</td>
</tr>
</tbody>
</table>
Table 8. Correlation between travel characteristics and LEP population

<table>
<thead>
<tr>
<th>LEP Categories</th>
<th>No. of Vehicles</th>
<th>Drove Alone</th>
<th>Carpoled</th>
<th>Public Transit</th>
<th>Walked</th>
<th>Other Means</th>
<th>Worked at Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total LEP</td>
<td>0.857</td>
<td>0.518</td>
<td>0.8702</td>
<td>0.7374</td>
<td>0.8598</td>
<td>0.8631</td>
<td>0.3843</td>
</tr>
<tr>
<td>Spanish Speaking LEP</td>
<td>0.779</td>
<td>0.424</td>
<td>0.7996</td>
<td>0.6496</td>
<td>0.8024</td>
<td>0.8353</td>
<td>0.2998</td>
</tr>
<tr>
<td>Indo-European Language</td>
<td>0.825</td>
<td>0.580</td>
<td>0.7896</td>
<td>0.6992</td>
<td>0.7343</td>
<td>0.684</td>
<td>0.4246</td>
</tr>
<tr>
<td>Speaking LEP</td>
<td>0.401</td>
<td>0.467</td>
<td>0.4692</td>
<td>0.5150</td>
<td>0.4462</td>
<td>0.3487</td>
<td>0.4783</td>
</tr>
<tr>
<td>Asian Language Speaking LEP</td>
<td>0.753</td>
<td>0.51</td>
<td>0.6993</td>
<td>0.8520</td>
<td>0.755</td>
<td>0.5824</td>
<td>0.4864</td>
</tr>
</tbody>
</table>
### Table 9. Samples of community groups as survey candidates

<table>
<thead>
<tr>
<th>ID</th>
<th>Organization</th>
<th>Address</th>
<th>Approximate Size</th>
<th>Possible Time</th>
<th>Language Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Antioch Presbyterian Church of New Jersey</td>
<td>616 Prospect Avenue, West Orange NJ 07052</td>
<td>250</td>
<td>Sunday 11:30 to 12:30</td>
<td>Korean</td>
</tr>
<tr>
<td>2</td>
<td>Huaxia Chinese School in Bloomfield</td>
<td>Bloomfield Middle School, 60 Huck Road, Bloomfield, NJ 07003</td>
<td>200</td>
<td>Sunday 11:30 to 12:30</td>
<td>Chinese</td>
</tr>
<tr>
<td>3</td>
<td>Oggi, Italian Language Newspaper</td>
<td>55 Bergenline Avenue Westwood, N.J 07675</td>
<td>40,000 papers sold, daily reach 100K people</td>
<td>Monday-Friday, 11AM - noon</td>
<td>Italian</td>
</tr>
<tr>
<td>4</td>
<td>Italian Vice Consulate</td>
<td>744 Broad Street, Newark NJ</td>
<td>about 30,000 served</td>
<td>Monday-Friday, 9Am - 5PM</td>
<td>Italian</td>
</tr>
<tr>
<td>5</td>
<td>Bergen County Career, Advancement Training</td>
<td>92 Monroe Street, Garfield, N.J. 07026</td>
<td>serves 175-200 a year</td>
<td>Monday-Friday, 9Am - 5PM</td>
<td>Polish</td>
</tr>
<tr>
<td>6</td>
<td>TV 3 (longest running Polish Station)</td>
<td>74 Woodlawn Avenue, Clifton, N.J. 07013</td>
<td>Reaches 17,000-20,000 HH in Tri-state</td>
<td>Monday-Friday, 9Am - 5PM</td>
<td>Polish</td>
</tr>
<tr>
<td>7</td>
<td>Russian Jewish ESL Class</td>
<td></td>
<td>Entry level/ advanced</td>
<td></td>
<td>Russian</td>
</tr>
<tr>
<td>8</td>
<td>Hispanic Development Corp.</td>
<td>Newark</td>
<td></td>
<td></td>
<td>Spanish/ Portuguese</td>
</tr>
<tr>
<td>9</td>
<td>Arabic</td>
<td>Jersey City, New Jersey</td>
<td></td>
<td></td>
<td>Arabic</td>
</tr>
</tbody>
</table>
Table 10. General information of the tourism centers

<table>
<thead>
<tr>
<th>Country (Region) Name</th>
<th>Authority/Owner</th>
<th>Number of Languages Provided</th>
<th>Marketing Region</th>
<th>Website Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Canadian Tourism Commission</td>
<td>11</td>
<td>15</td>
<td><a href="http://www.travelcanada.ca">http://www.travelcanada.ca</a></td>
</tr>
<tr>
<td>England</td>
<td>British Tourist Authority</td>
<td>More than 15</td>
<td>49</td>
<td><a href="http://www.visitbritain.com/">http://www.visitbritain.com/</a></td>
</tr>
<tr>
<td>France</td>
<td>Ministry of Tourism</td>
<td>More than 15</td>
<td>41</td>
<td><a href="http://us.franceguide.com/">http://us.franceguide.com/</a></td>
</tr>
<tr>
<td>Germany</td>
<td>The German National Tourist Board</td>
<td>More than 15</td>
<td>25</td>
<td><a href="http://www.germany-tourism.de/index.html">http://www.germany-tourism.de/index.html</a></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Hong Kong Tourism Board</td>
<td>12</td>
<td>11</td>
<td><a href="http://www.discoverhongkong.com">http://www.discoverhongkong.com</a></td>
</tr>
<tr>
<td>Italy</td>
<td>Registered Travel Agent</td>
<td>5</td>
<td>5</td>
<td><a href="http://www.itwg.com/">http://www.itwg.com/</a></td>
</tr>
<tr>
<td>Japan</td>
<td>Japan National Tourist Organization</td>
<td>7</td>
<td>7</td>
<td><a href="http://www.jnto.go.jp">http://www.jnto.go.jp</a></td>
</tr>
<tr>
<td>Netherlands</td>
<td>The Netherlands Board of Tourism and Conventions</td>
<td>More than 15</td>
<td>26</td>
<td><a href="http://www.holland.com/">http://www.holland.com/</a></td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Tourism Board</td>
<td>6</td>
<td>6</td>
<td><a href="http://www.purenz.com/">http://www.purenz.com/</a></td>
</tr>
<tr>
<td>Switzerland</td>
<td>Switzerland Tourism Bureau</td>
<td>More than 15</td>
<td>40</td>
<td><a href="http://www.switzerlandtourism.ch/">http://www.switzerlandtourism.ch/</a></td>
</tr>
<tr>
<td>Taiwan</td>
<td>Tourism Bureau of Taiwan</td>
<td>5</td>
<td>5</td>
<td><a href="http://www.tbroc.gov.tw/lan/cht/index/">http://www.tbroc.gov.tw/lan/cht/index/</a></td>
</tr>
</tbody>
</table>
Table 11. The public transit service information

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Multi-modes</th>
<th>Route (parts)</th>
<th>Fares</th>
<th>Operating Hours</th>
<th>Map</th>
<th>Phone #</th>
<th>Related Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>England</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>France</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Germany</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Greece</td>
<td>Yes</td>
<td></td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Italy</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Singapore</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Thailand</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>
Table 12. Public transit information provided by Hong Kong tourism center

<table>
<thead>
<tr>
<th>Mode</th>
<th>Service Range</th>
<th>Route</th>
<th>Stops</th>
<th>Terminals</th>
<th>Interchange</th>
<th>Fares</th>
<th>Operating Hours</th>
<th>Map</th>
<th>Phone Number</th>
<th>Related Link</th>
<th>Points of Attention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Transit Railway</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Airport Express</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Buses</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Minibuses</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Taxi</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ferries</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Peak tram</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Kowloon Canton Railway</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Trams</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
### Table 13. Examples of traffic sign costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign Panel</td>
<td>Regulatory/Warning/Marker</td>
<td>$15 to 18 / sq. ft.</td>
</tr>
<tr>
<td></td>
<td>Large Guide Signs</td>
<td>$20 to 25 / sq. ft.</td>
</tr>
<tr>
<td></td>
<td>Electronic Variable Message Sign</td>
<td>$40,000 to $125,000 each</td>
</tr>
<tr>
<td>Sign Posts</td>
<td>U-Channel</td>
<td>$125 to $200 each</td>
</tr>
<tr>
<td></td>
<td>Square Tube (Telespar):</td>
<td>$10 to $15 per foot</td>
</tr>
<tr>
<td></td>
<td>Large Steel Breakaway Posts</td>
<td>$15 to $25 per foot</td>
</tr>
<tr>
<td></td>
<td>Cantilever Sign</td>
<td>$15,000 to $20,000 each</td>
</tr>
<tr>
<td></td>
<td>Sign Bridge</td>
<td>$30,000 to $60,000 each</td>
</tr>
<tr>
<td>Foundations</td>
<td>Square Tube</td>
<td>$250 each</td>
</tr>
<tr>
<td></td>
<td>Breakaway Post</td>
<td>$300 to $500 each</td>
</tr>
<tr>
<td></td>
<td>Cantilever / Bridge</td>
<td>$6,000 - $7,000 each</td>
</tr>
</tbody>
</table>
Figure 1. LEP population in New Jersey
Figure 2. Commuter rail network in New Jersey
Figure 3. Modal distribution comparison in New Jersey
Source: NJ TRANSIT, 2003 B.
Figure 4. Bus transit network in New Jersey
Figure 5. Rail ridership in New Jersey
Figure 6. Bus ridership in New Jersey
Figure 7. Concentric belts of rail networks
Figure 8. Multimodal transportation network and intermodal transit hubs
Figure 9. LEP population by municipality, 2000
Figure 10. Distribution of LEP population
Figure 11. Distribution of Spanish speakers in New Jersey
Figure 12. Distribution of Italian speakers in New Jersey
Figure 13. Distribution of Chinese speakers in New Jersey
Figure 14. Distribution of Polish speakers in New Jersey
Figure 15. Distribution of Portuguese speakers in New Jersey
Figure 16. Tagalog speakers by municipality, 2000, Northeast New Jersey
Figure 17. Korean speakers by municipality, 2000, Northeast New Jersey
Figure 18. Gujarathi speakers by municipality, 2000, Northeast New Jersey
Figure 19. French speakers by municipality, 2000, Northeast New Jersey
Figure 20. Arabic speakers by municipality, 2000, Northeast New Jersey
Figure 21. German speakers by municipality, 2000, Northeast New Jersey
Figure 22. Russian speakers by municipality, 2000, Northeast New Jersey
Figure 23. Rail network and LEP population in the Urban Core
Figure 24. LEP population along transit lines
Figure 25. LEP population around transit stations
Figure 27. Demographic characteristics of LEP communities
Figure 28. Economic status of surveyed LEP population
Figure 29. Language backgrounds of surveyed LEP population
Figure 30. Travel choices of surveyed LEP population
Figure 31. Understanding and usefulness of mobility information provided
Figure 32. Acceptances of solutions
Figure 33. The distribution of the LEP population in the U.S.
Figure 34. Type of transit services

Figure 35. Top languages other than English
What are the estimated costs of your programs to help LEP people use public transit?

**Figure 36. Transit information provided for LEP travelers**

**Figure 37. Estimated costs to help LEP people use public transit**
Are the above survey questions relevant to the services you provide?

Not relevant at all 0%

Somewhat relevant 50%

Relevant 25%

Very relevant 25%

Figure 38. The relevance of this survey to the services of the transit agencies

Figure 39. Transit directory of Tri-Met
Figure 40. London subway map
Figure 41. Paris subway map
Figure 42. Multilingual Guide for ticket vending machine in Germany
Figure 43. Language choices shown in Brussels airport homepage
Figure 44. Pictograms and bi-lingual signs used in Narita (Tokyo) airport
Figure 45. Bi-lingual directions and pictograms in Frankfurt airport
Figure 46. Signs used in Newark Liberty International Airport
Figure 47. Major transportation network in Hong Kong
Figure 48. Hong Kong rail map
Figure 49. Instruction on how to use Octopus Card in Hong Kong
Determine the fare by looking at the system chart prominently displayed at all MRT stations

1. Buy a single trip ticket at the ticket vending machine or use the stored-value ticket.

2. Proceed to the trains by slotting the ticket into the entrance gate.

3. If there is a need to change from an east/west bound train to a north/south bound train, remember to disembark at respective interchange stations. Announcements are also made for those who need to change trains.

Figure 50. Instructions used in the Singapore Tourism Center website
Figure 51. Integrated long-distance rail network and airports in Germany
Figure 52. Swiss Transport Museum
Figure 53. Transport museum narration in four different languages
Figure 54. Audio information by four different languages
Figure 55. A production sample of pictograms