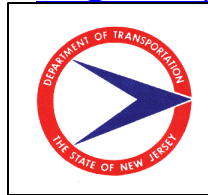


Mobility Information Needs of Limited English Proficiency (LEP) Travelers in New Jersey

FINAL REPORT
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Submitted
By

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16. Abstract 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.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	2
1.1 Research Objectives	3
1.2 Research Plan.....	3
1.3 Research Implementation	4
2. LITERATURE REVIEW	6
3. PUBLIC TRANSPORTATION AND LEP TRAVELERS IN NEW JERSEY.....	8
3.1 Transit Networks in New Jersey.....	9
3.1.1 Multimodal Transportation Systems	9
3.1.2 Physical Coverage of Transportation Networks	10
3.1.3 Intermodal Connection and Coordination.....	11
3.2 Distribution of Limited English Proficiency Travelers	11
3.2.1 Subgroups of LEP Populations	12
3.2.2 Locations of Various Language Groups.....	13
3.3 Public Transportation and LEP Travelers in New Jersey.....	15
3.3.1 Social-Economic Status of LEP Travelers	15
3.3.2 Travel Characteristics of LEP Group in New Jersey.....	16
3.4 Initial Analysis of LEP Communities	17
4. GENERATING INPUT FROM LEP TRAVELERS IN NEW JERSEY.....	20
4.1 Survey Design.....	20
4.1.1 Evaluation Criterion.....	20
4.1.2 Design Survey Questionnaire.....	21
4.1.3 Identify Survey Candidates.....	22
4.2 LEP Travel Need Survey and Focus Group Discussion.....	23
4.2.1 Questionnaire Surveys	23
4.2.2 Focus Group Discussions	25
4.3 Mobility Needs of LEP Travelers in New Jersey.....	26
4.3.1 The Importance of Transit Services to the LEP Communities	26
4.3.2 Mobility Information Needs	27
4.3.3 Transit Service Needs	28
4.3.4 Desires of LEP Community.....	28
5. SURVEY TRANSIT AGENCIES IN SERVING LEP TRAVELERS	30
5.1 Survey Design.....	30
5.1.1 Designing the Questionnaire	30
5.1.2 Identifying Survey Candidates	31
5.2 Overview of Results	31
5.3 Examples of Innovative Strategies.....	33
5.3.1 Washington D.C. Metro (WMATA)	33
5.3.2 Tri-County Metropolitan Transportation District of Oregon.....	34
5.3.3 Central Puget Sound Regional Transit Authority.....	35
5.3.4 New York City Transit.....	35
6. EXPERIENCES OF INTERNATIONAL ENTITIES	36
6.1 Selected Transit Providers in Other Countries.....	36
6.1.1 Transit.....	36

6.1.2 Railroads.....	37
6.2. Airports and Airlines.....	38
6.2.1 Airports	38
6.2.2 Airlines.....	42
6.3 Tourism Centers.....	43
6.3.1 Hong Kong	44
6.3.2 Singapore	45
6.3.3 Germany	46
6.4 Other International-Oriented Activity Centers	46
6.4.1 Olympic Cities	46
6.4.2 Transport Museum	47
6.4.3 Seaman’s Church.....	48
6.5 Overview of International Experience	49
7. BEST PRACTICES.....	52
7.1 Multilingual Verbal Materials—Publications and Signs	52
7.2 Multilingual Announcements	53
7.3 Multilingual Phone Lines.....	53
7.4 Pictograms and Other Visual Aids	53
7.5 Multilingual Websites	54
7.6 Multilingual Personnel – Human Contact.....	54
7.7 Cooperating with Other Organizations	55
7.8 Publicizing What Is Available	55
7.9 Non-verbal Communications	56
7.9.1 Theoretical Sources	57
7.9.2 User Reactions	58
7.9.3 Practice of Non-verbal Communications	58
8. RECOMMENDATIONS to NJ TRANSIT	60
8.1 Strategic Policy Directions.....	60
8.1.1 Long-Range Transit Planning	60
8.1.2 Cultural Sensitivity Training	61
8.1.3 Human Contact – Multilingual Personnel	62
8.1.4 Cooperation with Other Organizations	62
8.1.5 Publicizing What Is Available	63
8.2 Operational Tactics	63
8.2.1 Pictograms and Other Visual Aids.....	64
8.2.2 Multilingual Verbal Materials – Publications and Signs	64
8.2.3 Multilingual Announcements	65
8.2.4 Multilingual Phone Lines	65
8.2.5 Multilingual Website	66
REFERENCES:.....	67
APPENDIX A. EXISTING ACTIVITIES SERVING LEP POPULATIONS	71
APPENDIX B. LANGUAGE RELATED RESEARCH IN TRANSPORTATION	74
APPENDIX C. LEP TRAVEL NEED SURVEY QUESTIONNAIRE	76
APPENDIX D. LEP TRAVEL NEED SURVEY QUESTIONNAIRE IN RUSSIAN.....	78
APPENDIX E. DISCUSSION GUIDELINE FOR FOCUS GROUPS.....	81
APPENDIX F. FOCUS GROUP DISCUSSIONS	82

APPENDIX G. THE QUESTIONNAIRE FOR TRANSIT AGENCIES	94
APPENDIX H. MSAS WITH MOST LEP POPULATION.....	97
APPENDIX J. TRI-COUNTY “HOW TO RIDE” GUIDE	111
APPENDIX K. NEW YORK CITY TRANSIT BROCHURE	118
APPENDIX L. LAX TRAVELER’S TIPS IN FIVE LANGUAGE	128
APPENDIX M. SAMPLE PICTOGRAMS.....	134

LIST OF TABLES

Table 1. Top LEP municipalities in New Jersey, 2000	139
Table 2. Spanish speaking LEP population in New Jersey, 2000	140
Table 3. Other (Non-Spanish) Indo-European language speaking	141
Table 4. Asian and pacific islander language speaking	142
Table 5. Other language speaking	143
Table 6. Top Non-English languages	144
Table 7. Correlation between social economic indicators and LEP population	145
Table 8. Correlation between travel indicators and LEP population	146
Table 9. Samples of community groups as survey candidates	147
Table 10. General information of the tourism centers	148
Table 11. The public transit service information	149
Table 12. Public transit information provided by Hong Kong Tourism Center	150
Table 13. Examples of traffic sign costs	151

LIST OF FIGURES

Figure 1.	LEP population in New Jersey.....	152
Figure 2.	Commuter rail network in New Jersey.....	153
Figure 3.	Modal distribution comparison in New Jersey.....	154
Figure 4.	Bus transit network in New Jersey.....	155
Figure 5.	Rail ridership In New Jersey.....	156
Figure 6.	Bus ridership in New Jersey.....	157
Figure 7.	Concentric belts of rail networks.....	158
Figure 8.	Multimodal transportation network and intermodal transit hubs.....	159
Figure 9.	LEP population by municipality, 2000.....	160
Figure 10.	Distribution of LEP population.....	161
Figure 11.	Distribution of Spanish speakers in New Jersey.....	162
Figure 12.	Distribution of Italian speakers in New Jersey.....	163
Figure 13.	Distribution of Chinese speakers in New Jersey.....	164
Figure 14.	Distribution of Polish speakers in New Jersey.....	165
Figure 15.	Distribution of Portuguese speakers in New Jersey.....	166
Figure 16.	Tagalog speakers by municipality, 2000, Northeast New Jersey.....	167
Figure 17.	Korean speakers by municipality, 2000, Northeast New Jersey.....	168
Figure 18.	Gujarathi speakers by municipality, 2000, Northeast New Jersey.....	169
Figure 19.	French speakers by municipality, 2000, Northeast New Jersey.....	170
Figure 20.	Arabic speakers by municipality, 2000, Northeast New Jersey.....	171
Figure 21.	German speakers by municipality, 2000, Northeast New Jersey.....	172
Figure 22.	Russian speakers by municipality, 2000, Northeast New Jersey.....	173
Figure 23.	Rail network and LEP population in the Urban Core.....	174
Figure 24.	LEP population along transit lines.....	175
Figure 25.	LEP population around transit stations.....	176
Figure 26.	LEP travel survey sites.....	177
Figure 27.	Demographic characteristics of LEP communities.....	178
Figure 28.	Economic status of surveyed LEP population.....	179
Figure 29.	Language backgrounds of surveyed LEP population.....	180
Figure 30.	Travel choices of surveyed LEP population.....	181
Figure 31.	Understanding and usefulness of mobility information provided.....	182
Figure 33.	The distribution of the LEP population in the U.S.	184
Figure 34.	Type of transit services.....	185
Figure 35.	Top languages other than English.....	185
Figure 36.	Transit information provided for LEP travelers.....	186
Figure 37.	Estimated costs to help LEP people use public transit.....	186
Figure 38.	The relevance of this survey to the services of the transit agencies	187
Figure 39.	Transit directory of Tri-Met.....	187
Figure 40.	London subway map.....	188
Figure 41.	Paris subway map.....	189
Figure 42.	Multilingual Guide for ticket vending machine in Germany.....	190
Figure 43.	Language choices shown in Brussels airport homepage.....	191
Figure 44.	Pictograms and bi-lingual signs used in Narita (Tokyo) airport.....	192
Figure 45.	Bi-lingual directions and pictograms in Frankfurt airport.....	193

Figure 46.	Signs used in Newark Liberty International Airport.....	194
Figure 47.	Major transportation network in Hong Kong	195
Figure 48.	Hong Kong rail map	196
Figure 49.	Instruction on how to use Octopus Card in Hong Kong	197
Figure 50.	Instructions used in the Singapore Tourism Center website	198
Figure 51.	Integrated long-distance rail network and airports in Germany	199
Figure 52.	Swiss transport museum	200
Figure 53.	Transport museum narration in four different languages	201
Figure 54.	Audio information by four different languages	202
Figure 55.	A production sample of pictograms	203

LIST OF ACRONYMS

CDE	California's Department of Education
DOT	Department of Transportation
EPA	Environmental Protection Agency
ESL	English-as-a-Second-Language
EO	Executive Order
FAA	Federal Aviation Administration
GIS	Geographic Information System
HBLR	Hudson-Bergen Light Rail
JFK	John F. Kennedy
KCR	Kowloon-Canton Railway
LEP	Limited English Proficient
LIRR	Long Island Railroad
LRT	Light Rail Transit
MARTA	Metropolitan Atlanta Rapid Transit Authority
MDHS	Minnesota Department of Human Services
MPO	Metropolitan Planning Organizations
MRT	Mass Rapid Transit
MSAs	Metropolitan Statistical Areas
MTR	Mass Transit Railway
NJDOT	New Jersey Department of Transportation
NJ TRANSIT	New Jersey Transit
NJTPA	North Jersey Transportation Planning Authority
NYMTA	New York Metropolitan Transportation Authority
NZ	New Zealand
PATCO	Port Authority Transit Corporation
PCMS	Portable Changeable Message Signs
PRC	People's Republic of China
RFP	Request for Proposal
RPSIP	Research Project Selection and Implementation Panel
SAS	Statistics Analysis System
SEPTA	Southeastern Pennsylvania Transit Authority
Tri-Met	Tri-County Metropolitan Transportation District
TRIS	Transportation Research Information Systems
USDOT	United States Department of Transportation
USRRB	U.S. Railroad Retirement Board
UN	United Nations
VSRs	Visitor Service Representatives
WMATA	Washington Metropolitan Area Transit Authority

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 month. 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 publish 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 intimidated, 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 life style 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 get intimidated 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-Verkehrsverbund (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.

Air France publishes pamphlets on Paris airports in six languages—French, English, German, Italian, Spanish and Japanese. Its timetables and boarding information appear in French and English.

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 traveler’s 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:

- Anttila, V.; J. Luoma; and P. Rama, 2000. "Visual Demand of Bilingual Message Signs Displaying Alternating Text Messages", *Transportation Research. Part F: Traffic Psych & Behavior*, Vol. 3, No. 2, pp 65-74.
- Baer, S., 1995. "Marketing an International Airport." In Transportation Research Board, *Transportation Research Circular 445, Airports of Tomorrow*, The National Research Council: Washington, D. C., pp. 71-73.
- Baltes, Michael, 2002. *Surveying for Public Transit: A Design Manual for Customer On-Board Surveys*. Tampa, Florida, National Center for Transit Research. Available at <http://www.nctr.usf.edu>. Accessed in Sept.2004.
- Belz, S., G. Robinson, and J. Casali, 1999. "A New Class of Auditory Warning Signals for Complex Systems: Auditory Icons," *Human Factors*, Vol. 41, No. 4, pp. 608-618.
- Birdwhistle, Ray, 1979. *Kinesics and Context: Essays on Body Motion Communication*. Philadelphia: University of Philadelphia Press. 1979.
- Blumenberg, Evelyn and Peter Hass, 2001, "Travel Behavior and Needs of the Poor: a Study of Welfare Recipients in Fresno County, California", Norman Y. Mineta International Institute for Surface Transportation Policy Studies, College of Business, San Jose State University
- Bullard, Robert and Johnson, Glenn (eds.), 1997, *Just Transportation: Dismantling Race and Class Barriers to Mobility*, British Columbia, Canada: New Society Publishers.
- California Department of Education, 2002. *Title III Language Instruction for Limited-English Proficient and Immigrant Students*. <http://www.cde.ca.gov/sp/el/t3/>, 2002. Accessed in September 2004.
- Clinton, William J., 2000. "Improving Access to Services for Persons with Limited English Proficiency", Executive Order 13166, The White House.
- British Department for Transport. 2003. *Transport Requirements of Minority Ethnic and Faith Communities*. Wetherby, West Yorkshire: Department for Transport.
- Dreyfuss, Henry. 1984, *An Authoritative Guide to International Graphic Symbols* John Wiley & Sons. New York.
- Eco, Umberto. 1990. *The Limits of Interpretation*. Bloomington: Indiana University Press.
- Eco, Umberto. 1970. *A Theory of Semiotics*. Bloomington: Indiana University Press.

- Erhart, J, 1995. "Signage and Multilingual Needs in the International Airport." In Transportation Research Board, *Transportation Research Circular 445, Airports of Tomorrow*, National Research Council, Washington, D. C., pp. 67-70.
- Grin, Francois and Francois Vaillancourt, 1999, "The Cost Effectiveness Evaluation of Minority Language Policies." Flensburg, Belgium: *European Centre for Minority Issues*. <http://www.ecmi.de>. Accessed February 2004
- Hall, Edward T. 1983. *The Dance of Life*. Garden City, N: Anchor Press/Doubleday.
- Hall, Edward T. 1959. *The Silent Language*. Garden Coty, NY: Anchor Press/Doubleday.
- Hawkins, HG, Jr; Picha, DL; Lopez, CA, 1998, "Mexican Driver Comprehension of U.S. Traffic Control Devices", *Transportation Research Record 1628*, pp 15-24.
- Hodge, Robert and Gunther Kress. 1988. *Social Semiotics*. Ithaca: Cornell University Press.
- Jameson, S, Tate, F. and Jameson, A., 2001. "Bilingual Variable Message Signs: A Study of Information Presentation and Driver Distraction" In *Driving Assessment 2001: The First International Driving Symposium on Human Factors in Driver Assessment, Training and Vehicle Design*. Ames, Iowa: University of Iowa.
- Kanada, Joe and Yeo, Wesley, 2002, "Improving Limited English Proficiency Service." http://www.stanford.edu/class/e297c/war_peace/hispanic_american_economics_education_and_health/joe_kanada.html. Accessed February 2004
- Karafin, S.J., Miller-Soule, D.I. and Clair, J.M., 1982, "Minority Elderly Transportation Research: the State of the Literature". *Special Transportation Planning and Practice*. 1982, Vol. 1, pp. 159-172.
- Karczewski, Mark, 2003, "Motorists' Perception of Distance and Reaction to the Color of Emergency Lighting in Northeastern Illinois". *Transportation Research Board 82nd Annual Meeting. Traffic Incident Management Workshop*. Washington DC.
- Languageadvantage. 2003 "British Airways Gets the Language Advantage." 2002. <http://www.languageadvantage.com/news/britishairways2002.htm>. Accessed in March 2004
- Metaxatos, Paul and Soot, Siim. 2001, "Evaluation of the Driver's Ability to Recall the Message Content of Portable, Changeable Message Signs in Highway Work Zones", *Journal of the Transportation Research Forum*, Vol. 40, No. 1. pp 129-141.

Miller, Scott, 2003, "Hispanics Replace African Americans as Largest U.S. Minority Group," <http://usinfo.state.gov/usa/diversity/a012303.htm> . Accessed in Sept, 2004

Minnesota Department of Human Services, 2003, "MN DHS: Limited English Proficiency (LEP)", <http://www.dhs.state.mn.us/Language/default.htm>, Accessed in Sept. 2004.

Moeur, Richard C., 2004. "Costs of Traffic Signs", <http://members.aol.com/rcmoeur/signcost.html>, accessed on May 25, 2004.

National Capital Region Transportation Planning Board Access for All Advisory Committee. 2003. "Report on Major Findings and Recommendations to Improve Transit Information for Limited English Proficiency (LEP) Customers." Washington D.C., June 18.

New Jersey Transit, Department of Strategy, Policy, and Analysis, 2003A. "NJ Transit facts at a glance." http://www.njtransit.com/pdf/an_Facts2002.pdf. March 7, 2003.

New Jersey Transit, 2003B. "A challenging year, a promising future: NJ Transit annual report 2002." http://www.njtransit.com/an_corporateinfo_annualreport.shtm. Accessed in June 2003.

Ontario Ministry of Transport, 1996, *Evaluation of Traffic Signs and Their Application to Bilingual Signing*. Ontario, Canada, Ontario Ministry of Transport.

Pew Hispanic Center, 2002. 2002 National Survey of Latinos, Washington, D. C., Pew Hispanic Center.

Picha, D.L., Hawkins, H.G., Jr., Womack, K.N., and Rhodes, L.R. Jr., 1997. "Driver understanding of alternative traffic signs." *Transportation Research Record* 1605. 1997. pp. 8-16.

Polzin, Steven E., Chu, Xuehao and Rey, Joel R.1999. "Mobility and Mode Choice of People of Color for Non-Work Travel". *Transportation Research E-Circular*, Number E-C026, March 2001. pp. 391-412.

Polzin, S., X. Chu and J. Rey. "Mobility and Mode Choice of People of Color of Non-work Travel." Conference Proceedings of NPTS Data Usage, Washington DC. 2000.

Rhodes and Associates, 1999. *Demonstration and Evaluation of Way finding Technology for Travelers with Sensory Disabilities*, TP 13428E. Transport Canada.

Ronningen, Barbara J., 2004. "Estimates of selected immigrant populations in Minnesota: 2004" <http://server.admin.state.mn.us/resource.html?Id=7212>. Accessed in Sept. 2004.

Strauss, A. 1987. Qualitative Analysis for Social Scientists. Cambridge, England: Cambridge University Press.

Taylor, Orlando L., 1987, "Cross-Cultural Communication: An Essential Dimension of Effective Education", Mid-Atlantic Center, Chevy Chase, Maryland.

Texas Department of Protective and Regulatory Services, 2003. "APS Policy and Procedures Regarding Clients with Limited English Proficiency and Impaired Sensory or Speaking Skills",
http://www.tdprs.state.tx.us/Adult_Protection/Other_Information/public_notice.asp.

U.S. Department of Commerce, 2002A, "New Jersey Census",
<http://www.census.gov>. Accessed in June 2002.

U.S. Department of Commerce, 2002B. "2000 Census of population and housing, demographic profile" Washington DC.

U.S. Department of Commerce, 2002C. Demographic Profile: 2000 Census of Population and Housing, Technical Documentation, May 2002.

United States Department of Transportation, Office of Secretary, 2001, "DOT Guidance to Recipients on Special Language Services to Limited English Proficient (LEP) Beneficiaries", *Federal Register*, Vol. 66, No. 14, Jan 22, 2001.

United States Environmental Protection Agency, 2002, "Community Culture and the Environment: A guide to Understanding a Sense of Place" 842-B-01-003, Office of Water, Washington DC,

U.S. Railroad Retirement Board, 2001, "U.S. Railroad Retirement Board's Plan to Improve Service to Individuals with Limited English Proficiency",
<http://www.rrb.gov/blaw/leptoc.html>, Updated in Sept. 2004.

Welsh Highway Authorities and Utilities Committee, 1991. "Bi-Lingual Signing of Street Works", <http://www.welsh-hauc.org.uk/adobedocs/guidance/bilingual.PDF>, Accessed in Sept. 2004.

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

Zavala, Angela E., 2002, "Anuario Hispano-Hispanic Yearbook, 2002", Tiym Publishing Company, Inc.

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, Somalian, 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, Ukranian, 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 Bilingual Services

One of the language assistant programs implemented by the Health Association of New York State is CyraCom. CyraCom's Bilingual 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 Bilingual 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:

	How many trips do you make in a month?	Trip Purpose (working, going to school, eating, recreation, shopping, business meeting, visiting friends, visiting doctor or others)
Bus		
Subway		
Light Rail		
Commuter Train		

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

Transit Information	Do you have difficulty?	Is it useful?
Route map		
Timetable		
Station announcements		
Ticket machine instruction		
Station signs		
Other _____		

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"

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

10. 10. How well do you speak and understand English?

- ☐ ☐ "Very well"
☐ "Well"
☐ "Not well"
☐ "Not at all"

11. 11. Gender:

- ☐ ☐ Male
☐ Female

12. 12. Age:

- ☐ ☐ Under 20
☐ ☐ 20 – 30
☐ ☐ 31 – 64
☐ ☐ 65 or above

13. 13. Do you have a valid driver's license?

- ☐ Yes
☐ No

14. 14. Number of cars in your household:

- ☐ 0
☐ 1
☐ 2
☐ 3 or more

15. 15. Household size:

- ☐ 1
☐ 2
☐ 3
☐ 4
☐ 5 or more

16. 16. Total household income (\$/year):

- ☐ Under \$25,000
☐ \$25,000 - \$50,000
☐ \$50,000 - \$75,000
☐ \$75,000 or more

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 течении последнего года
- ☐ Нет, пожалуйста, переходите к вопросу № 6 на следующей странице
- ☐ Да, пожалуйста, переходите к вопросу № 2

2. Пожалуйста заполните следующую таблицу:

[illegible]

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

6. Почему вы не пользуетесь общественным транспортом

- ☐ () Нету маршрутов общественного транспорта
- ☐ () Транспорт очень дорогой
- ☐ () Поездки занимают много времени
- ☐ () Не понимаю информацию на английском
- ☐ () Не надежный
- ☐ () Другое

10. Насколько хорошо вы владеете Английским языком?

- ☐ () Очень хорошо
- ☐ () Хорошо
- ☐ () Плохо
- ☐ () Не владею

11. Пол

- ☐ () Муж
- ☐ () Жен

7. Как вы передвигаетесь:

- ☐ () Еду сам
- ☐ () Еду как пассажир
- ☐ () Использую такси
- ☐ () Другое

12. Возраст

- ☐ () до 20
- ☐ () 20-30
- ☐ () 31-64
- ☐ () более 65

8. Ваш родной язык:

- ☐ () Испанский, креольский
- ☐ () Итальянский
- ☐ () Китайский
- ☐ () Польский
- ☐ () Русский/Украинский
- ☐ () Португальский
- ☐ () Арабский
- ☐ () Корейский
- ☐ () Другой

13. У вас есть действительные водительские права?

- ☐ () Да
- ☐ () Нет

9. Как хорошо вы читаете по Английски

- ☐ () Очень хорошо
- ☐ () Хорошо
- ☐ () Плохо

14. Количество автомобилей в вашей семье:

- ☐ () 0
- ☐ () 1
- ☐ () 2
- ☐ () 3
- ☐ () 4
- ☐ () 5 и более

15. Количество членов семьи:

- ☐ 0
☐ 1
☐ 2
☐ 3
☐ 4
☐ 5 и более

16. Общий семейный доход (\$/год)

- ☐ До \$ 25.000
☐ \$25.000-\$50.000
☐ \$50.000-\$75.000
☐ \$ 75.000 и более

17. Если у вас есть предложения по улучшению работы общественного транспорта, или по увеличению его использования, пожалуйста, опишите.

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

Native language	Spanish	Chinese	Russian	Portuguese
	Italian	Polish	Korean	Arabic
English proficiency	Very well	Well	Not well	Not at all
Gender	Male		Female	
Age range				
Valid driver's license	Yes		No	
Cars in your household	0	1	2	3+
Household size	1	2	3	4+

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

MSA/CMSA	Total LEP Population	Total LEP Rank
Los Angeles--Riverside--Orange County, CA CMSA	2,024,765	1
New York--Northern New Jersey--Long Island, NY--NJ--CT--PA CMSA	1,541,937	2
San Francisco--Oakland--San Jose, CA CMSA	551,266	3
Miami--Fort Lauderdale, FL CMSA	523,795	4
Chicago--Gary--Kenosha, IL--IN--WI CMSA	522,238	5
Houston--Galveston--Brazoria, TX CMSA	379,762	6
Dallas--Fort Worth, TX CMSA	354,036	7
Washington--Baltimore, DC--MD--VA--WV CMSA	228,630	8
Phoenix--Mesa, AZ MSA	199,335	9
San Diego, CA MSA	191,069	10
Boston--Worcester--Lawrence, MA--NH--ME--CT CMSA	187,492	11
Atlanta, GA MSA	152,775	12
Philadelphia--Wilmington--Atlantic City, PA--NJ--DE--MD CMSA	137,607	13
Denver--Boulder--Greeley, CO CMSA	114,233	14
McAllen--Edinburg--Mission, TX MSA	107,224	15
El Paso, TX MSA	105,663	16
Fresno, CA MSA	101,468	17
Seattle--Tacoma--Bremerton, WA CMSA	96,958	18
Portland--Salem, OR--WA CMSA	90,147	19
Las Vegas, NV--AZ MSA	87,736	20
Sacramento--Yolo, CA CMSA	85,262	21
Detroit--Ann Arbor--Flint, MI CMSA	85,051	22
San Antonio, TX MSA	84,815	23
Austin--San Marcos, TX MSA	67,115	24
Tampa--St. Petersburg--Clearwater, FL MSA	65,571	25
Salinas, CA MSA	63,577	26
Minneapolis--St. Paul, MN--WI MSA	62,622	27
Orlando, FL MSA	61,157	28
Brownsville--Harlingen--San Benito, TX MSA	59,166	29
Bakersfield, CA MSA	58,801	30
West Palm Beach--Boca Raton, FL MSA	52,796	31
Providence--Fall River--Warwick, RI--MA MSA	49,359	32
Stockton--Lodi, CA MSA	48,874	33
Visalia--Tulare--Porterville, CA MSA	46,893	34
Honolulu, HI MSA	45,676	35
Charlotte--Gastonia--Rock Hill, NC--SC MSA	42,374	36

MSA/CMSA	Total LEP Population	Total LEP Rank
Salt Lake City--Ogden, UT MSA	39,114	37
Laredo, TX MSA	38,641	38
Raleigh--Durham--Chapel Hill, NC MSA	38,365	39
Tucson, AZ MSA	36,059	40
Modesto, CA MSA	35,976	41
Santa Barbara--Santa Maria--Lompoc, CA MSA	35,541	42
Hartford, CT MSA	35,056	43
Cleveland--Akron, OH CMSA	34,619	44
Greensboro--Winston-Salem--High Point, NC MSA	33,633	45
Milwaukee--Racine, WI CMSA	32,396	46
Kansas City, MO--KS MSA	29,127	47
Merced, CA MSA	27,110	48
Albuquerque, NM MSA	26,153	49
St. Louis, MO--IL MSA	22,352	50

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.

Metrail 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 5:30-9:30 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 Passes/Farecards 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 Metrobus rides with a \$3 Regional One Day Pass. Buy it from the bus driver. Use it on any regular Metrobus 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.

Travel tips

- 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 or 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.

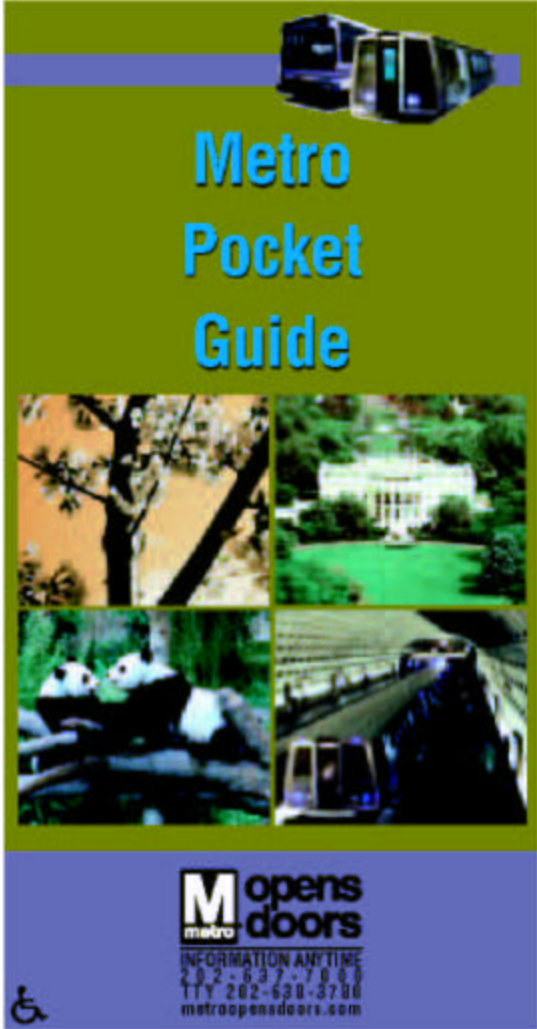
Dulles: take the Orange Line to West Falls Church-VTU/UVA station and take the Washington Flyer shuttle (runs every 30 minutes). Or take Metrobus 5A (runs every hour) from L'Enfant or Rosslyn stations or the Herndon-Monroe Park and Ride lot.

BWI: take the Green Line to Greenbelt Metrorail station and take Metrobus express route B30. The shuttle runs every 40 minutes between 6 a.m. and 10 p.m.

Information subject to change.

06/03

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



The cover of the Metro Pocket Guide features a green background. At the top, there is a photograph of a Metro train. Below this, the title "Metro Pocket Guide" is written in large, bold, blue letters. Underneath the title, there are four small square images arranged in a 2x2 grid: a tree, the White House, two pandas, and a Metro train. At the bottom of the cover, there is a logo for "M opens doors" with the word "metro" in a small box next to the "M". Below the logo, the text "INFORMATION ANYTIME" is followed by the phone number "202-637-7000" and the TTY number "202-638-3786". At the very bottom left, there is a small icon of a person in a wheelchair.

POINTS OF INTEREST

African Art Museum	Smithsonian
Air and Space Museum	L'Enfant Plaza
American History Museum	Smithsonian
American Art Museum	Gallery PL-Chinatown
Arlington Cemetery/Lee Mansion	Arlington Cemetery
Arlington County Visitors' Center	Pentagon City
Bartholdi Museum Archives	McPherson Sq
Botanic Gardens	Federal Center SW
Bureau of Engraving & Printing	Smithsonian
Capitol Building	Capitol South
Capitol Children's Museum	Union Station
Chinatown	Gallery PL-Chinatown
Constitution Hall	Farragut West
Convention Center	MT Vernon Sq
Corcoran Gallery	Farragut West
D.C. Armory	Stadium-Armory
Federal Bureau of Investigation	Metro Center
Folger Shakespeare Library	Capitol South
Freer Gallery	Smithsonian
Hirshhorn Museum	L'Enfant Plaza
Holocaust Museum	Smithsonian
House Where Lincoln Died	Metro Center
Iwo Jima Memorial	Rosen
Library of Congress	Capitol South
Lincoln Memorial	Foggy Bottom-GWU
Liner Auditorium	Foggy Bottom-GWU
Martha Luther King Jr. Library	Gallery PL-Chinatown
Masonic Temple	King Street
MCI Center	Gallery PL-Chinatown
Natl Academy of Sciences	Foggy Bottom-GWU
National Aquarium	Federal Triangle
National Archives	Archives-Navy Mtn
Natl Building Museum	Judiciary Sq
Natl Gallery of Art	Archives-Navy Mtn
Natl Geographic Society	Farragut North
Natl Institutes of Health	Medical Center
Natl Museum of	
Women in the Arts	Metro Center
National Portrait Gallery	Gallery PL-Chinatown
National Postal Museum	Union Station
Natl Presbyterian Center	Tenleytown-AU
National Shrine of the	
Immaculate Conception	Brookland-CUA
National Zoo	Woodley Park-Zoo
Natural History Museum	Smithsonian
Phillips Collection	Dupont Circle
Benjamin Franklin	Farragut West
RFK Stadium	Stadium-Armory
Sackler Gallery	Smithsonian
Smithsonian Castle	Smithsonian
Spy Museum	Gallery PL-Chinatown
State Department	Foggy Bottom-GWU
Supreme Court	Capitol South
Textile Museum	Dupont Circle
Vietnam Veterans Memorial	Foggy Bottom-GWU
Washington Monument	Smithsonian

White House and Visitor Center	Federal Triangle
Woodrow Wilson House	Dupont Circle

COLLEGES AND UNIVERSITIES

American Univ?	Tenleytown-AU
Catholic Univ. of America	Brookland-CUA
Columbus Union Coll	Takoma
George Mason Univ.	Vienna/Parkside-GMU and Virginia Sq-GMU
George Washington Univ.	Foggy Bottom-GWU
Howard Univ.	Shaw-Howard Univ
Johns Hopkins Univ	Dupont Circle
Marquette Univ	Balaton-MU
Southwestern Univ	Wadefront-SEU
Univ. of the District of Columbia	Van Ness-UDC
Univ. of Maryland?	College Park-U of Md
Va. Tech./VA No. Virginia Center	West Falls Church-VT/VA

SHOPPING

Balaton Common	Balaton-MU
Congressional Plaza	Twinsburg
Connecticut Avenue	Farragut North
City Place	Silver Spring
Crestal City Underground	Crestal City
Downtown	Metro Center
Fashion Centre	Pentagon City
Georgetown	Foggy Bottom-GWU
L'Enfant Plaza	L'Enfant Plaza
Mall/Gallery/Cherry Chase	Friendship Heights
Park/Cherry Chase	Federal Triangle
Old Post Office Park	Prince George's Plaza
Prince George's Plaza	Metro Center
Shops at Union Station	Union Station
Shops at White Station	Wadefront-SEU
White Station	White Station
White Flirt	White Flirt

THEATERS

American Theatre Project	Assorted
Asolo Stage	Wadefront-SEU
Discovery Theatre	Smithsonian
Folger Theatre	Capitol South
Forde Theatre	Metro Center
Kennedy Center?	Foggy Bottom-GWU
Lincoln Theatre	U-Street-Garfield
National Theatre	Metro Center
Shakespeare Theatre	Archives-Navy Mtn
Source Theatre	U-Street-Garfield
Studio Theatre	Dupont Circle
Wagner Theatre	Metro Center
Wolf Trap?	West Falls Church-VT/VA
Woolly Mammoth Theatre Co.	Dupont Circle

*Closed for renovations for several years.
 *University-operated shuttle between station and campus.
 *Georgetown Metro Connection shuttle runs through Georgetown from Foggy Bottom-GWU station (also Rosslyn and Dupont Circle stations).
 *Kennedy Center shuttle between station and Center.
 *Wolf Trap shuttle between station and park during season.



ساعات الخدمة

ساعات الفتح: ٥:٣٠ صباحاً من الاثنين حتى الجمعة و٧ صباحاً من السبت حتى الأحد.
ساعات الغلق: منتصف الليل من الأحد حتى الخميس و٣ صباحاً ليلي الجمعة حتى السبت.

تختلف أوقات وصول القطار الأخير عند الركوب في ساعة متأخرة من الليل، يرجى التحقق من أوقات وصول القطار الأخير المعلنة في المحطات كي لا يفوتك القطار الأخير.

معلومات مفيدة حول ركوب القطار

- أشتر بطاقة الأجرة ذهباً وإيماً لتجنب الوقوف في صفوف طويلة عند آلات بطاقات الأجرة بعد نهاية أي حدث هام.
- إذا أمكن ذلك، تجنب ركوب قطار المترو بين الساعة ٤ و٦ عصرًا خلال أيام منتصف الأسبوع.
- خلال موسم ارتفاع عدد السائقين، لا تستعمل محطات المترو الواقعة في وسط المدينة والمجاورة لمحطة Smithsonian.

الذهاب إلى المطار والعودة منه

مطار رونالد ريغان واشنطن الوطني: استعمل الخط الأصفر أو الأزرق.

مطار مانس: استعمل الخط البرتقالي حتى محطة West Falls Church-VTUVVA ثم اركب باص واشنطن فلاير (يغادر كل ٣٠ دقيقة) إلى المطار. أو اركب الباص رقم ٥ (يغادر كل ساعة) من محطة L'Enfant أو Rosslyn أو من موقف محطة Herndon-Monroe.

مطار بالتيمور-واشنطن: استعمل الخط الأخضر حتى محطة Greenbelt ثم اركب الباص السريع رقم ٣٠ حتى المطار يغادر الباص كل ٤٠ دقيقة من الساعة ٦ صباحاً حتى الساعة ١٠ ليلاً.

أجرة استعمال قطار المترو

- يحتاج كل راكب إلى بطاقة أجرة للدخول والخروج. (يحق للراكب القطار المسد لأجرته أن يصطحب مجاناً لغاية طفلين دون سن الخامسة).
- تعتمد الأجرة على وقت ومدة ركوبك للقطار. تكون الأجرة عادية خلال أيام الأسبوع من الساعة ٥:٣٠ حتى الساعة ٩:٣٠ صباحاً، ومن الساعة ٣ حتى الساعة ٧ عصرًا، ما عدا السبت والأحد. وتكون الأجرة مخفضة خلال كافة الأوقات الأخرى.
- تبرز الفرائط الكبيرة في كل محطة الأجرة وأوقات الركوب. يرجى التوجه إلى مدير المحطة إذا أردت طرح أي أسئلة.
- توجد آلات بطاقات الأجرة في كل محطة. احضر فئات صغيرة من الأوراق النقدية نظراً لعدم وجود أي آلات لصرف الأوراق النقدية في المحطات. فئات بطاقات الأجرة لا تصرف إلا لغاية \$٥ (من النقد المعدني). وتقبل بعض الآلات ببطاقات الإنتمان والنقد.

التصاريح اليومية

- أحصل على تصريح بالاستعمال غير المحدود لقطار المترو طوال اليوم بفضل التصريح اليومي بقيمة \$٦. اشتره من آلة التصاريح أو بطاقات الأجرة في محطات المترو. استعمله بعد الساعة ٩:٣٠ صباحاً حتى إقفال المحطة خلال أيام الأسبوع ما عدا السبت والأحد، وطوال اليوم خلال عطلة نهاية الأسبوع والأعياد الوطنية.

- أحصل على تصريح بالاستعمال غير المحدود لباص المترو طوال اليوم بفضل التصريح اليومي بقيمة \$٣. اشتره من سائق الباص واستعمله لركوب أي باص مترو ومعظم الباصات التابعة لخطوط محلية أخرى في المنطقة.

خرائط المناطق المجاورة

تتوفر الخرائط المجانية لدى جبهة كل مدير محطة لمساعدتك على العثور على الأماكن المجاورة التي تثير اهتمامك.

المعلومات قابلة للتغيير.

ARABIC



دليل الجيب لركوب قطار المترو





202-637-7000
TTY 202-638-3780
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首都地鐵票價

- 每位乘客均須購買地鐵票方可進出地鐵站。(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。)
- 票價依照您搭乘地鐵的時間和距離計價。週日上午5時30分至9時30分和下午3時至7時支付普通費率。所有其他時間均支付減價費率。
- 每個地鐵站內張貼的大型地圖會顯示票價和行車時刻表。若有問題，請向地鐵站經理洽詢。
- 每個地鐵站內均設有售票機。請攜帶小面值的鈔票，因為車站內沒有換鈔機。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6美元的一日通行票，即可在一日內無限制地搭乘地鐵。請在地鐵站的通行票/普通車票售票機購買一日通行票。請在週日上午9時30分之後至地鐵關閉之前使用，週末和聯邦假日可全地使用。
- 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班車。請在班車駕駛員處購票。可在任何普通地鐵班車和大多數其他地方公共汽車系統中使用。

鄰近區域地圖

可在每個地鐵站經理工作亭中索取免費地圖，幫助您查找鄰近區域的觀光點。

服務時間

- 開放： 星期一至星期五上午5時30分
星期六至星期日上午7時
- 關閉： 星期日至星期四午夜12時
星期五至星期六凌晨3時

最後一班地鐵的時間可能不同。當您在夜間旅行時，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。
- 在旅遊高峰期間，除史密森尼(Smithsonian)站外，請使用其他市內地鐵站。

機場交通

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)：請搭乘橘黃線至West Falls Church-VTU/UVA站，然後轉乘Washington Flyer班車(每30分鐘一班)至機場。或者從L'Enfant或Rosslyn站或Herndon-Monroe Park and Ride停車場搭乘SA地鐵班車(每小時一班)。

BWI機場：請搭乘綠線地鐵至Greenbelt地鐵站，然後轉乘B30地鐵直達班車至機場。班車在上午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。700

CHINESE



地铁便 携指南



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Prix des tickets

- Chaque passager doit disposer d'un ticket d'admission (farecard) 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 posters 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. Munissez-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 rail pendant toute la journée, sans aucune restriction, grâce à la Carte journalière vendue au prix de 6,00 \$. Achetez-la dans les 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.
- Voyagez en Métro bus 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 de bus. Vous pouvez l'utiliser dans n'importe quel Métro bus 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 culturel quelconque.
- Si possible, évitez de prendre le Métro rail 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

Ronald Reagan Washington National Airport: prenez la ligne Jaune ou la ligne Bleue.

Dulles: prenez la ligne Orange jusqu'à la Station West Falls Church-VTU/UVA, puis prenez la navette Washington Flyer (elle circule toutes les 30 minutes) jusqu'à l'aéroport. Vous pouvez également prendre le Métro bus 5A (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 Métro bus express, route B30, jusqu'à l'aéroport. La navette circule toutes les 40 minutes entre 6h00 et 22h00.

Informations sujettes à modifications. 7/03

FRENCH



Guide de poche du Métro



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Metrarail-Fahrtpreisinformationen

- 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 Fahrtantrittszeit. Hauptverkehrspreise 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, aus denen die Fahrpreise und -zeiten hervorgehen. Falls Sie Fragen haben sollten, wenden Sie sich bitte an den Stationsleiter.
- In jeder Station sind Fahrkartenautomaten aufgestellt. Bringen Sie kleine Geldscheine, denn es gibt keine Geldwechselautomaten in den Stationen, und die Fahrkartenautomaten können nur bis zu US\$ 5,— Wechselgeld zurückgeben (in Münzen). Einige der Automaten akzeptieren Kredit- und Scheckkarten.

Tageskarten

- Kaufen Sie für US\$ 6,— eine Tageskarte („One Day Pass“) für unbegrenzte Metrarail-Fahrten für einen ganzen Tag. Diese Fahrausweise sind an den mit „Passes/Farecards“ gekennzeichneten Automaten an Metro-Stationen erhältlich. Diese Fahrausweise gelten werktags von 9.30 Uhr bis Betriebsschluss und den ganzen Tag lang an Wochenenden und US-Feiertagen.
- Um einen Tag lang beliebig oft mit Metrobussen fahren zu können, kaufen Sie eine Tageskarte („Regional One Day Pass“) zu US\$ 3, vom Busfahrer. Damit können Sie beliebig viele Fahrten auf allen regulären Metrobusstrecken und mit den meisten anderen regionalen Bussystemen unternehmen.

Orientierungskarten

An den Kiosken der Stationsleiter sind kostenlose Straßenkarten erhältlich, mit deren Hilfe Sie Sehenswürdigkeiten oder Interessantes im unmittelbaren Stationsbereich leichter finden können.

Betriebszeiten

Öffnungszeit: 5.30 Uhr Mo-Fr 7.00 Uhr Sa-So
Betriebschluss: 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 Hauptferienzeiten 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“.

Dulles: Nehmen Sie die „Orange Line“ bis zur Station „West Falls Church-VTU/UVA“ und fahren Sie von dort mit dem „Washington Flyer“-Zubringerbus (verkehrt alle 30 Minuten) zum Flughafen. Oder fahren Sie mit dem Metrobus 5A (verkehrt stündlich) von den Stationen „L'Enfant“ oder „Rosslyn“ oder vom „Park and Ride“-Parkplatz an der Station „Herndon-Monroe“.

BWI: Nehmen Sie die „Green Line“ zur Metrarail-Station „Greenbelt“ und fahren Sie den Metrobus, Express-Route B30, zum Flughafen. Dieser Zubringer verkehrt zwischen 6.00 und 22.00 Uhr alle 40 Minuten.

Alle Angaben können ohne Vorankündigung geändert werden. 7/03

GERMAN



Metro Leitfaden









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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.
- In ogni stazione si trovano le macchine per la distribuzione dei biglietti (farecard). Portate con voi una scorta di banconote di piccolo taglio perché nelle stazioni non ci sono macchine per cambiare le banconote e le macchine per i biglietti danno resto solo fino a 5 dollari in monete. Alcune macchine accettano carte di credito e carte di addebito bancario.

Abbonamenti per un giorno (One Day Pass)

- Con 6 dollari potete acquistare un biglietto che vi dà diritto a un numero illimitato di corse per un giorno (One Day Pass). Lo si può acquistare presso le macchine per i biglietti (Passes/Parecards) nelle stazioni della Metropolitana. Utilizzatelo dopo le 9:30 fino all'ora di chiusura nei giorni lavorativi, e 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 corse 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 cartine 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, evitate di usare il sistema Metro tra le 16:00 e le 18:00 dei giorni lavorativi.
- Durante le punte della stagione turistica, cercate di usare stazioni Metro del centro città diverse da quella dello Smithsonian.

Corse per e dall'aeroporto

Per l'aeroporto Ronald Reagan Washington National: prendere la linea Gialla o Blu.

Per l'aeroporto Dulles: prendere la linea Arancio fino alla stazione West Falls Church-VTU/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 Herndon-Monroe Park and Ride.

Per l'aeroporto BWI: prendere la linea Verde fino alla stazione Metrorail di Greenbelt e poi il Metrobus espresso B30 fino all'aeroporto. Questa navetta funziona ogni 40 minuti tra le 6:00 e le 22:00.

Queste informazioni sono soggette a variazioni. 7/03

ITALIAN



Guida tascabile dei mezzi pubblici Metro



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料金

- 利用客お1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）
- 料金の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30分まで。割引料金：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います。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、おつりは各販売機につき最高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る場合もあります。

1日バス

メトロを1日中無制限に利用できる1日バス（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終電まで1日中利用可能です。

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

周辺地図

各駅の改札口付近にある係員ブースには、周辺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5時30分 土曜・日曜：午前8時
終了：日曜～木曜：午前12時 金曜・土曜：午前3時
終電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、催物などの毎りに長蛇の列に並んで切符を買う手間が省けます。
- ラッシュアワー時（平日午後4時から6時まで）はなるべくお避けください。
- 観光シーズン中、「Smithsonian」駅以外のダウンタウン周辺のメトロ駅もご利用ください。

空港への行き方

ダレス空港：オレンジラインの「West Falls Church-VTU/UVA」駅下車。ワシントン・フライヤー・シャトルバスにて空港へ（30分毎に運行）。または、「L'Enfant」駅、「Rosslyn」駅、あるいは「Herndon-Monroe Park and Ride」バス乗場からメトロバス 5A（1時間毎に運行）にて空港へ。

BWI空港：グリーンラインの「Greenbelt Metrorail」駅下車。メトロバス・エクスプレス・ルートB30にて空港へ。このシャトルバスは午前6時から午後10時まで40分間隔で運行しています。

内容は変更されることがあります。7/00

JAPANESE



メトロ (地下鉄) ポケット・ガイド



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TTY 202-698-3780
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메트로 전철(Metrorail) 요금

- 메트로에 타거나 내릴 때마다 유효 승차권(farecard)이 있어야 합니다. (승객 한 명이 유효 승차권으로 메트로를 이용할 경우, 함께 메트로에 승차한 5세 미만의 아이들은 2명까지 무료 이용이 가능합니다).
- 요금은 승차 시간과 승차 거리에 따라 결정됩니다. 평일 오전 5:30-9:30시 및 오후 3-7시에는 정규 요금이, 그리고 그 밖의 시간대에는 할인 요금이 적용됩니다.
- 전철역마다 커다란 메트로 지도가 있으며, 요금과 승차 시간 안내도 나와 있습니다. 궁금하신 점이 있으시면 전철역 담당자에게 문의하십시오.
- 모든 전철역에는 승차권 자동판매기가 있습니다. 단, 전철역 내에 지폐 교환기가 없고 승차권 자동판매기에서는 거스름돈을 \$5까지만(동전으로) 내어 주기 때문에 소액권 지폐를 준비해 오셔야 합니다. 일부 자동판매기에서는 신용 카드나 직불카드("데빗 카드")를 사용할 수 있습니다.

"원데이 패스"

- \$6에 "원데이 패스"를 구입하시면 메트로 전철을 하루 종일 무제한 이용하실 수 있습니다. 이 패스는 메트로 역에서 패스/승차권 자동판매기에서 구입할 수 있습니다. 평일에는 오전 9:30시 이후부터 운행 종료 시간까지, 그리고 주말과 연방 공휴일에는 하루 종일 이용하실 수 있습니다.
- \$3에 "리저널 원데이패스"(Regional One Day Pass)를 구입하시면 메트로 버스를 하루 종일 무제한 이용하실 수 있습니다. 버스 운전기사에게서 구입하시면 됩니다. 해당 지역 내에서는, 모든 정규 메트로 버스 그리고 아울러 대부분의 기타 시내버스에 이용하실 수 있습니다.

부근 지도

부근에서 관심 가지실 만한 곳들을 쉽게 찾으실 수 있도록 각 전철역 담당자 근무 창구에 배부를 무료 지도가 비치되어 있습니다.

운행 시간

시작: 오전 5:30시. 월-금. 오전 7시. 토-일.

종료: 자정. 일-목. 오전 3시. 금-토 밤

막차 시간은 일정하지 않습니다. 밤 늦게 승차하신 때는, 전철역 내에 게시된 막차 시간을 확인하셔서 막차를 놓치지 않도록 하십시오.

메트로 이용 요령

- 팔복 승차권을 미리 구입해 두시면, 승차권 자판기에 줄이 밀릴 경우 기다려야 하는 불편함을 피하실 수 있습니다.
- 가능하다면, 평일 오후 4시부터 6시 사이의 불리는 퇴근 시간에 메트로 타는 것을 피하시기 바랍니다.
- 관광객들이 많아지는 시즌에는 가끔씩 스미소니안 전철역을 이용하지 마시고 그 대신 부근의 다른 타운 전철역들을 이용하십시오.

공항에 오가는 전철 노선 안내

보널드 레이건 워싱턴 내셔널 공항: 엘리우 또는 블루 라인을 타십시오.

덜레스 공항: 오렌지 라인을 타고 웨스트 플스 차치-VTU/UVA 역까지 가서 워싱턴 플라자 서플(30분 간격으로 운행)을 타고 공항까지 가십시오. 링컨이나 로스틴 역, 또는 헌던-먼로의 환승(Park & Ride) 주차장에서 메트로버스 5A(대시간 운행)를 타셔도 됩니다.

BWI 그린 라인을 타고 그린벨트 메트로 전철역까지 가서, 메트로버스 익스프레스 노선 B30을 타고 공항까지 가십시오. 서플 버스는 오전 6시에서 오후 10시까지 매 15분마다 운행됩니다.

KOREAN



메트로 포켓 가이드









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doors**

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TTY 202-638-3780
metroopensdoors.com



안내 사람은 변경될 수 있습니다. 700

Tarifas do Metroraíl

- Cada passageiro necessita de um passe de entrada e saída. (Até duas crianças menores de 5 anos podem viajar gratuitamente quando acompanhadas de um usuário pagante.)
- As tarifas estão baseadas nos horários e distâncias da viagem. Tarifas normais são cobradas durante a semana entre as 05:30-09:30 e 15:00-19:00 horas. Tarifas reduzidas são cobradas em todos os demais horários.
- Mapas grandes, localizados em cada estação, 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.

Passes válidos por um dia

- Ganhe um dia de viagens ilimitadas no Metroraíl comprando um Passe Válido por Um Dia por 6 dólares, que pode ser adquirido na máquina de Passes nas estações do Metro. Este passe pode ser usado durante a semana a partir das 09:30 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 cabine de gerente das estações para ajudá-lo a encontrar pontos de interesse próximos.

Horário de serviço

Abre: 05h30 de Segunda a Sexta
07h00 Sábados e Domingos

Fecha: 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 Metro no horário entre as 16:00 e 18:00 horas durante a semana.

Durante a alta estação de turismo, utilize outras estações do Metro no centro da cidade além da estação Smithsonian.

Como chegar e sair dos aeroportos

Ronald Reagan Washington National Airport: tome a linha Amarela ou Azul.

Dulles: tome a linha Laranja até a estação West Falls Church-VTU/UVA e o shuttle Washington Flyer (que passa a cada 30 minutos) para o aeroporto. Ou, tome o Metrobus 5A (passa a cada hora) nas estações L'Enfant ou Rosslyn ou na área para Estacionamento e Transporte Herndon-Monroe.

BWI: tome a linha Verde até a estação Greenbelt do Metroraíl e a rota expressa B30 do Metrobus para o aeroporto. O shuttle passa a cada 40 minutos entre as 06:00 e 22:00 horas.

Informações sujeitas a mudanças. 7/03

PORTUGUESE



Guia de bolso do Metro



M opens doors
202-637-7600
TTY 202-638-3780
metroopendoors.com



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

- Obtenga un día de viajes ilimitados en el Metrorail con un Pase de un día de \$6. Cómprelo en las máquinas de pases y boletos de las estaciones del Metro. Úselo después de las 9:30 a.m. hasta la hora de cierre entre semana, y todo el día los fines de semana y los días de fiesta nacional.
- Obtenga un día de viajes ilimitados en los autobuses del sistema Metrobus con un Pase regional de un día de \$3. Cómpreselo al chofer del 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 le 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.

Viajes de ida y vuelta al aeropuerto

Aeropuerto Nacional Ronald Reagan de Washington: tome la Línea Amarilla o la Azul.

Dulles: tome la Línea Anaranjada hasta la estación West Falls Church-VIU/UVA y tome el autobús Washington Flyer (pasa cada 30 minutos) al aeropuerto. O tome el autobús Metrobus 5A (pasa cada hora) en la estación L'Enfant o en la estación Rosslyn o en el estacionamiento Park and Ride Herndon-Monroe.

BWI: tome la Línea Verde hasta la estación Greenbelt Metrorail y tome el Metrobus de la ruta expés B30 al aeropuerto. El autobús pasa cada 40 minutos entre las 6 de la mañana y las 10 de la noche.

La información está sujeta a cambios. 7/03

SPANISH


Guía de bolsillo del Metro





202-637-7600
TTY 202-638-3780
metroopensdoors.com

Vé Metro

- Mọi khách hàng đều phải có thẻ vé (farecard) để lên xuống trạm. (Miễn phí cho hai trẻ em dưới 5 tuổi nếu đi với một khách hàng trả vé.)
- Giá vé tùy theo thời gian và khoảng cách. Giá thường lệ hàng ngày từ 5:30 tới 9:30 sáng và 3:00 tới 7:00 chiều. Giảm giá vé cho các giờ khác.
- Bản đồ tại mỗi trạm có ghi giá vé và thời gian. Gặp quản lý trạm nếu có thắc mắc.
- Có máy bán thẻ vé tại mỗi trạm, nên mang sẵn tiền lẻ vì không có máy đổi tiền và máy bán thẻ chỉ có thể thổi lên tới \$5.00 (bằng tiền các). Một số máy nhận trả bằng thẻ tín dụng (credit card) hay thẻ nợ (debit card).

Vé một ngày

- Đáp xe Metrorail trong một ngày không giới hạn chỉ trả \$6.00 One Day Pass, mua vé tại các trạm Metro có máy Passes/Farecards. Sử dụng sau 9:30 sáng cho đến giờ đóng cửa, và cả ngày cuối tuần cũng như ngày lễ nghỉ.
- Đi một ngày không giới hạn với xe buýt Metrobus chỉ trả \$3.00 Regional One Day Pass, mua qua tài xế xe buýt. Dùng cho bất cứ xe buýt thông thường và hầu hết trên hệ thống xe buýt địa phương trong vùng.

Bản đồ vùng lân cận

Chúng tôi cung cấp bản đồ miễn phí tại mỗi quầy quản lý trạm để giúp quý vị tìm ra các khu ưa thích.

Giờ phục vụ

- Giờ mở cửa: 5:30 sáng từ thứ Hai đến thứ Sáu, 7:00 sáng vào ngày thứ Bảy và Chủ Nhật.
- Giờ đóng cửa: nửa đêm vào ngày Chủ nhật đến thứ Năm, 3:00 sáng thứ Sáu và thứ Bảy.
- Giờ đáp chuyển xe cuối cùng thường khác giờ. Khi đón xe trễ vào ban đêm, hãy kiểm soát giờ xe chạy để không bị lỡ chuyến.

Hướng dẫn đi lại

- Mua thẻ vé khứ hồi để khỏi đứng đợi tại máy bán khi muốn trở về.
- Nếu có thể được, tránh đáp xe Metro từ 4:00 tới 6:00 chiều vào những ngày trong tuần.
- Vào mùa nhiều khách du lịch, đi trạm Metro khác của trung tâm thành phố kế bên trạm Smithsonian.

Đi tới và ra khỏi phi trường

Phi trường quốc gia Washington Ronald Reagan: Đi tuyến Màu Vàng hay Màu Xanh Dương.

Dulles: Đi tuyến Màu Cam tới trạm West Falls Church-VTU/UVA và đáp xe con thoi (shuttle) Washington Flyer (khởi hành mỗi 30 phút) tới phi trường. Hay đáp xe buýt Metrobus 5A (khởi hành mỗi giờ) từ trạm L'Enfant hay Rosslyn hoặc bãi đậu Herndon-Monroe Park and Ride.

BWI: Đi tuyến Màu Xanh Lá Cây tới trạm Greenbelt Metrorail và đáp tuyến tốc hành Metrobus B30 tới phi trường. Hệ thống con thoi chạy mỗi 40 phút giữa 6:00 sáng và 10:00 chiều 202-637-7000.

Thông tin có thể thay đổi. 7/01

VIETNAMESE



Tập Chỉ Dẫn Bỏ Túi Metro



M opens doors
202-637-7000
TTY 202-638-3780
metroopensdoors.com



APPENDIX J. TRI-COUNTY "HOW TO RIDE" GUIDE

many 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.

TRI MET

How to ride
乗車方法
КАК ПОЛЬЗОВАТЬСЯ АВТОБУСОМ
CÁCH SỬ DỤNG XE BUÝT VÀ
시내 버스 이용 방법
Cómo Viajar
乘車須知

TRI MET
See where it takes you.
503-238-RIDE • trimet.org

Printed on recycled paper
BSM 6/03 03248

 Effective
August 31, 2003

Plan your trip on trimet.org

How to ride

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.

Paying your fare

Fares on MAX and buses are the same and you can transfer between them. The number of zones you travel in determines the amount you pay.

How much to pay

	Single Fare	10 Tickets	Monthly Pass
All-Zone	\$1.60	\$15.50	\$58.00
2-Zone	\$1.30	\$12.50	\$47.00
1-Zone	\$1.30	\$12.00	—
Honored Citizen	.60	\$ 5.00	\$16.00
Youth	\$1.00	\$ 9.50	\$34.00
Quik Tik			
(6-hour ticket)	\$ 3.00	—	—
All-Day Ticket	\$ 4.00	—	—

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.

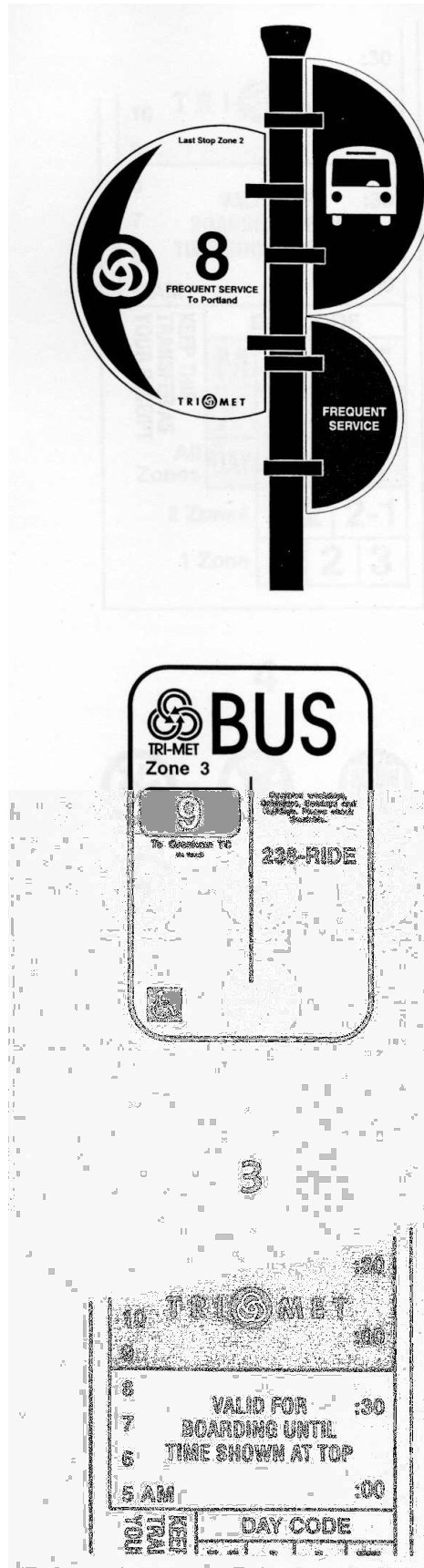
37

1

96		Tualatin I-5	
Weekdays		to Portland	
Boones Ferry & Commerce Circle	Boones Ferry & Beach	Mohawk Park & Ride 37 76	Marlinazzi & Seneca 37 76
—	—	5:22	5:25
—	—	5:49	5:52
5:52	5:57	6:01	6:04
—	—	6:12	6:15
6:12	6:17	6:21	6:24
—	—	6:29	6:32
6:29	6:34	6:38	6:41
—	—	6:43	6:46
—	—	6:49	6:52
6:45	6:50	6:55	6:58
—	—	7:01	7:04
—	—	7:06	7:09
6:59	7:04	7:10	7:14
—	—	7:15	7:19
7:10	7:15	7:21	7:25
—	—	7:28	7:32
7:25	7:30	7:36	7:40
—	—	7:47	7:51
7:48	7:53	7:58	8:02
8:02	8:07	8:12	8:15
8:20	8:25	8:29	8:32
8:46	8:51	8:55	8:58
9:17	9:22	9:26	9:30
2:38	2:43	2:47	2:51
3:43	3:48	3:52	3:56
4:07	4:12	4:16	4:20
4:26	4:31	4:35	4:39
4:48	4:53	4:57	5:01
5:13	5:18	5:22	5:26
5:46	5:51	5:55	5:59
6:38	6:43	6:47	6:51
8:24	8:29	8:33	8:36

2





Youth	\$ 1.00	\$ 3.50	\$ 34.00
Quik Tik			
(6-hour ticket)	\$ 3.00	—	—
All-Day Ticket	\$ 4.00	—	—

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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 Avenue 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.

How to pay on MAX

Be sure you have a valid fare before you get on. You can use a Monthly Pass or transfer, or buy a ticket from a machine at the station.

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

10	TRIMET		:30
9			:00
8	VALID FOR		:30
7	BOARDING UNTIL		
6	TIME SHOWN AT TOP		
5 AM			:00
KEEP THIS TRANSFER AS YOUR RECEIPT	DAY CODE		
	M	J	I
	X	D	B
	DAY	A	H
	All Zones	Y	
2 Zones	3-2	2-1	
1 Zone	1	2	3

4 Tips for easy riding

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- No open food or beverage containers
- Keep head and hands inside bus
- Use radios with headphones only
- Do not put your feet on seats

4



Questions ?

Call 503-236-7433 (TTY 503-236-5511),
Monday-Friday, 7:30 a.m.-5:30 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 buses
- Lost and found
- Bikes 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.

Spanish Español

¡Bienvenidos!

Bienvenidos a TriMet, su servicio de transporte público. TriMet cuenta con servicio de autobús, 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 lee de izquierda a derecha le dice cuánto tardará en ir de un punto a otro a lo largo del recorrido. Si lee de arriba a abajo le dice la hora de salida en cada uno de los lugares mencionados.

2 Subiendo y bajando del autobús

Presione uno de estos botones que indica la parada del autobús. Cuando el autobús está cerca haga una señal al conductor, suba por la puerta delantera y pague su boleto o muestre su transbordador o pase mensual.

Por favor ceda los asientos de adelante a los jubilados o a los pasajeros con incapacidades físicas. Descanse hasta que esté cerca de su parada. Dé un tirón al cordón de timbre para hacerlo saber al conductor que desea bajarse. En lo posible baje por la puerta trasera.

Subiendo y bajando del MAX

Antes de subir al tren asegúrese de tener su boleto. MAX para en todas las estaciones. Si las puertas que están frente a la plataforma no se abren automáticamente, oprima el botón iluminado que se halla cerca de la puerta.

Pagando su boleto

Los boletos de autobús y MAX cuestan lo mismo y

Russian РУССКИЙ

Добро пожаловать!

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

Самый удобный и простой способ передвижения в Портланде это пользование услугами Трай-Мет. Начните наше знакомство с изучения 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; автобусы автобусные линии имеют одинаковый номер, но два разных названия. Тот же автобус с той же частью расписания выполняет разные функции на протяжении маршрута. Часть автобуса, Вы можете определить, во какое время автобус приходит от одной точки на маршрут или отправляется на маршрут. Согласно расписанию автобусов время отправления с каждой остановки на маршрут определено.

2 Как садиться и выходить с автобуса

Обратите внимание на знаки, обозначающие автобусные остановки. Посадившись рядом с водителем автобуса или переднего пассажира, сообщите водителю или переднему пассажиру, что хотите выйти на следующей остановке. Пожалуйста, не мешайте передним людям, садиться на два задних ряда и пассажиров. Пожалуйста, будьте готовы к приближению к следующей остановке. Пожалуйста, будьте готовы к тому, чтобы выйти из автобуса. Пожалуйста, будьте готовы к тому, чтобы выйти из автобуса. Пожалуйста, будьте готовы к тому, чтобы выйти из автобуса.

Как садиться и спускаться с MAX-а

Обязательно оплатите проезд заранее тем, как садитесь на трамвай. MAX останавливается на всех остановках.

Japanese 日本語

ようこそ!

ポートランド地域の公共交通機関、TriMet へようこそ。TriMet は、バスやライトレール(鉄道)電車、リフト(身体の不自由な方のためのドアからドアへのサービス)、カープール(自動車相乗り)、そして、自転車に関する各種サービスを行なっています。電車はMAXと呼ばれています。

ポートランドをあとこちへには、TriMet が一番便利で簡単です。まず行き先ルートスケジュール(時刻表)を手に入れましょう。

乗車する前に

1 スケジュールの読み方

乗車する日の曜日を確かめましょう。バスとMAXのスケジュールは平日、土曜日、日曜日と違います。次の祭日は、日曜日のスケジュールで運行されます。ニュー・イヤーズ・デー(1月1日)、メモリアル・デー(5月最終月曜日)、インディペンデンス・デー(7月4日)、レーバー・デー(9月第1月曜日)、サンクスギビング(11月第4木曜日)、クリスマス(12月25日)。

バスによっては同じ番号でもルート名が二つあることもあるので、バスの番号とルート名の両方を確かめてください。

スケジュールの上段の各駅間は、ルート上の主要停留所です。各停留所の乗車時刻は左から右へ読み、各停留所の出発時刻は上から下へ読む必要があります。

2 バスの乗り方と降り方

黒のようなバス停のサインを見ます。自分の乗るバスが並んでいるのを待ち、乗車時に手を振ります。前のドアから乗って、乗降券を渡すか、乗車後の時刻表を取り換えます。1ヶ月定期券を持っているなら、定期券を見ます。前の方の座席は高齢者や身体の不自由な人に譲ってください。自分の乗るバス停が近づくと、リクライニングシートを倒してください。自分の乗るバス停の近くになったら、ベルのひもを引っ張って乗降券に降りることを知らせてください。できれば、後ろのドアから降りてください。

MAXの乗り方と降り方

乗車券は必ず乗車時に渡してください。MAXは自動で停車します。プラットフォーム側のドアが自動的に開かない場合は、ドアの近くにある点灯しているボタンを押してください。ドアが開きます。

運賃について

MAXとバスの運賃は同じで乗り換えても大丈夫です。乗車する区間の数によって運賃が決まります。

運賃は以下の通りです。

Chinese 中文

歡迎您乘車!

歡迎您使用TriMet 的本地公共交通服務! TriMet 提供巴士、輕型有軌電車、LIFT (預約接送客車)、合伙搭車(carpool)以及自行車服務。我們把輕型有軌電車叫做"MAX"。

乘坐TriMet交通車是往返波特蘭市各個地點的最好方法,而且簡便易行。在乘車之前,請先拿一份乘車路徑的時刻表。

乘車準備

1 閱讀乘車時刻表

請先把日子確定好。巴士和MAX電車在星期一至五、星期六和星期日均使用不同的時刻表。在以下節假日裡,請使用星期天的時刻表:元旦、陣亡將士紀念日、獨節、勞動節、感恩節和聖誕節。

請選擇正確的巴士車號和車名上車;在有些相同的行車路線上,會有兩輛車的车號相同,但是車名不同的情況。

在時刻表所列時間的頂部位置,印有行車路線上的要站名。從左向右看,可以查出從一站到另一站所需的時間。從上往下看,可以看到主要車站的開車時間。

2 上下巴士/電車

巴士/電車有自動門,控制站時,由電腦開關巴士/電車門。巴士/電車會自動停車,當巴士/電車門上車時,乘客應先向司機或車長示意,或向司機或車長示意。在巴士/電車門上車時,乘客應先向司機或車長示意,或向司機或車長示意。在巴士/電車門上車時,乘客應先向司機或車長示意,或向司機或車長示意。

上下MAX電車

在乘坐電車之前,乘客應先向司機或車長示意。在乘坐電車之前,乘客應先向司機或車長示意。在乘坐電車之前,乘客應先向司機或車長示意,或向司機或車長示意。

支付車費

所有乘客應先向司機或車長示意,所以您可以向司機或車長示意,或向司機或車長示意。在乘坐電車之前,乘客應先向司機或車長示意,或向司機或車長示意。

車票價格

	現金	十個車票	月票
全票	\$1.60	\$15.50	\$58.00
優惠票	\$1.20	\$12.50	\$47.00

Korean 한국어

승객 여러분께 감사드립니다!

여러분의 이 지역 공공 교통 수단인 트라이메트를 이용해 주셔서 감사합니다. 트라이메트는 버스, 전철, 리프트(LIFT), 카풀, 자전거에 대한 서비스를 제공합니다. 전철은 '맥스'라고 부릅니다.

포틀랜드의 교통 수단으로는 트라이메트를 이용하는 것이 가장 좋은 방법이며, 이용이 쉽습니다. 먼저, 이용하고자 하는 구간의 시간표를 구하시기 바랍니다.

승차 준비

1 운행 시간표 읽기

반드시 날짜가 맞는 운행 시간표인지 확인하십시오. 시내 버스와 맥스는 주중과 토요일, 일요일의 운행 시간이 다릅니다. 정월 초하루 (신정), 메모리얼 데이(현충일), 독립기념일, 노동절, 추수 감사절, 크리스마스와 같은 공휴일에는 일요일의 시간표에 따라 운행합니다.

버스의 번호와 행선지를 꼭 확인하십시오; 어떤 노선은 같은 번호라 할지라도 행선지가 두 가지 일 수 있습니다.

시간표의 상단에 있는 각 정류장은 그 노선의 발차 지점부터 종점까지의 주요 정류장 이름입니다. 왼쪽으로부터 오른쪽으로 읽어 나가면 출발 지점부터 목적지까지 걸리는 시간을 알 수 있습니다. 위쪽으로부터 아래쪽으로 읽어 나가면 그 정류장에서의 출발 시간을 알 수 있습니다.

2 버스의 승차 및 하차

버스 정류장을 찾은 이 표지판 중의 하나를 찾으십시오. 버스가 다가오면 운전 기사에게 손을 흔들어 보이고, 앞문을 열어 승차하여 요금을 지불하거나 탑승하는 표 또는 한달 승차권을 보여십시오. 앞 좌석을 노선과 정류장에 맞게 앉으십시오. 여러분이 내리실 정류장 주변에 다다를 때까지 편히 쉬십시오. 여러분이 내리실다는 것을 운전 기사에게 알려주면 손을 잡아당겨서 문을 열어줍니다. 버스에서 내릴 때는 가능한 한 뒷문을 이용하시기 바랍니다.

맥스 전철의 승차와 하차

전철에 오르기 전에 먼저 요금을 지불했는지 반드시 확인하십시오. 맥스 전철은 각 정류장마다 모두 정차합니다. 한 달 승차권 holders 분이 자동적으로 열리지 않으면, 문 가까이에 있는 붉은 버튼 버튼을 누르면 됩니다.

요금 지불에 관하여

맥스 MAX와 버스의 요금은 같으며 같은 표를 가지고 서로 갈아탈 수 있습니다.

목적지까지의 구간 수가 요금을 결정합니다.

버스 요금

	현금	승차권 10장	한달 승차권
전 구간	\$1.60	\$15.50	\$58.00
2 구간	\$1.30	\$12.50	\$47.00
1 구간	\$1.30	\$12.00	---
노인 및 장애인	.60	\$ 5.00	\$15.00

Vietnamese TIẾNG VIỆT

Chào mừng quý khách !

Xin chào đón quý khách đến TriMet, một cơ quan chuyên chở công cộng địa phương. TriMet có 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.

Dùng hệ thống TriMet là cách hay nhất và dễ nhất để đi đây đó trong khu vực Portland. Trước tiên, bạn phải có thời biểu lưu hành của tuyến đường bạn muốn đi.

Hãy chuẩn bị sẵn sàng

1 Đọc Thời khóa biểu lưu hành.

Nên xem đúng ngày mình muốn đi. Xe buýt và MAX chạy các giờ khác nhau vào những ngày làm việc, Thứ Bảy và Chủ Nhật. Bạn hãy dùng thời biểu của ngày Chủ Nhật vào những ngày lễ sau đây: Tết Dương Lịch, Ngày Chiến sĩ Trận Vong (Memorial Day), Lễ Độc Lập (Independence Day), Lễ Tạ Ơn (Thanksgiving) và Giáng Sinh.

Nên nhớ chính xác số và tên của xe buýt, đôi khi xe có cùng số nhưng lại khác tên.

Ở phần trên thời biểu, liệt kê những giờ ngừng và trạm ngừng chính của tuyến đường. Đọc từ trái sang phải bạn sẽ biết mình sẽ mất bao nhiêu thời giờ đi từ trạm này tới trạm kia. Đọc từ trên xuống dưới sẽ biết được giờ khởi hành tại mỗi trạm.

2 Lên hay xuống xe buýt

Hãy tìm một trong những dấu hiệu này có ghi trong các trạm xe buýt. Vẫy tay ra dấu hiệu cho tài xế khi xe buýt tới gần, lên xe phía cửa trước và trả tiền đi xe, hoặc xuất trình vé chuyển tiếp hay thẻ đi xe hàng tháng. Xin vui lòng nhường chỗ ngồi phía trước cho hành khách cao niên hoặc khuyết tật. Hãy ngồi thoải mái cho đến khi gần đến trạm xuống của quý vị. Kéo dây chuẩn bị cho tài xế biết rằng quý vị muốn xuống xe. Nếu có thể được, xuống xe phía cửa sau.

Cách Lên Xuống xe điện MAX

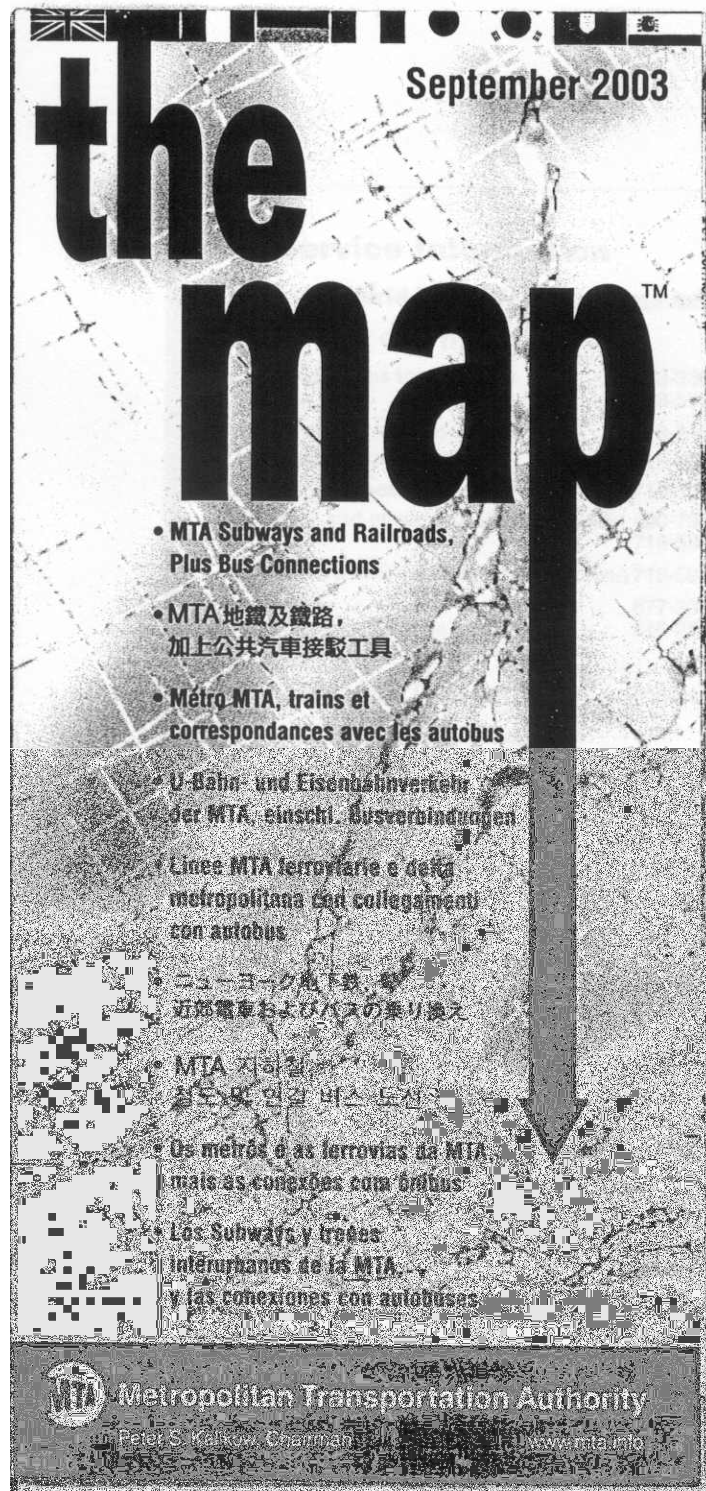
Bạn phải có vé xe mới lên xe lửa điện MAX ngừng tại mỗi trạm. Nếu cần phải lên ga không mở, bạn hãy bấm nút đèn ở gần cửa.

Trả Tiền Vé

Vé đi xe điện MAX và xe buýt giống nhau và quý vị có thể chuyển qua lại giữa xe điện và xe buýt. Giá tiền này thuộc bạn đã trả nhiều vòng.

Trả bao nhiêu tiền

APPENDIX K. NEW YORK CITY TRANSIT BROCHURE



MTA Service Information

MTA on the World Wide Web: 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 (paratransit for customers who cannot use regularly scheduled trains and buses)	877-337-2017 646-252-5104

MTA Staten Island Railway	718-966-7478
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MTA Long Island Rail Road

Travel information (calling from New York City)	718-217-LIRR(5477) 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 (including Farmingdale Shuttle, Woodbury Shuttle, Merrick Shuttle, and Able-Ride – paratransit for Long Island customers)	516-228-4000 516-228-4002 (TTY)
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MTA Metro-North Railroad (including Hudson Rail Link)

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

MTA Bridges and Tunnels

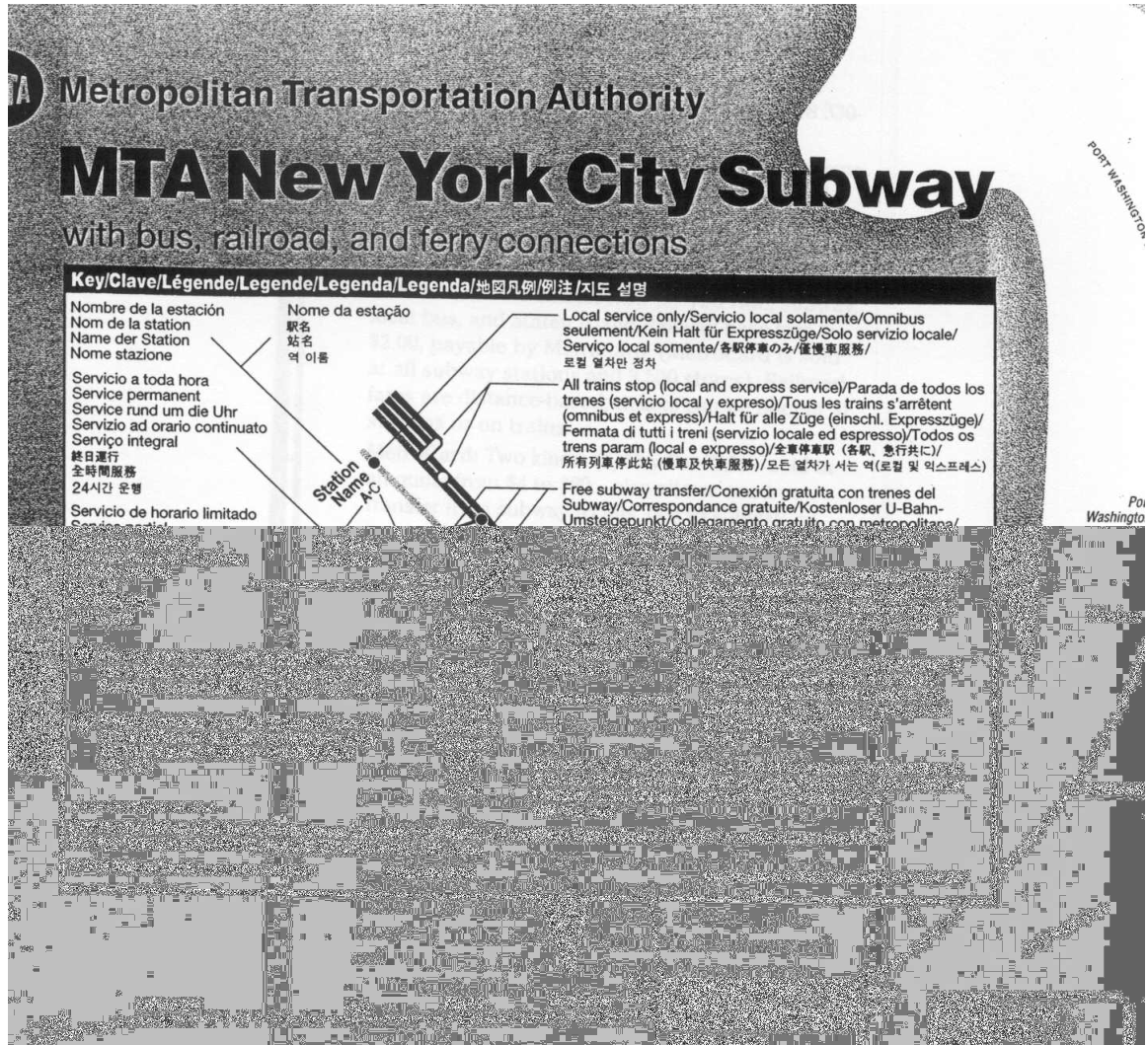
E-ZPass® information, applications, customer service locations	212-360-3000 800-333-TOLL(8655)
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MTA New York Transit Museum	718-243-8601
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MTA Public Meeting Hotline	212-878-7199
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Reduced-Fare and MetroCard Information

MTA Reduced-Fare Office	718-243-4999
MetroCard inquiries (calling from New York City)	212-METROCARD (212-638-7622)
MetroCard inquiries (calling from all other areas)	800-METROCARD (800-638-7622)





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 Rail Road, 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全紐約

地圖標明捷運局的地鐵、鐵路、付費橋樑、隧道和某些火車、巴士、和渡船路線。每一條地鐵或火車線都用不同色彩標明。

(MTA) 地鐵連接本市五大區的四個區，每天二十四小時，每周七天運行。但是並不是所有車輛都全天運行。如有問題，請向車站服務人員查詢，或致電詢問地鐵情況。二十四小時英語熱線為 1-718-330-1234，其他語言可在每日上午七時至晚上七時致電 1-718-330-4847。

(MTA) 鐵路連接紐約市和其他城鎮，東至一百八十五公里處（長島鐵路-LIRR），北至一百一十九公里處（大都會北方鐵路-MNR）。火車按車站張貼的時間表準時運行。

車資：不論您乘坐多少站，地鐵、巴士、和史坦登島鐵路均為兩美元，用捷運卡付資。（捷運卡在所有地鐵站和三千五百家商店出售。）火車票價則根據路程長短，在火車站或火車上購買。

捷運卡：有兩種：（一）按乘次付費 - 售價四美元至八十美元 - 並可在兩小時內免費轉乘一次，從地鐵轉巴士、從巴士轉地鐵、或從巴士轉巴士。購買十美元或以上的捷運卡可享受百分之二十的優惠。（二）無限次乘坐 - 一日七美元（遊樂卡）、七日二十一美元、以及三十日七十美元。

乘坐地鐵：地鐵站外有彩色圓圈標明地鐵路線號碼或在該站停車的車號。您付資並通過轉盤入口後，跟著您要乘坐的車輛標記前進。月台邊上方有標記指明在該月台停的車輛、前往何處、運行時間等。運行情況若有改變則在月台柱子上張貼通告。

緊急情況：請找警官。紐約市警察局負責巡邏各地鐵站。（MTA）捷運局警察負責巡邏LIRR和MNR。在地鐵站，可到售票處找工作人員或致電九一一（免費）。在地鐵車廂內，司機在第一節車廂，管理員則在中間車廂內。在火車上，管理員在車廂來回走動。



Metropolitan Transportation Authority

New York 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 et dans 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.

Notfälle: Bei einem Notfall die Polizei benachrichtigen. Die Polizei von New York (NYC Police Department) ist in der U-Bahn rund um die Uhr auf Streife, die MTA-Polizeiwache kontrolliert die LIRR- und MNR-Linien. Gehen Sie in der U-Bahnstation zu dem Schalterbeamten oder suchen Sie ein Telefon und wählen dann 911 (kostenlos). In den U-Bahnzügen befindet sich der Fahrer jeweils vorne im ersten Wagen und der Schaffner in der Mitte des Zuges. In den regulären Zügen gehen die Schaffner durch den Zug.

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 Traghetto, 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 Rail Road, 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 gratis 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 sbarre e seguite le segnaletiche delle 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

trouve en ligne de train. Dans les trains, ce dernier fait également office de contrôleur et passe dans toutes les voitures.

New York mit den öffentlichen Verkehrsmitteln erkunden

Die Karte zeigt alle Linien des MTA-U-Bahn- und Eisenbahnnetzes, die gebührenpflichtigen Brücken sowie eine Auswahl von Verbindungslinien, Bussen, Fähren und andere Kreuzungen. Jede U-Bahn- und Bahnlinie ist in unterschiedlicher Farbe dargestellt.

Die MTA-U-Bahn verbindet 4 der 5 Bezirke der Stadt, ist 24 Stunden, 7 Tage in der Woche in Betrieb, nicht alle Züge fahren jedoch die ganze Zeit. Haben Sie Fragen? Fragen Sie einfach den Stationsbeamten an der Haltestelle. Fragen bezüglich der U-Bahn werden in englischer Sprache unter 1-718-330-1234, 24 Stunden am Tag beantwortet. Hilfe in anderen Sprachen erhalten Sie unter 1-718-330-4847 von 7 Uhr bis 19 Uhr.

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

Fahrtkosten: Eine Fahrt kostet dasselbe, egal wie weit sie geht, alle Fahrten mit der U-Bahn, dem Bus und der Staten Island Railway kosten 2,00 Dollar. Man kann eine elektronische MetroCard kaufen. (Die MetroCard ist an allen U-Bahnhöfen und über 3.500 Geschäften erhältlich.) Die Zugfahrpreise hängen von der Entfernung ab. Diese Fahrkarten können an den Bahnhöfen oder im Zug gekauft werden.

MetroCard: Es gibt zwei Arten: (1) Pay-per-Ride-Karten sind zu einem Betrag zwischen 4 und 80 Dollar erhältlich und ermöglichen auch das kostenlose Umsteigen innerhalb von zwei Stunden von der U-Bahn in einen Bus, oder vom Bus in eine U-Bahn oder vom Bus in einen Bus. Mit einer Pay-Per-Ride-MetroCard im Wert von 10 Dollar oder mehr erhalten Sie einen Preisnachlass von 20 % pro Fahrt. (2) Unlimited Ride - 7 Dollar für einen ganzen Tag („Fun-Pass“), 21 Dollar für 7 Tage und 70 Dollar für 30 Tage.

Bei der U-Bahnfahrt: Die Schilder außerhalb der Bahnhöfe sind rund und geben jeweils den Buchstaben oder die Zahl der Linien an, die an dieser Station halten. Nach der Bezahlung der Fahrpreises gehen Sie durch das Dreikreuz und folgen den Schildern der gewünschten Zuglinie. Am Rand der Plattform befinden sich Schilder, die angeben, welche Züge hier halten. Informationen über unterschiedliche Zelte sind an den Säulen der Station angebracht.

ニューヨークでは公共交通機関を利用しましょう

この地図には、MTAの地下鉄と電車、料金所のある橋やトンネル、およびそれらに接続している電車、バス、フェリー、その他の路線の一部が掲載されています。地下鉄と電車の各線は、すべて違う色で表示されています。

MTAの地下鉄はニューヨーク市の5つの区の中の4区を結んでいます。週7日、24時間動いていますが、すべての線が終日運行されているわけではありません。質問がおりますか？そんな時は、トークン売場の係員にお聞き下さい。または、英語での地下鉄に関するご質問は、24時間いつでも、1-718-330-1234まで、その他の言語でのご質問は、午前7時から午後7時の間に1-718-330-4847までお電話ください。

MTAの電車は、ニューヨーク市と、東へは185キロメートルも離れた町々（ロングアイランド・レールロード、LIRR）、北へは119キロメートルも離れた町々（メトロノース、MNR）を結んでいます。電車は、駅の時刻表に記載されているスケジュールにそって運行されます。

運賃: 地下鉄、バス、及びスタテンアイランド・レールウェイは、距離に関係なく2ドルで、メトロカードで支払います（メトロカードは、地下鉄の駅及び約3500軒の店で購入できます）。電車の運賃は距離によって定められており、切符は駅もしくは車内で購入することができます。

メトロカード：2種類あります。(1) 利用部に運賃が引き落とされる、ペイ・パー・ライド－4ドルから80ドルまでの金額で購入できます。地下鉄からバス、バスから地下鉄への乗換えが、2時間以内なら1回無料でできます。10ドル以上のメトロカードを買ったと、一回あたりの運賃が2割引きになります。(2) 何回でも乗れるアンリミテッド・ライド－一日乗車券7ドル（ファンパス）または7日間有効券21ドル、30日間有効券70ドルです。

地下鉄の乗り方: 駅への入り口の上には、色分けされた丸いマークがあり、その駅に止まる電車のアルファベット文字または番号が書かれています。運賃を払ったら、回転式出札口を廻り、表示に従って乗りたい電車の止まるホームに行きます。プラットフォームの端の壁には、止まる地下鉄の路線、行き先、運行時間が表示されたサインが下がっています。運賃に関する変更はホームの柱に標示されます。

緊急時: 警官がいらないか探しましょう。ニューヨーク市の警官が地下鉄のパトロールに当たっています。電車（LIRR および MNR）の場合はMTAの警官がパトロールに当たります。地下鉄の駅では、トークン売場の係員まで行か、電話を掛けて911（無料）に通報して下さい。地下鉄の場合、運転手は1番目の車両の前、車掌は真ん中の車両にいます。電車の場合、車掌が車内を回ってきます。



대중 교통수단을 이용한 뉴욕 여행

지도에는 MTA 지하철, 철도, 유료교량 및 터널 이외에도 주요 연결기차, 버스, 페리 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. 궁금한 점이 있으면, 역무원에게 문의하십시오. 지하철에 관하여 영어로 도움이 필요하면 하루 24시간 1-718-330-1234로 전화하십시오. 기타 언어로 도움이 필요하면 오전 7시에서 오후 7시 사이에 1-718-330-4847로 전화하십시오.

MTA 철도는 뉴욕시를 동쪽으로는 185 킬로미터 (롱아일랜드 철도, LIRR), 그리고 북쪽으로는 119 킬로미터 (메트로-노쓰 철도, MNR)에 이르는 지역과 연결시켜 줍니다. 열차는 각 역의 시간표에 제시된 일정에 따라 운행됩니다.

승차요금: 지하철, 일반버스 및 스타튼 아일랜드 철도의 요금은 거리에 상관없이 \$2.00이며 요금은 메트로카드(MetroCard)로 지불할 수 있습니다.

(메트로카드는 모든 지하철역과 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 구입하실 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 기둥에 게시됩니다.

비상시: 경찰관을 찾으십시오. 지하철 순찰은 뉴욕시 경찰국이, LIRR과 MNR 순찰은 MTA 경찰이 각각 맡고 있습니다. 지하철역의 경우, 메트로 직원에게 알려거나 전화를 찾아 911(무료)로 전화하십시오. 지하철 내의 경우, 기관사는 첫 번째 객차 전방에, 그리고 차장은 열차 중앙에 있습니다. 기차의 경우, 차장이 각 객차를 순찰하게 됩니다.



Utilizando o transporte coletivo em Nova York

O mapa mostra as linhas do metrô, ferrovias, pontes com pedágio e túneis do MTA (Serviço de Transportes Coletivos) e também trajetos ilustra

tivos por trem, ônibus, barca e outras interligações. Cada linha do metrô e cada linha ferroviária tem uma cor diferente.

O metrô do MTA de Nova York conecta 4 dos 5 bairros da cidade. Funciona 24 horas por dia, 7 dias por semana, mas nem todos os trens correm em todos os horários. Dúvidas? Pergunte ao funcionário da estação. Ou, para ajuda relativa ao metrô, em inglês, disque 1-718-330-1234, 24 horas por dia. Para auxílio em todas as outras línguas, disque 1-718-330-4847, das 7 da manhã às 7 da noite.

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 Metropolitano). 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 per-

mite uma transferência gratuita do metrô para ônibus, de ônibus para ônibus, ou de ônibus para metrô, durante um período de 2 horas. (2) Percu 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 linhas ou os números dos trens que nelas par. Após pagar o ingresso e passar pela roleta, siga sinais para a linha que desejar. Na beira da plataforma, sinais colocados ao alto 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 a um funcionário no cubículo ou procure por um telefone para discar 911 (gratuito). Nos trens do metrô, o operador está no primeiro carro; o condutor está no meio do trem. Nas linhas ferroviárias, o condutor circula pelo trem.

Atravesando Nueva York con Transportación Pública

 **Mapa muestra las líneas de metro ("Subway") los ferrocarriles y determinados trenes, autobuses y barcos de conexión del MTA. Muestra también puentes y túneles con peaje del MTA. Cada línea**

de metro o de ferrocarril tiene un color diferente.

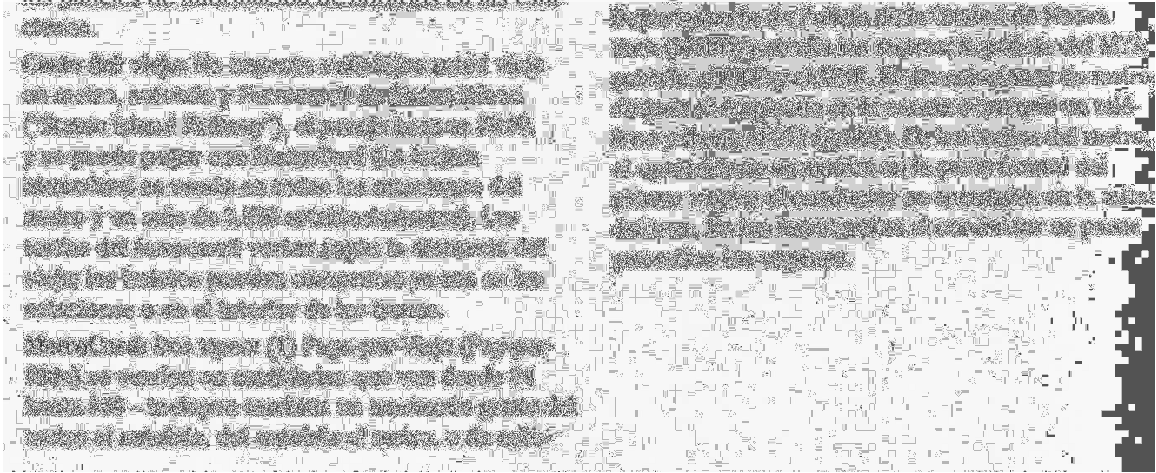
El Metro (New York City Transit Subway) conecta 4 de los 5 distritos municipales. Funciona 24 horas al día, 7 días a la semana, pero no todos los trenes circulan todo el tiempo. ¿Preguntas? Sírvese acercarse al empleado de la estación. O para asistencia en inglés, llame al 1-718-330-1234, 24 horas al día. Para obtener asistencia en otros idiomas, llame al 1-718-330-4847 de 7h a 19h.

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 esta-

bús a autobús, dentro de un lapso de 2 horas. Los viajes cuestan un 20% menos cuando usted compra una MetroCard de \$10 o más. (2) Viajes Sin Limite ("Unlimited Ride") – \$7 por un día ("Fun Pass"), \$21 para 7 días y \$70 por 30 días.

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



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.
- ✓ 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 laptops, purses, backpacks, briefcases, 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.



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.

For more information

- ✓ Passengers with disabilities, medical concerns or other special needs should contact their airline, visit www.TSATravelTips.US, call the TSA Consumer Response Center toll-free at 1-866-289-9673, or send an e-mail to TSA-ConsumerResponse@tsa.dot.gov.
- ✓ For LAX information, call 1-310-646-5252, visit the LAX website at www.lawa.org, or listen to AiRadio 530 AM.

As a covered entity under Title II of the Americans With Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services, and activities.

01/2003



聰明旅客貼士

洛杉磯國際機場 (LAX) 全體職員承諾保證您的個人安全，同時保證為旅客提供優質的服務。這些實用、省時的貼士會幫助您更順利的通過 LAX。突出顯示的貼士尤其重要，這些貼士都自新的聯邦航空安全法案。祝您旅途愉快！

到達洛杉磯國際機場 (LAX) 之前

- 不要攜帶違禁物品進入 LAX。要獲得詳細列表，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托運的禮品或盒子。檢查時可能需要打開。請自帶膠帶或其他材料，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。
- 要避免穿戴帶有金屬的衣物、珠寶和飾品。金屬物品在金屬探測器前可能會引發警報。
- 將所有還沒有沖印的膠捲和裝有膠捲的照相機放在手提行李內。行李檢查設備會損毀沒有沖印的膠捲。
- 隨身攜帶的行李僅限於一個手提行李包和一件個人物品。個人物品包括手提電腦、錢包、書囊、公事包、紙尿褲袋或照相機保護套。
- 請與您的航空或旅行社聯絡，以瞭解航空公司的行李規定，包括可以攜帶的行李數目，以及大小和重量限制。
- 所有行李內外都要貼上識別標籤。請不要忘記在手提電腦上貼標籤。
- 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、到達航廈和安全檢查的時間。
- 18 歲或 18 歲以上的旅客要攜帶政府頒發的帶照片身份證。

在機場

- 僅持有機票的旅客才可進入旅客檢查站以內區域。請在下層/到港層領取行李並趕到港區旅客。
- 旅客可以在航廈路旁上下車。不可在路旁泊車。無人照管的車輛將被傳訊並拖走。
- 如要泊車，請不要把個人財物放在當眼處，把車鎖好並拿取泊車票。
- 時刻留意您的個人財物。
- 從 2002 年 12 月 31 日開始，所有接受托運的行李均必須接受爆炸物痕跡設備檢查。在 LAX，這種檢查將在航空公司售票處或到站登機托運行李檢查處進行（僅針對國內航班）。要托運行李時，只應到登機櫃檯或登機的位置即可（票務中心、自助電腦托運行李檢查處或到站登機托運行李檢查處）。

進入安全檢查區之前

- 不要攜帶飲料或其他液體進入安全檢查站，除非是以紙瓶或塑膠包裝，或者貯存在密封或可密封的/防漏出的容器內。食品必須包裝好或存放在容器內。
- 排隊準備檢查時 - 放入、取出、脫下
將所有金屬物品放入手提行李包內。這些物品包括珠寶、零錢、鑰匙、行動電話、傳呼機和個人資訊助理工具。
- 取出您的手提電腦。將電腦放在筐內，取下電腦外殼。
- 脫下外套。放在筐中。除非安全檢查員要求，否則，西裝夾克和西裝外套不需脫下。

如要更多資訊

- 殘障、需要醫護或有其他特殊需要的旅客，請聯絡其航空公司。查看 www.TSATravelTips.US 網站，撥打 TSA 消費者回應中心的免費熱線：1-866-289-9673，或者傳送電子郵件到：TSA-ConsumerResponse@tsa.dot.gov。
- 有關 LAX 的資訊，請撥打：1-310-646-5252，查看 LAX 網站：www.lawa.org，或者收聽 A/Radio 530 AM。



作為一家在《美國殘障法》的 Title II 約束下的通用事業體，洛杉磯市不歧視殘障，並且將根據要求提供合理的設施，以保證旅客平等的參與計畫、享受服務和參加活動。

2002 年 11 月



旅行に役立つヒント

ロサンゼルス国際空港 (LAX) の全職員は乗客サービスの質を維持しながらお客様の安全を守るよう取り組んでおります。この時間短縮のヒントに従えば、ロサンゼルス国際空港での手続きがスムーズに行えます。ハイライトのついているヒントは、新設の連邦航空安全法に基づいているために特に重要です。それではよいご旅行を!

ロサンゼルス国際空港に行く前に

- ✓ 禁じられている物を荷物に入れたり、ロサンゼルス国際空港に持ち込まないでください。完全なリストは運輸保安局のWebサイト、www.TSATravelTips.USにアクセスしてご覧ください。
- ✓ 手荷物やチェックインする荷物内のギフトや箱は包装しないでください。検査のために開けられる場合があります。検査後に航空会社の職員が包装できるよう、テープなど必要な物を用意してください。
- ✓ 金属のついた服、宝石、アクセサリなどを身に着けるのは避けてください。金属類は警報機や金属探知機が作動する原因となります。
- ✓ 現像していないフィルムやフィルムの入っているカメラはすべて手荷物に入れてください。現像していないフィルムはチェックイン荷物の検査機器で破損します。
- ✓ 手荷物は、携帯鞆ひとつと身の回り品ひとつに収められています。身の回り品にはノートパソコン、ハンドバッグ、バックパック、ブリーフケース、おむつ用バッグ、カメラケースなどが含まれます。
- ✓ 航空会社や旅行会社に電話して、持ち込める個数、サイズや重さなど、航空会社の荷物に関する規則を調べてください。
- ✓ 荷物の中と外にすべてにIDタグをつけてください。ノートパソコンも忘れないようにしてください。
- ✓ 航空会社に電話してフライトを確認し、ロサンゼルス国際空港に何時間前に到着すればよいかわかるようにしてください。駐車、ターミナルまでの移動、手荷物検査に必要な時間を十分取ってください。
- ✓ 18歳以上の乗客には政府発行の写真つき身分証明書を持ってくるようにしてください。

空港にて

- ✓ 乗客検査チェックポイントの先はチケットをお持ちのお客様のみお入りになれます。ご到着のお客様は下の階、到着ロビーの手荷物引取所でお出迎えください。
- ✓ 乗客の乗下車はターミナルのカーブサイド（道寄せ）で行ってください。カーブサイドに駐車することはできません。運転手のいない車は違反キップを切って移動します。
- ✓ 駐車する際には荷物を見えない場所にしまい、ドアをロックして駐車券を携帯してください。
- ✓ 荷物には常に気を配るようにしてください。
- ✓ 2002年12月31日より、チェックインされた荷物はすべて爆弾探知機器で検査する必要があります。ロサンゼルス国際空港ではこの検査は航空チケットロビーまたはカーブサイドチェックイン（国内線のみ）で行われます。荷物のチェックインはご希望のチェックイン場所（チケットカウンター、セルフサービスのコンピュータキオスクまたはカーブサイド）にお進みください。
- ✓ **手荷物検査ポイントEに着く前に**
飲み物などの液体はふたがついてこぼれない紙や発泡スチロールの容器に入っていない限り持ち込まないでください。食べ物に包まれているか、容器に入っている必要があります。
- ✓ **行列Eについたら入れる物、取り出す物、外す物**
宝石、小銭、鍵、携帯電話、ビーバー、モバイルなどの金属類はすべて携帯荷物に入れてください。
- ✓ ノートパソコンは取り出して、携帯ケースとは別にバスケットに入れてください。
- ✓ 上着は脱いでバスケットに入れてください。背広の上着やブレザーは手荷物検査員の指示がない限り、脱ぐ必要はありません。

詳細の問合せ先

- ✓ 身体障害、医療上の問題のあるお客様、その他特別な便宜が必要なお客様は航空会社に連絡するか、www.TSATravelTips.USにアクセスするか、TSA顧客対応センターのフリーダイヤル（米国内1-866-289-9673）に電話するか、または、TSA-ConsumerResponse@tsa.dot.gov まで電子メールでお問い合わせください。
- ✓ ロサンゼルス国際空港の情報は、+1-310-646-5252に電話するか、ロサンゼルス国際空港のWebサイト、www.lawa.orgにアクセスするか、ラジオ、AirRadio 530 AMをお聞きください。




米国籍者以外の旅客で定められた特権としてロサンゼルス市は身体障害を理由とした差別は行わず、要請があれば、プログラム、サービス、活動に同等に参加できるよう相応の便宜を図ります。

2002年11月



여행자를 위한 정보

공항에서의 주의사항

LA 국제 공항은 승객 여러분에게 최상의 서비스와 안전을 제공하기 위해 최선을 다하고 있습니다. 위와 같은 주의사항을 숙지하시면 LA 국제 공항에서 신속하게 수하를 마칠 수 있습니다. 새로운 연방 항공 안전법에 따른 글은 글씨로 표시된 사람은 특히 중요합니다. 글자는 여행되시기 바랍니다.

LA 국제 공항(LAX)에서의 주의사항

- ✓ LA 국제 공항 안으로 가지고 들어 올 수 없는 반입 금지 품목을 보시려면, 교통 보안국(TSA) 홈페이지 www.TSATravelTips.US를 방문하시기 바랍니다.
- ✓ 기내 수하물의 경우 선물은 검사를 위해, 포장물 하지 않은 상태로 소지하고 탑승하시기 바랍니다. 검사 후 항공사 직원이 다시 선물을 포장할 수 있도록 필요한 테이프나 물품을 소지하시기 바랍니다.
- ✓ 금속이 포함된 의류, 귀금속 및 액세서리 착용은 피해주시기 바랍니다. 금속 품목은 금속 탐지기 경보를 작동시킬 수 있습니다.
- ✓ 체크 인된 수하물의 경우, 검사 장비로 인해 현상되지 않은 필름이 손상되므로 현상되지 않은 필름과 필름이 들어 있는 카메라는 기내 수하물로 소지하시기 바랍니다.
- ✓ 기내 수하물은 수하물과 개인 품목 각각 하나로 제한됩니다. 개인 품목에는 노트북, 핸드백, 태닝, 서류 가방, 기계류 가방 또는 카메라 가방 등이 포함됩니다.
- ✓ 수하물 수, 크기 및 무게 제한 등 항공사의 수하물 정책에 대한 자세한 정보는 항공사 또는 여행사 직원에게 문의하시기 바랍니다.
- ✓ 노트북을 포함한 모든 수하물에 이류표를 부착하십시오.
- ✓ 출국 준비를 위해 필요한 시간과 비행 일정 확인을 위해서는 항공사에 미리 문의하시기 바랍니다. 주차, 터미널 간 이동 및 보안 검색 등에 충분한 시간을 예상하십시오.
- ✓ 18세 이상의 승객인 경우 사진이 부착된 정부 발행 신분증을 소지하시기 바랍니다.

공항에서의 주의사항

- ✓ 탑승권을 소지한 승객만 보안 검색대를 통과할 수 있습니다. 승객 마중은 하중(도착 구역) 수하물 수취대를 이용하시기 바랍니다.
- ✓ 승객 승하차는 터미널 연결에서만 허용됩니다. 터미널 연결은 주차 금지 구역이며 탑승자가 없는 자동차는 전원이 꺼진 차량은 밀정 소환됩니다.
- ✓ 주차 시에는 차내 소지품을 보이지 않는 곳에 보관하고 하차 시에는 차문을 잠금 다음 주차권을 소지하시기 바랍니다.
- ✓ 소지품을 분실하지 않도록 주의하십시오.
- ✓ 2002년 12월 31일부터, 체크 인한 모든 수하물은 폭발물 감지 장치의 검색을 마쳐야 합니다. LA 국제 공항의 경우, 폭발물 검사는 항공사 발원 트럭 또는 체크 인 구역(국내선만)에서 실시됩니다. 수하물은 발원 데스크나 셀프 체크 인 데스크 중 원하는 곳에서 체크 인하시기 바랍니다.
- ✓ **보안 검색대 통과 시 주의사항**
종이 또는 스티로폼으로 포장되어 있거나, 봉인 또는 씰이되지 않은 용기에 들어 있는 음료수와 액체만 보안 검색대를 통과할 수 있습니다. 음식물의 경우 포장 또는 용기에 보관해야 합니다.
- ✓ **보안 검색을 기다리는 동안 주의사항**
모든 금속 띠, 귀금속, 동전, 열쇠, 휴대폰, 호환기 및 PDA 등은 들고 계신 가방에 넣으시기 바랍니다.
- ✓ 노트북은 가방에서 꺼내어, 따로 파구니에 넣으시기 바랍니다.
- ✓ 의류는 벗어 파구니에 넣으시기 바랍니다. 양복 자켓이나 블레이저는 보안 검색권이 특별히 요구하지 않는 한 벗으실 필요가 없습니다.

상세 정보

- ✓ 장애인이나 의료적으로 또는 기타 특별한 도움이 필요한 승객의 경우에는 항공사에 문의하시기나, 홈페이지 (www.TSATravelTips.US) 방문, TSA 무료 안내 전화(1-866-289-9673) 이용 또는 TSA-ConsumerResponse@tsa.dot.gov로 전자 메일을 보내주시기 바랍니다.
- ✓ LA 국제 공항에 대한 자세한 정보를 원하시면 전화 문의 (1-310-646-6252), LA 국제 공항 홈페이지 (www.lawa.org) 방문 또는 라디오 방송(AirRadio 530 AM)을 청취하시기 바랍니다.





미국 장애인 보호법 제 504조에 따라, LA 시에서는 장애로 인한 차별을 금하고 있으며 요청 시 해당 프로그램, 서비스 및 활동에 참여할 수 있도록 합당한 편의를 제공하고 있습니다.

2002년 11월



Consejos para el viajero inteligente

Toda la comunidad de Los Angeles International Airport (LAX) está comprometida a garantizar su seguridad personal mientras mantiene un servicio de alta calidad para los pasajeros. Estos consejos que han probado ahorrar tiempo, acelerarán su paso por LAX. Los consejos resultados son especialmente importantes ya que provienen de nuevas leyes de seguridad de la aviación federal. ¡Que tenga buen viaje!

En el aeropuerto

Antes de ir a LAX

- ✓ **NO ponga en la maleta ni traiga al aeropuerto artículos prohibidos.** Visite www.TSATravelTips.US para una lista completa.
- ✓ **NO envuelva regalos ni cajas que llevará en el equipaje de mano o en el equipaje que envíe.** Pueden ser abiertos para su inspección. Por favor traiga cinta u otros materiales para que el personal de la aerolínea embale sus artículos después de la inspección.
- ✓ **Evite llevar puestos ropa, 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 dañará 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.** Llegue con suficiente tiempo para estacionar, transportarse a 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.

- ✓ **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 retirar el equipaje, en el nivel inferior/de llegadas.
- ✓ **Se permite dejar y recoger pasajeros en el cordón de la vereda de la terminal.** No se permite estacionar en el cordón de la vereda. Los vehículos que no estén atendidos recibirán una citación y serán remolcados.
- ✓ **Si va a estacionar su vehículo,** guarde sus pertenencias fuera de la vista, cierre 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 envía 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 cordón de la vereda (vuelos 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 cordón 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 poliestireno (por ej., Styrofoam™) sellados o sellables/a prueba de derrames. La comida debe estar envuelta o en un recipiente.
- ✓ **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, buscapersoas y asistentes de datos personales.
- ✓ **SAQUE su computadora portátil.** Colóquela en un recipiente, aparte de su estuche.
- ✓ **QUITÉSE el abrigo.** Colóquelo en un recipiente. No es necesario quitarse 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 1-866-289-9673 o enviar un mensaje por correo electrónico a TSA-ConsumerResponse@tsa.dot.gov.
- ✓ Para información de LAX, llame al 1-310-646-5252, visite el sitio web de LAX www.lawa.org o escuche AirRadio 530 AM.





Como una entidad cubierta bajo el Título II del Acta de Estadounidenses con Discapacidades, la Ciudad de Los Angeles no discrimina en base a discapacidad y, bajo pedido, hará los arreglos razonables para asegurar un acceso equitativo a sus programas, servicios y actividades.

11/0002



Consejos para el viajero inteligente

Toda la comunidad de Los Angeles International Airport (LAX) está comprometida a garantizar su seguridad personal mientras mantiene un servicio de alta calidad para los pasajeros. Estos consejos que han probado ahorrar tiempo, acelerarán su paso por LAX. Los consejos resultados son especialmente importantes ya que provienen de nuevas leyes de seguridad de la aviación federal. ¡Que tenga buen viaje!

Antes de ir a LAX

- ✓ **NO ponga en la maleta ni traiga al aeropuerto artículos prohibidos.** Visite www.TSATravelTips.US para una lista completa.
- ✓ **NO envuelva regalos ni cajas que llevará en el equipaje de mano o en el equipaje que envíe.** Pueden ser abiertos para su inspección. Por favor traiga cinta u otros materiales para que el personal de la aerolínea embale sus artículos después de la inspección.
- ✓ **Evite llevar puestos ropa, 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 dañará 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.** Llegue con suficiente tiempo para estacionar, transportarse a 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.** Busque a los pasajeros que llegan en las áreas para retirar el equipaje, en el nivel inferior/de llegadas.
- ✓ **Se permite dejar y recoger pasajeros en el cordón de la vereda de la terminal.** No se permite estacionar en el cordón de la vereda. Los vehículos que no estén atendidos recibirán una citación y serán remolcados.
- ✓ **Si va a estacionar su vehículo, guarde sus pertenencias fuera de la vista, cierre su auto con llave y lleve el boleto de estacionamiento con usted.**
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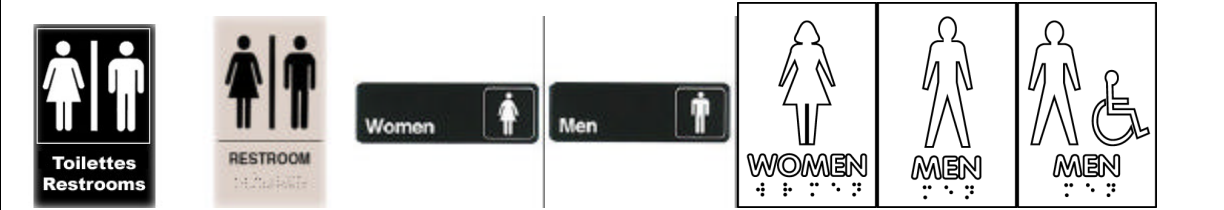
Para más información

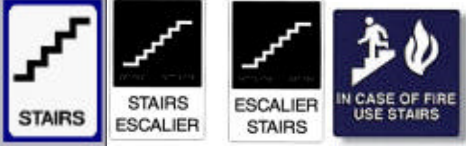
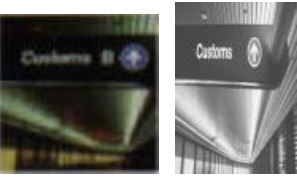
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- ✓ Para información de LAX, llame al 1-310-646-5252, visite el sitio web de LAX www.lawa.org o escuche A/Radio 530 AM.

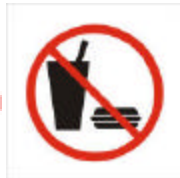
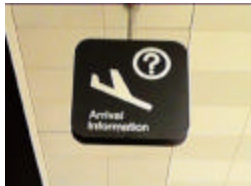
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11/0002

APPENDIX M. SAMPLE PICTOGRAMS

TYPES OF PICTOGRAMS	EXAMPLES
No Smoking	
Ticketing	
Women's and Men's Restrooms	
Currency Exchange	
Telephone	

TYPES OF PICTOGRAMS	EXAMPLES
Stairs	
Elevator	
Parking	
No Parking	
Customs	

TYPES OF PICTOGRAMS	EXAMPLES
Baggage	  
Food	 
No Food	     
Information	   
Fire Extinguisher	    

TYPES OF PICTOGRAMS	EXAMPLES
Exit/Entry	   
No Exit/No Entry	   
Taxi	  
Bus	  
Departing and Arriving Plane	 
Car Rental	  

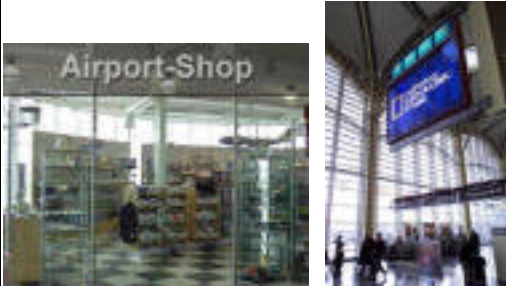
TYPES OF PICTOGRAMS	EXAMPLES
Shopping	

Table 1. Top LEP municipalities in New Jersey, 2000

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

Table 2. Spanish speaking LEP population in New Jersey, 2000

Rank	Municipalities with Top # of Spanish Speaking LEP Population		Municipalities with Top Percentage of Spanish Speaking LEP Population	
1	Newark, ESSEX	22,065	West New York, HUDSON	35%
2	Union City, HUDSON	21,373	Union City, HUDSON	34%
3	Paterson, PASSAIC	21,180	Passaic, PASSAIC	25%
4	Elizabeth, UNION	18,807	Perth Amboy, MIDDLESEX	23%
5	Passaic, PASSAIC	15,390	Dover, MORRIS	22%
6	West New York, HUDSON	14,938	East Newark, HUDSON	18%
7	Jersey City, HUDSON	14,682	Bound Brook, SOMERSET	17%
8	Perth Amboy, MIDDLESEX	9,825	New Brunswick, MIDDLESEX	17%
9	North Bergen, HUDSON	8,538	Elizabeth, UNION	17%
10	New Brunswick, MIDDLESEX	7,708	Guttenberg, HUDSON	17%

Table 3. Other (Non-Spanish) Indo-European language speaking LEP population in New Jersey, 2000

Rank	Municipalities with Top # of Indo-European Speaking LEP Population		Municipalities with Top Percentage of Indo-European Language LEP Population	
1	Newark, ESSEX	11,175	Wallington, BERGEN	12%
2	Elizabeth, UNION	4,511	Garfield, BERGEN	9%
3	Jersey City, HUDSON	4,047	East Newark, HUDSON	8%
4	Garfield, BERGEN	2,638	Harrison, HUDSON	7%
5	Clifton, PASSAIC	2,613	South River, MIDDLESEX	7%
6	Kearny, HUDSON	1,988	Kearny, HUDSON	5%
7	Edison, MIDDLESEX	1,975	South Hackensack, BERGEN	5%
8	Linden, UNION	1,710	Cliffside Park, BERGEN	5%
9	Paterson, PASSAIC	1,493	Linden, UNION	5%
10	Irvington, ESSEX	1,414	Newark, ESSEX	4%

Table 4. Asian and pacific islander language speaking LEP population in New Jersey, 2000

Rank	Municipalities with Top # of Asian/Pac. Is. Language Speaking LEP Population		Municipalities with Top Percentage of Asian/Pac. Is. Language Speaking LEP Population	
1	Fort Lee, BERGEN	2,600	Palisades Park, BERGEN	14%
2	Jersey City, HUDSON	2,345	Fort Lee, BERGEN	8%
3	Palisades Park, BERGEN	2,295	Leonias, BERGEN	8%
4	Edison, MIDDLESEX	1,520	Ridgefield, BERGEN	6%
5	Camden, CAMDEN	999	Woodlynne, CAMDEN	5%
6	Atlantic City, ATLANTIC	910	Norwood, BERGEN	5%
7	East Brunswick, MIDDLESEX	768	Demarest, BERGEN	4%
8	Cherry Hill, CAMDEN	711	Tenafly, BERGEN	4%
9	Piscataway, MIDDLESEX	706	Northvale, BERGEN	4%
10	Paramus, BERGEN	681	Englewood Cliffs, BERGEN	4%

Table 5. Other language speaking LEP population in New Jersey, 2000

Rank	Municipalities with Top # of Other Language Speaking LEP Population		Municipalities with Top Percentage of Other Language Speaking LEP Population	
1	Jersey City, HUDSON	1,401	Prospect Park, PASSAIC	1.8%
2	Paterson, PASSAIC	392	Haledon, PASSAIC	1.4%
3	Newark, ESSEX	295	Hopewell, MERCER	0.8%
4	Clifton, PASSAIC	252	Edgewater, BERGEN	0.7%
5	Bayonne, HUDSON	244	Jersey City, HUDSON	0.6%
6	Woodbridge, MIDDLESEX	215	North Plainfield, SOMERSET	0.5%
7	Franklin, SOMERSET	208	Norwood, BERGEN	0.5%
8	North Bergen, HUDSON	177	North Haledon, PASSAIC	0.5%
9	East Brunswick, MIDDLESEX	167	Hawthorne, PASSAIC	0.5%
10	Passaic, PASSAIC	132	Farmingdale, MONMOUTH	0.5%

**Table 6. Top Non-English languages
spoken at home in New Jersey**

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

Table 7. Correlation between social economic indicators and LEP population

LEP Categories	Age			Birth Place		Employment	Income		
	Median Age	Under Age 18	25+<9th grade	Foreign Born	Foreign Entered 1990- 2000	Civilian Unemployed	Household Median Income	Below Poverty Individuals	Household Public Assistance Income
Total LEP	-0.257	0.8036	0.9636	0.9273	0.9365	0.8581	-0.222	0.8825	0.8262
Spanish Speaking LEP	-0.258	0.7187	0.9128	0.8587	0.8709	0.7798	-0.227	0.8157	0.7456
Indo-European Language Speaking LEP	-0.173	0.7868	0.8558	0.798	0.8003	0.8433	-0.159	0.8373	0.8518
Asian Language Speaking LEP	-0.111	0.4634	0.3421	0.5445	0.5306	0.3763	-0.018	0.3485	0.3189
Other Language Speaking LEP	-0.148	0.6772	0.6292	0.7712	0.7687	0.678	-0.118	0.6455	0.6115

Table 8. Correlation between travel characteristics and LEP population

LEP Categories	No. of Vehicles	Drove Alone	Carpooled	Public Transit	Walked	Other Means	Worked at Home
Total LEP	0.857	0.518	0.8702	0.7374	0.8598	0.8631	0.3843
Spanish Speaking LEP	0.779	0.424	0.7996	0.6496	0.8024	0.8353	0.2998
Indo-European Language Speaking LEP	0.825	0.580	0.7896	0.6992	0.7343	0.684	0.4246
Asian Language Speaking LEP	0.401	0.467	0.4692	0.5150	0.4462	0.3487	0.4783
Other Language Speaking LEP	0.753	0.51	0.6993	0.8520	0.755	0.5824	0.4864

Table 9. Samples of community groups as survey candidates

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

Table 10. General information of the tourism centers

Country (Region) Name	Authority/Owner	Number of Languages Provided	Marketing Region	Website Address
Canada	Canadian Tourism Commission	11	15	http://www.travelcanada.ca
England	British Tourist Authority	More than 15	49	http://www.visitbritain.com/
France	Ministry of Tourism	More than 15	41	http://us.franceguide.com/
Germany	The German National Tourist Board	More than 15	25	http://www.germany-tourism.de/index.html
Greece	Greek National Tourism Organization	3	3	http://www.greektourism.com/
Hong Kong	Hong Kong Tourism Board	12	11	http://www.discoverhongkong.com
Italy	Registered Travel Agent	5	5	http://www.itwg.com/
Japan	Japan National Tourist Organization	7	7	http://www.jnto.go.jp
Netherlands	The Netherlands Board of Tourism and Conventions	More than 15	26	http://www.holland.com/
New Zealand	New Zealand Tourism Board	6	6	http://www.purenz.com/
Singapore	Singapore Tourism Board	13	13	http://www.visitsingapore.com/
Switzerland	Switzerland Tourism Bureau	More than 15	40	http://www.switzerlandtourism.ch/
Taiwan	Tourism Bureau of Taiwan	5	5	http://www.tboc.gov.tw/lan/cht/index/
Thailand	Tourism Authority of Thailand	11	11	http://www.tourismthailand.org/cover.php

Table 11. The public transit service information

Country/ Region	Multi-modes	Route (parts)	Fares	Operating Hours	Map	Phone #	Related Link
Canada	Yes						Yes
England	Yes	Yes	Yes	Yes		Yes	Yes
France	Yes		Yes	Yes		Yes	Yes
Germany	Yes	Yes		Yes	Yes	Yes	Yes
Greece	Yes			Yes		Yes	Yes
Hong Kong	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Italy	Yes		Yes	Yes		Yes	Yes
Japan	Yes						Yes
Netherlands	Yes		Yes	Yes		Yes	Yes
New Zealand	Yes						Yes
Singapore	Yes	Yes	Yes	Yes		Yes	Yes
Switzerland	Yes						Yes
Taiwan	Yes	Yes	Yes	Yes		Yes	Yes
Thailand	Yes					Yes	

Table 12. Public transit information provided by Hong Kong tourism center

Mode	Service Range	Route	Stops	Terminals	Interchange	Fares	Operating Hours	Map	Phone Number	Related Link	Points of Attention
Mass Transit Railway	X	X	X	X	X	X	X	X	X	X	X
Airport Express	X	X		X		X	X		X	X	X
Buses	X					X	X				X
Minibuses	X					X	X				X
Taxi	X					X	X		X		X
Ferries	X	X		X		X	X			X	X
Peak tram	X	X		X		X	X			X	X
Kowloon Canton Railway	X	X	X	X	X	X	X	X		X	X
Trams	X	X		X		X	X				X

Table 13. Examples of traffic sign costs

Item	Type	Price
Sign Panel	Regulatory/Warning/Marker	\$15 to 18 / sq. ft.
	Large Guide Signs	\$20 to 25 / sq. ft.
	Electronic Variable Message Sign	\$40,000 to \$125,000 each
Sign Posts	U-Channel	\$125 to \$200 each
	Square Tube (Telespar):	\$10 to \$15 per foot
	Large Steel Breakaway Posts	\$15 to \$25 per foot
	Cantilever Sign	\$15,000 to \$20,000 each
	Sign Bridge	\$30,000 to \$60,000 each
Foundations	Square Tube	\$250 each
	Breakaway Post	\$300 to \$500 each
	Cantilever / Bridge	\$6,000 - \$7,000 each

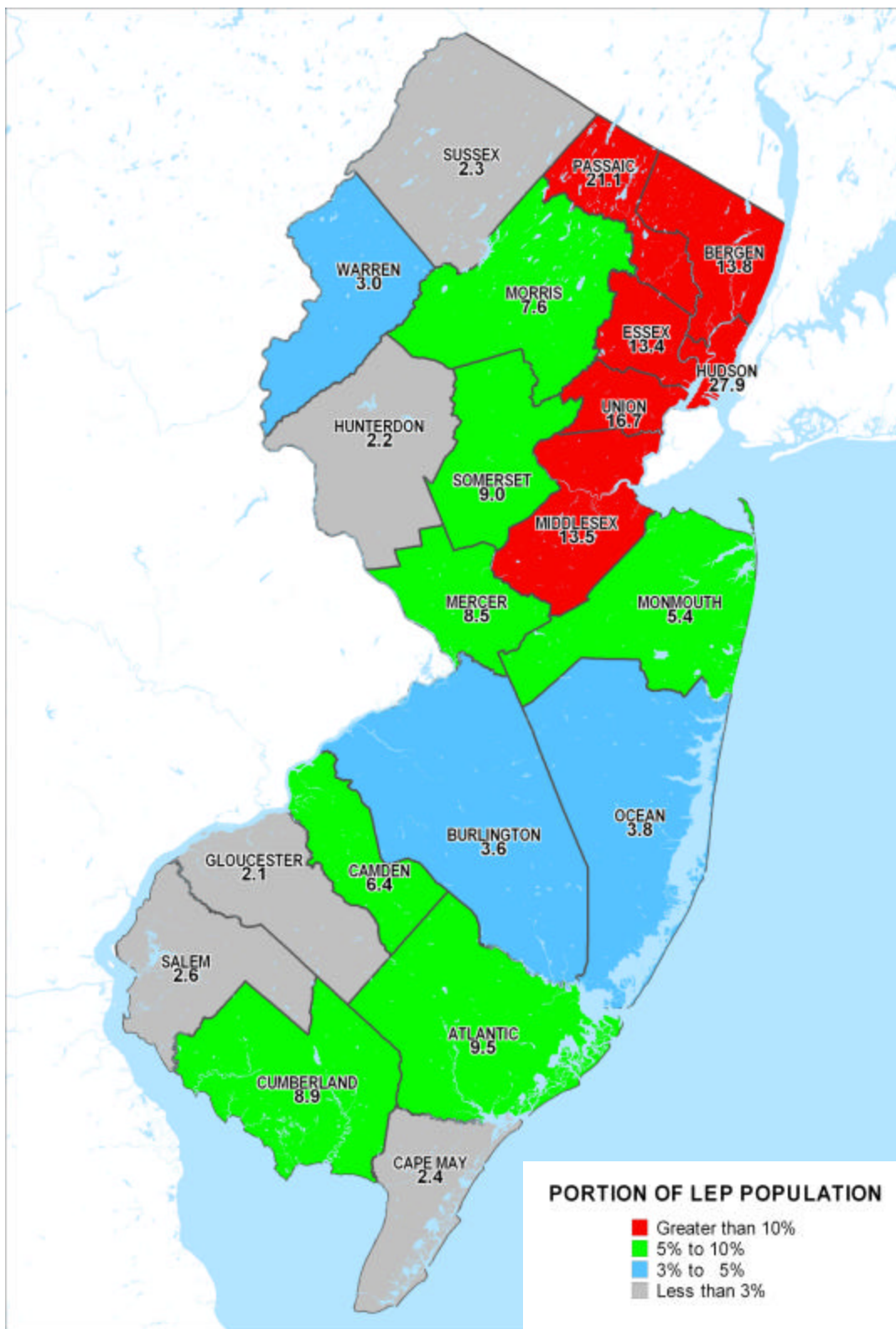


Figure 1. LEP population in New Jersey

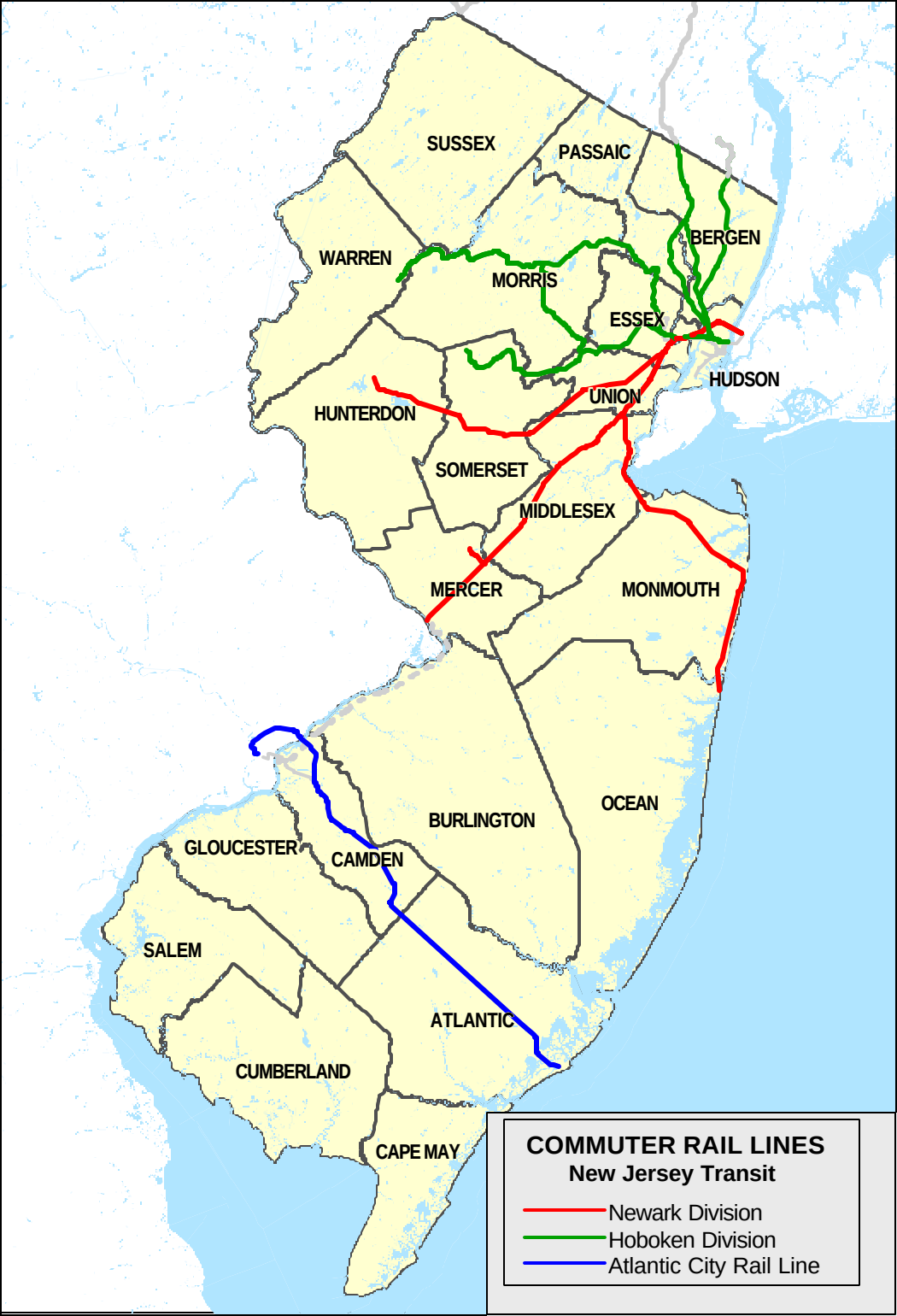


Figure 2. Commuter rail network in New Jersey

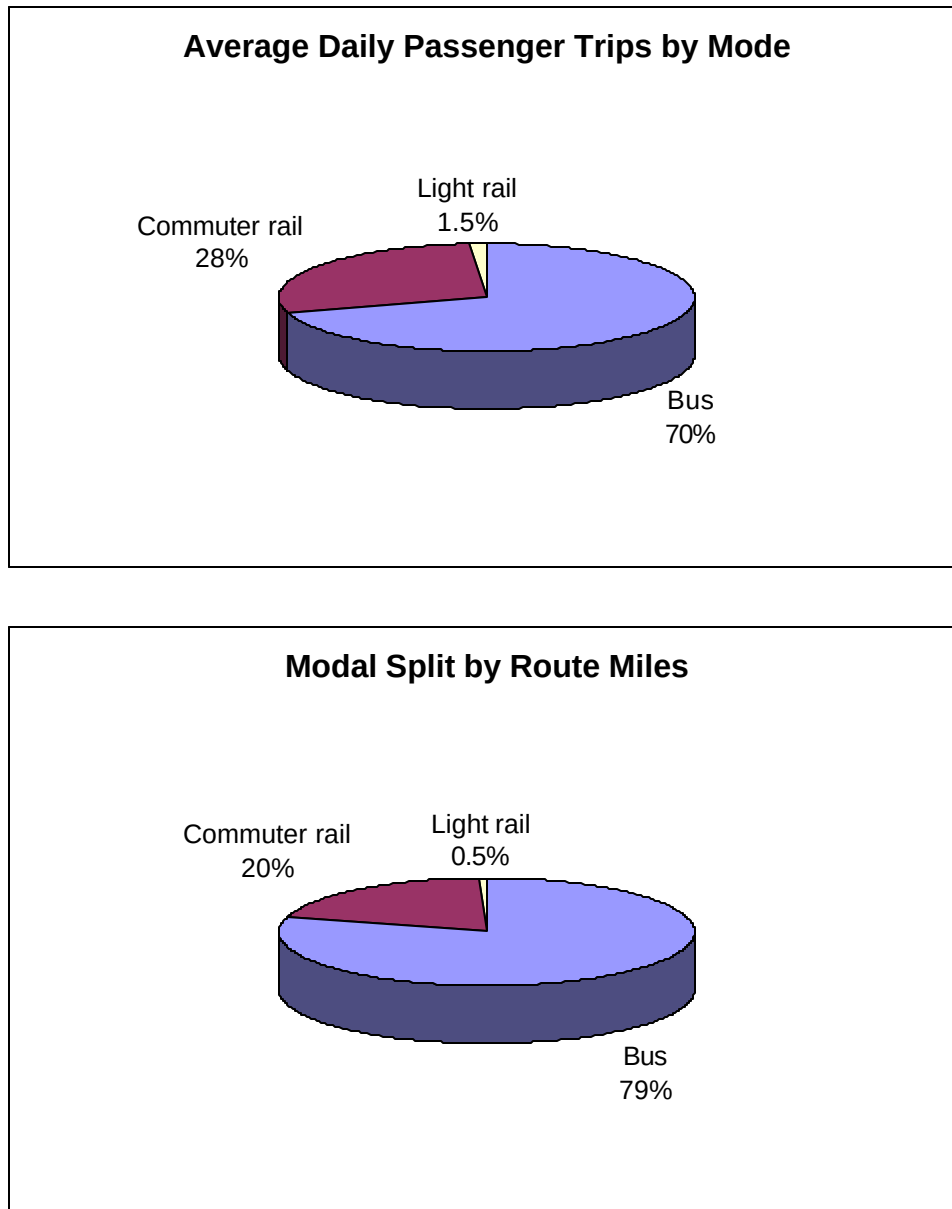


Figure 3. Modal distribution comparison in New Jersey
Source: NJ TRANSIT, 2003 B.



Figure 4. Bus transit network in New Jersey

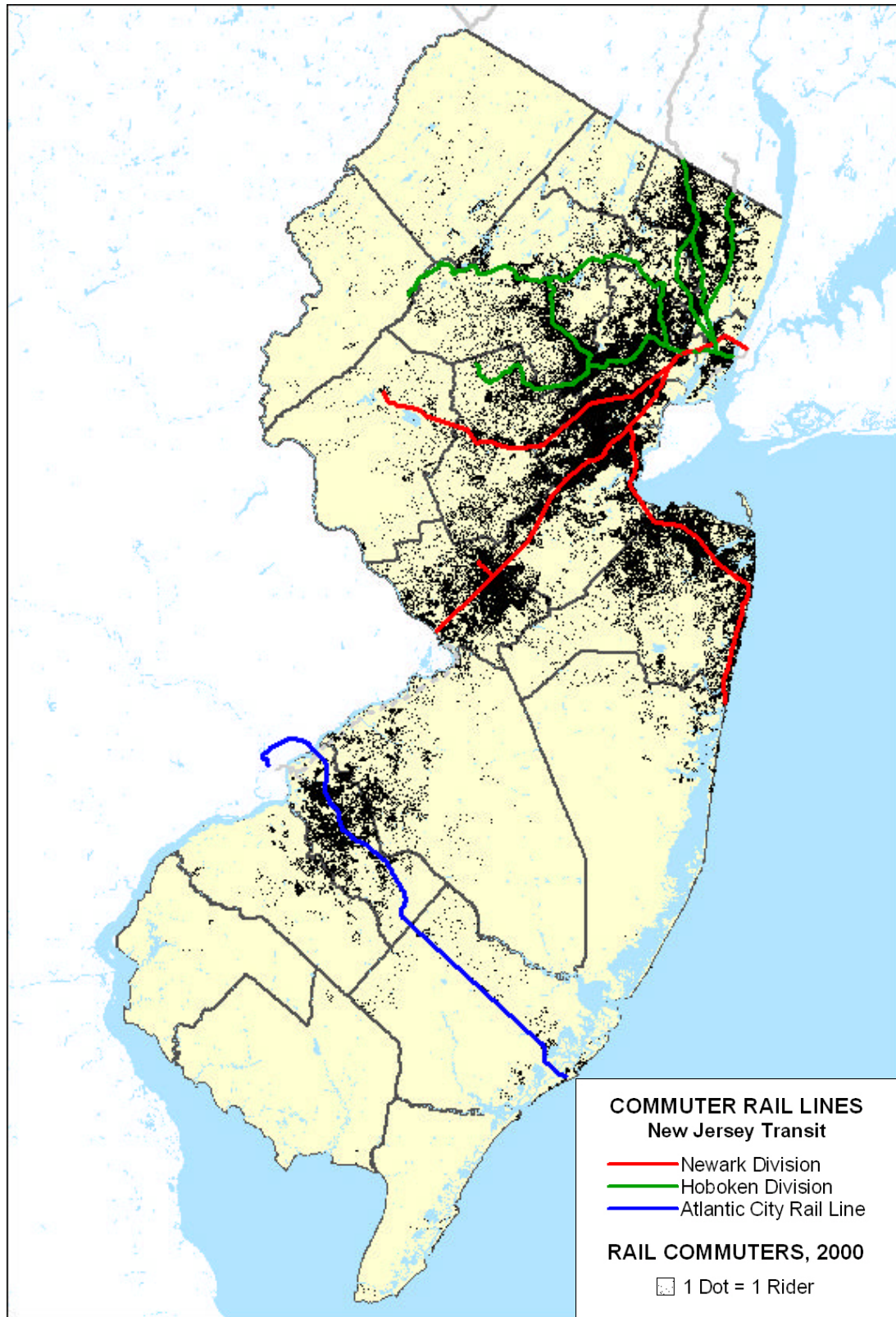


Figure 5. Rail ridership In New Jersey

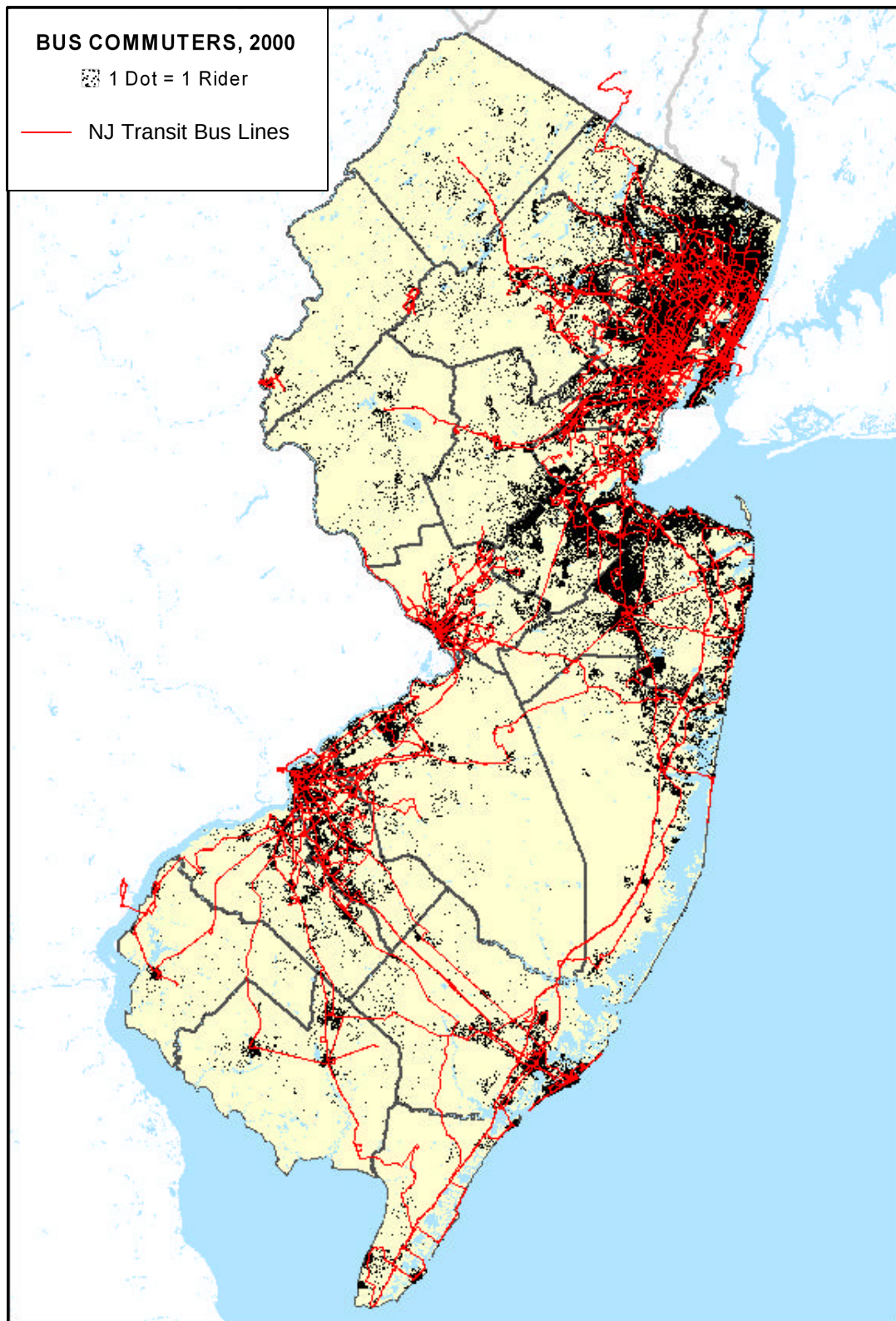


Figure 6. Bus ridership in New Jersey

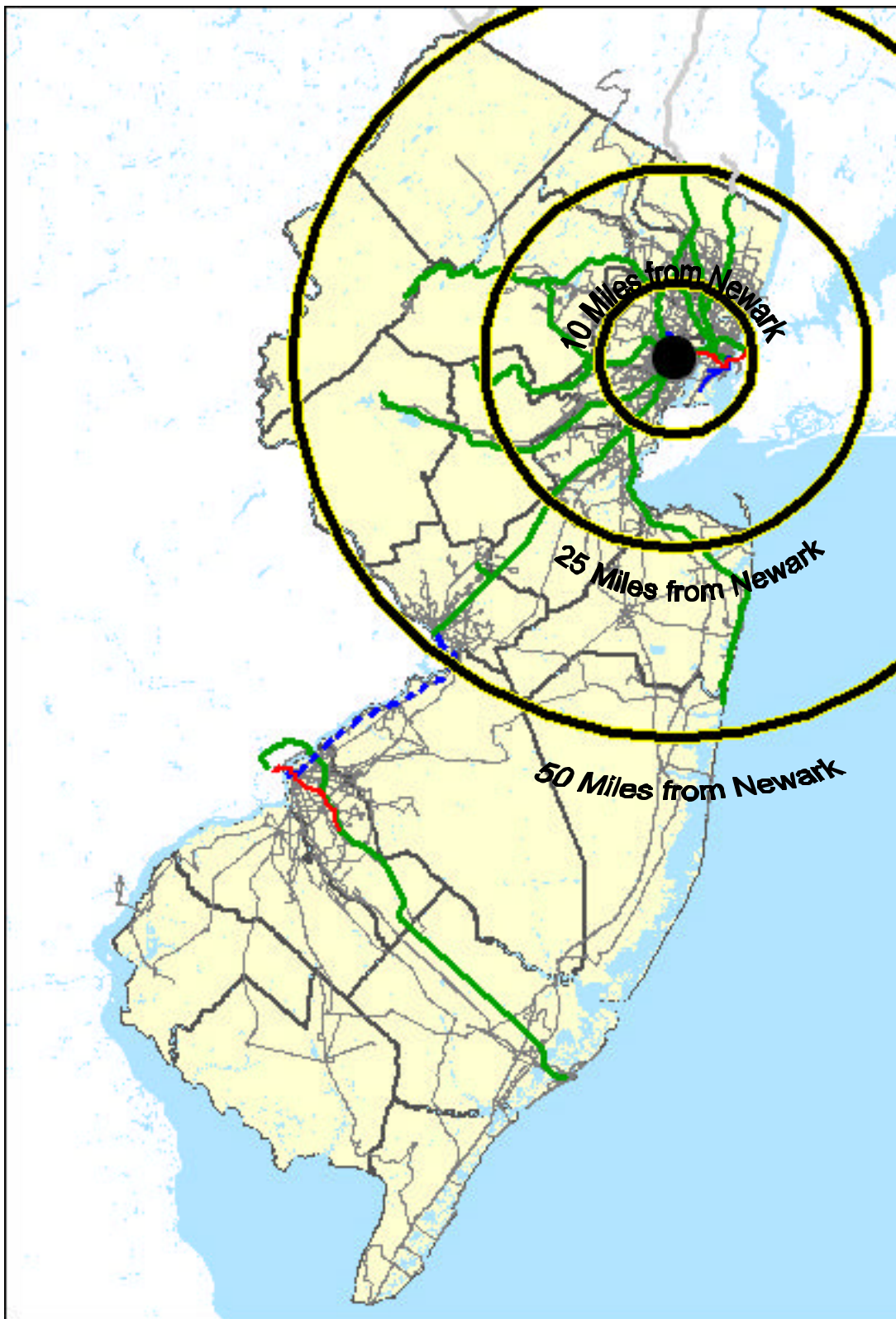


Figure 7. Concentric belts of rail networks



Figure 8. Multimodal transportation network and intermodal transit hubs

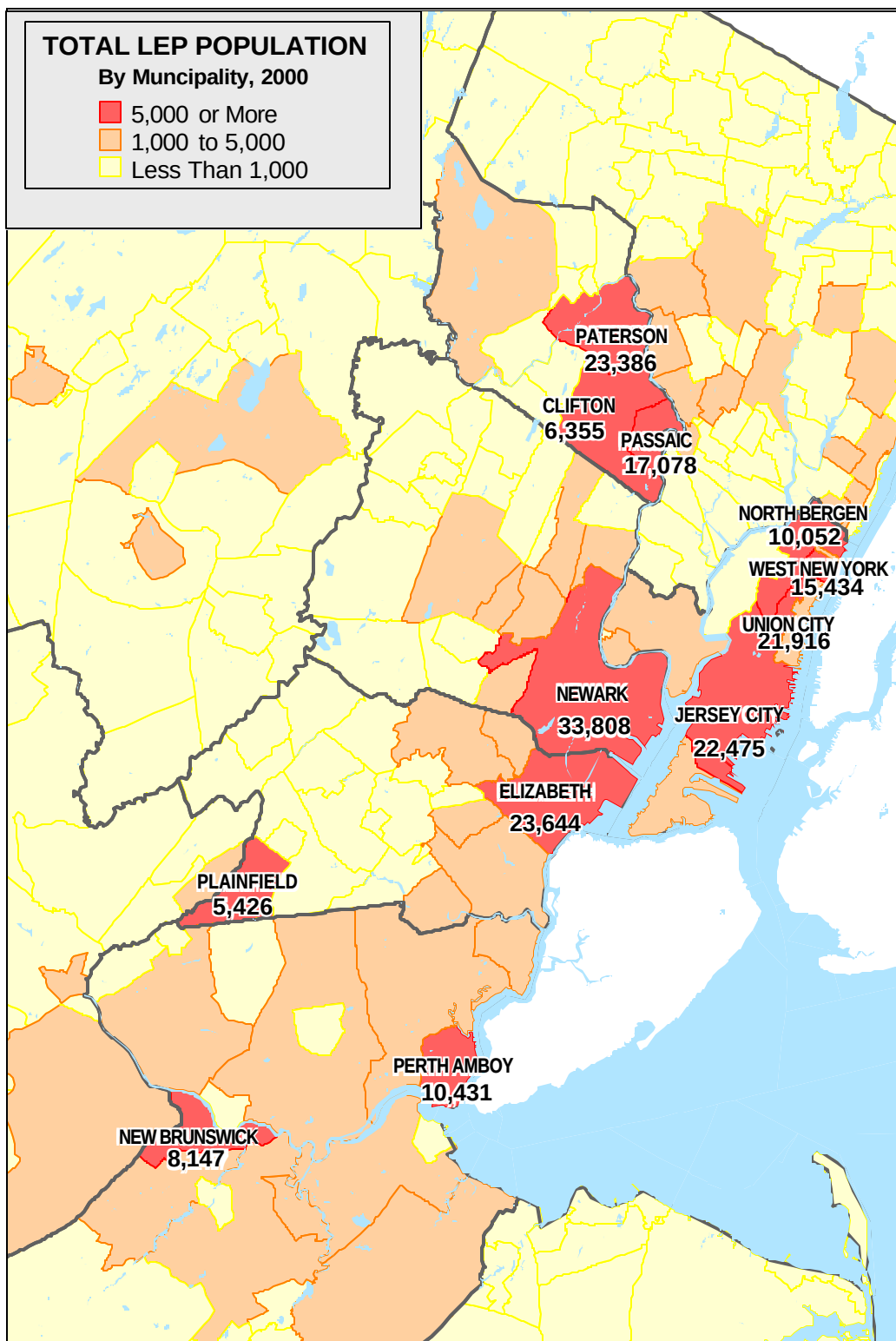


Figure 9. LEP population by municipality, 2000

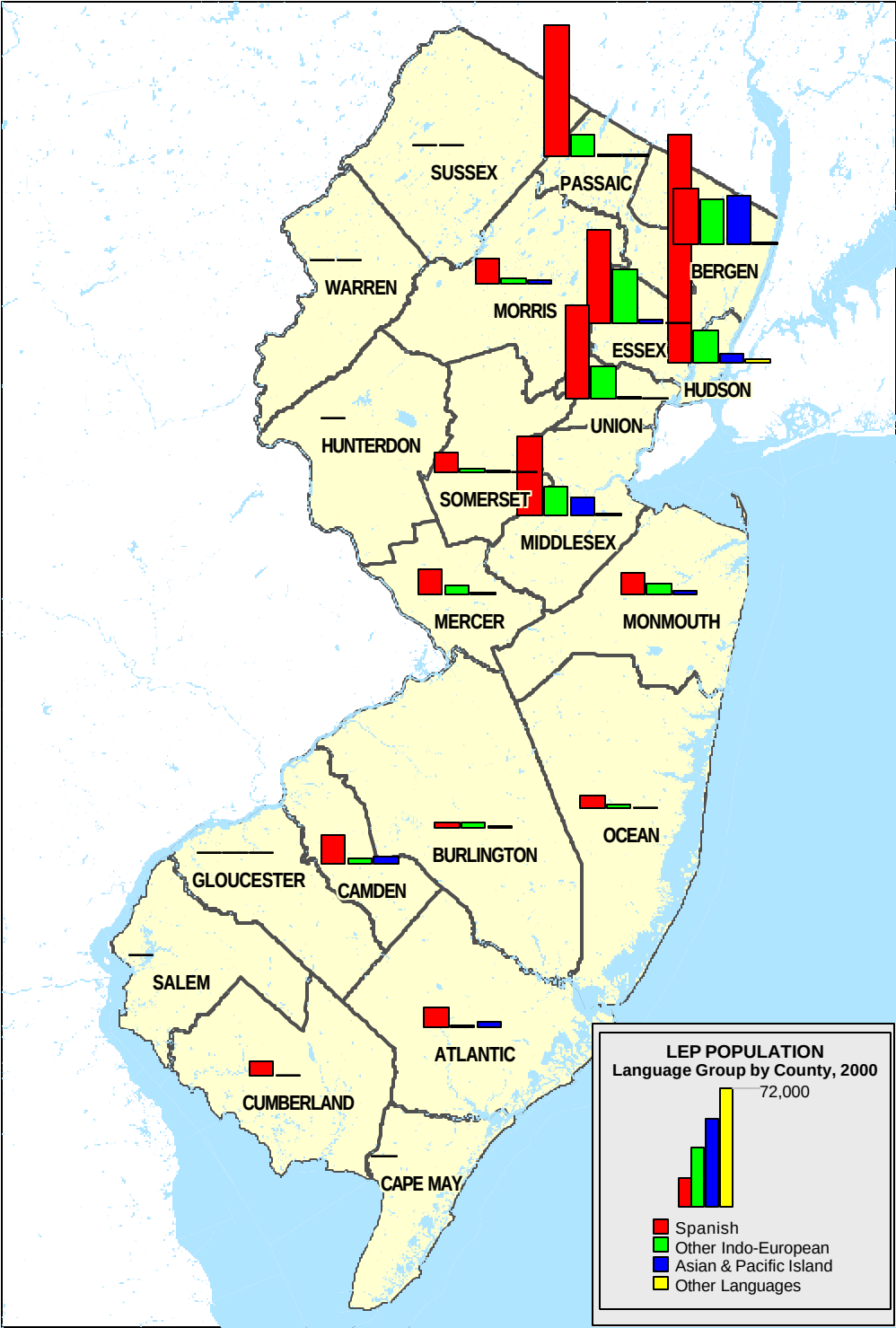


Figure 10. Distribution of LEP population

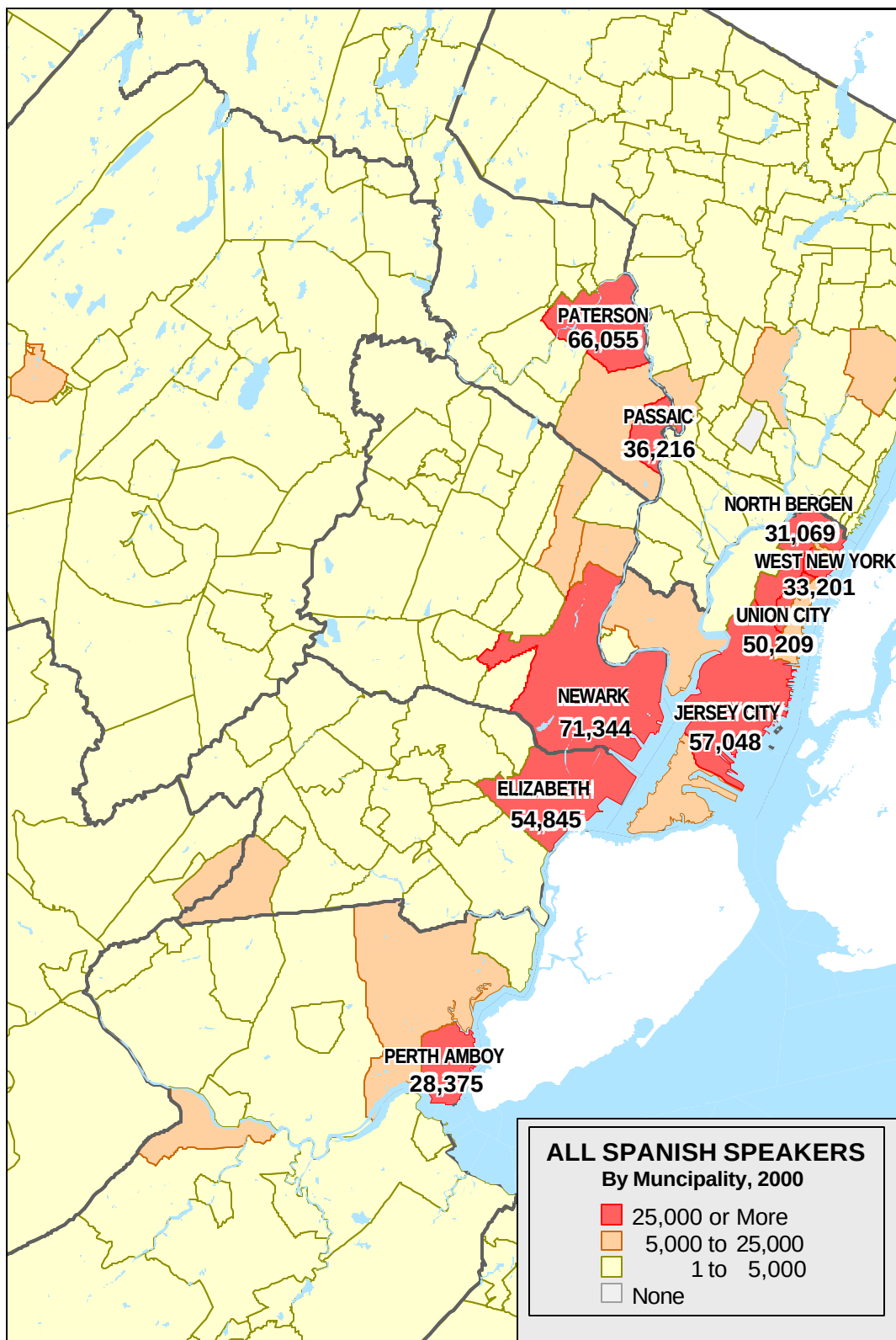


Figure 11. Distribution of Spanish speakers in New Jersey

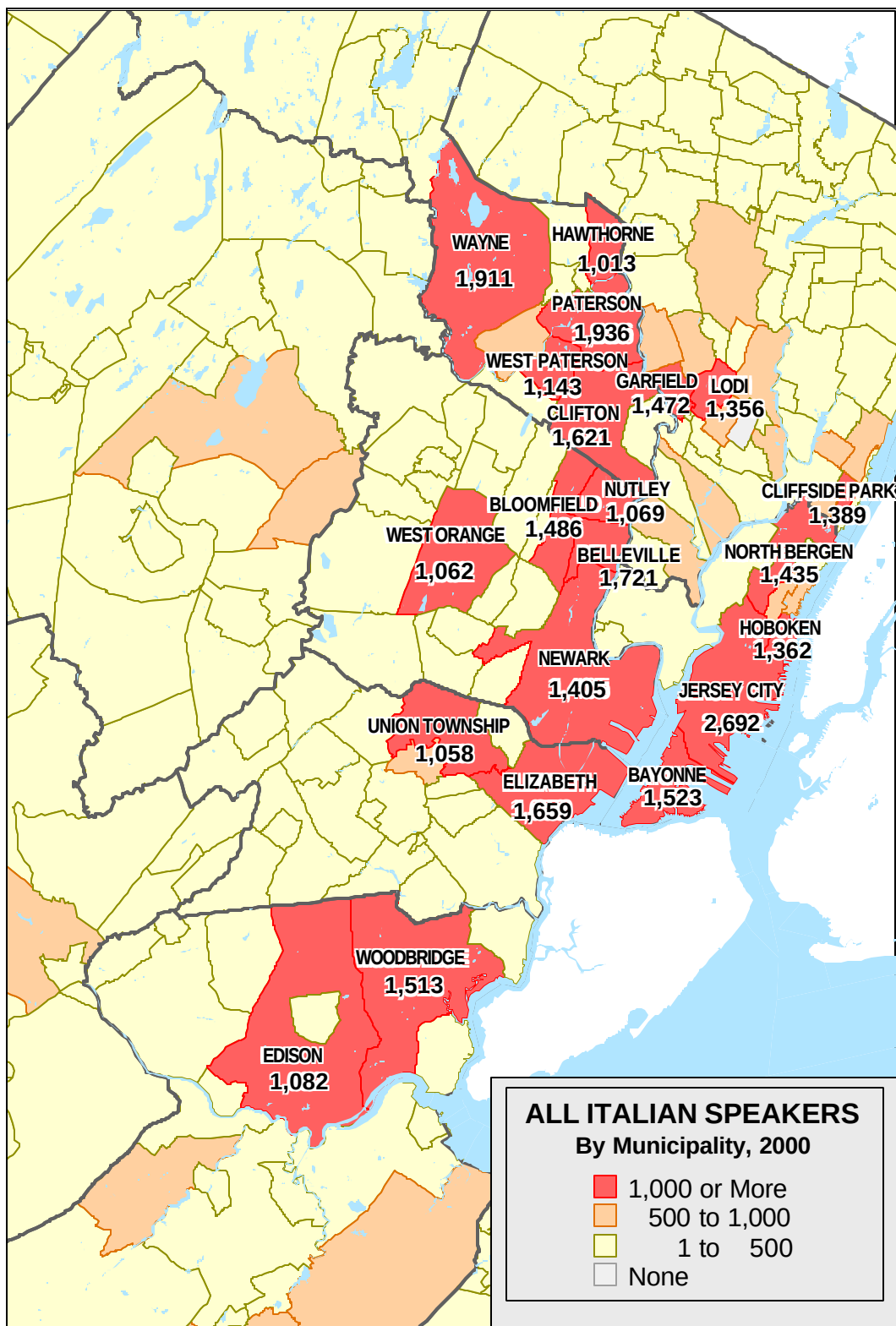


Figure 12. Distribution of Italian speakers in New Jersey

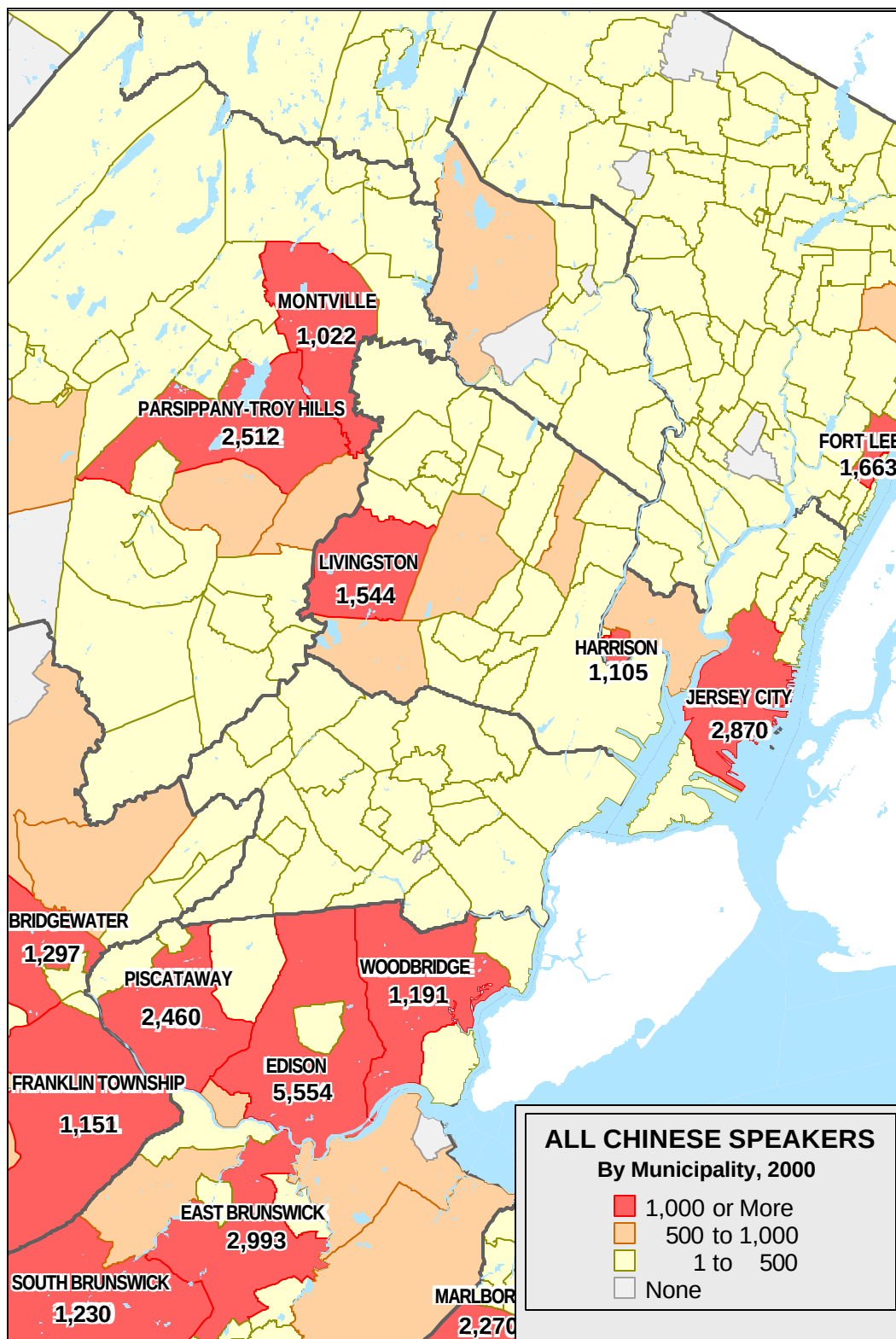


Figure 13. Distribution of Chinese speakers in New Jersey

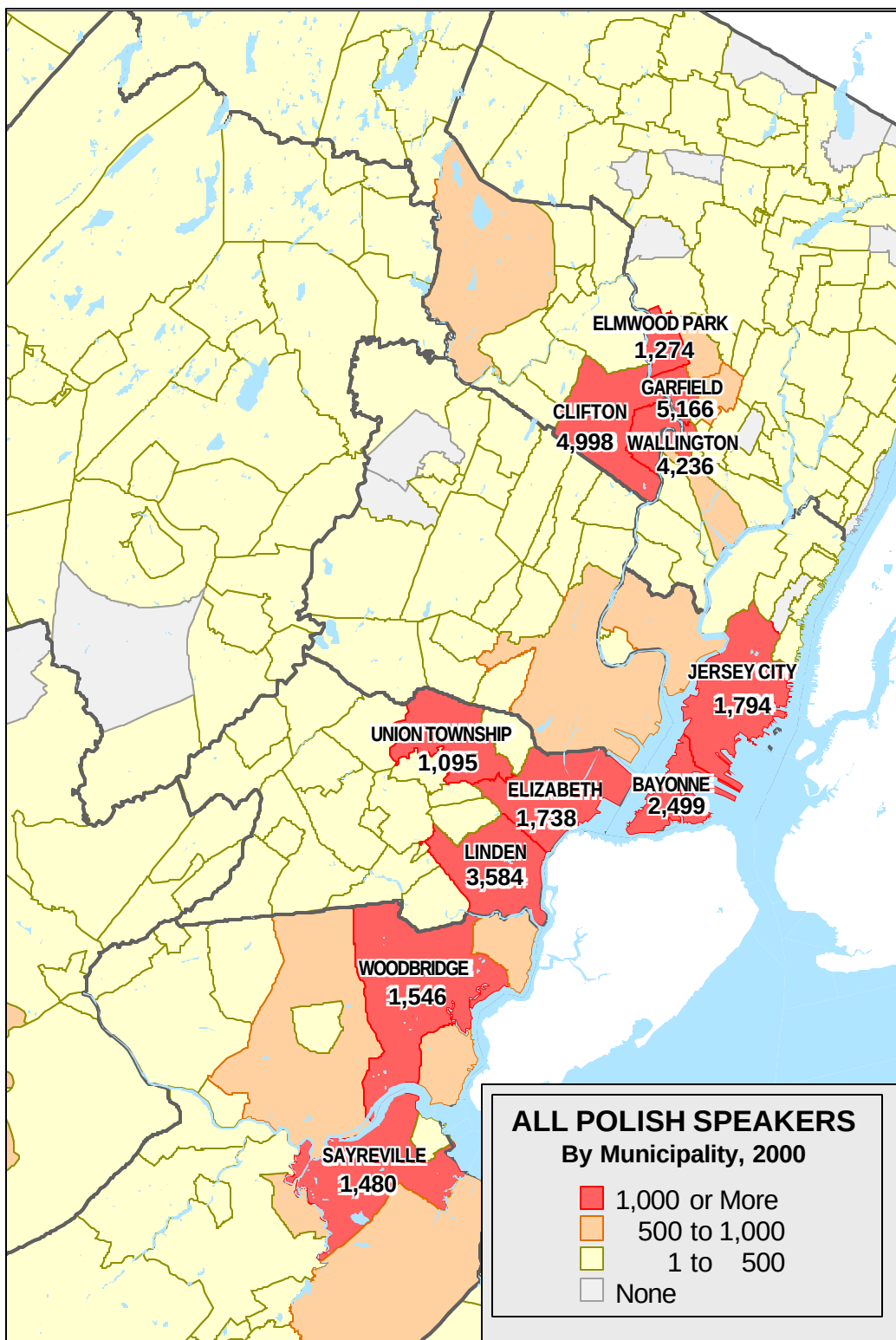


Figure 14. Distribution of Polish speakers in New Jersey

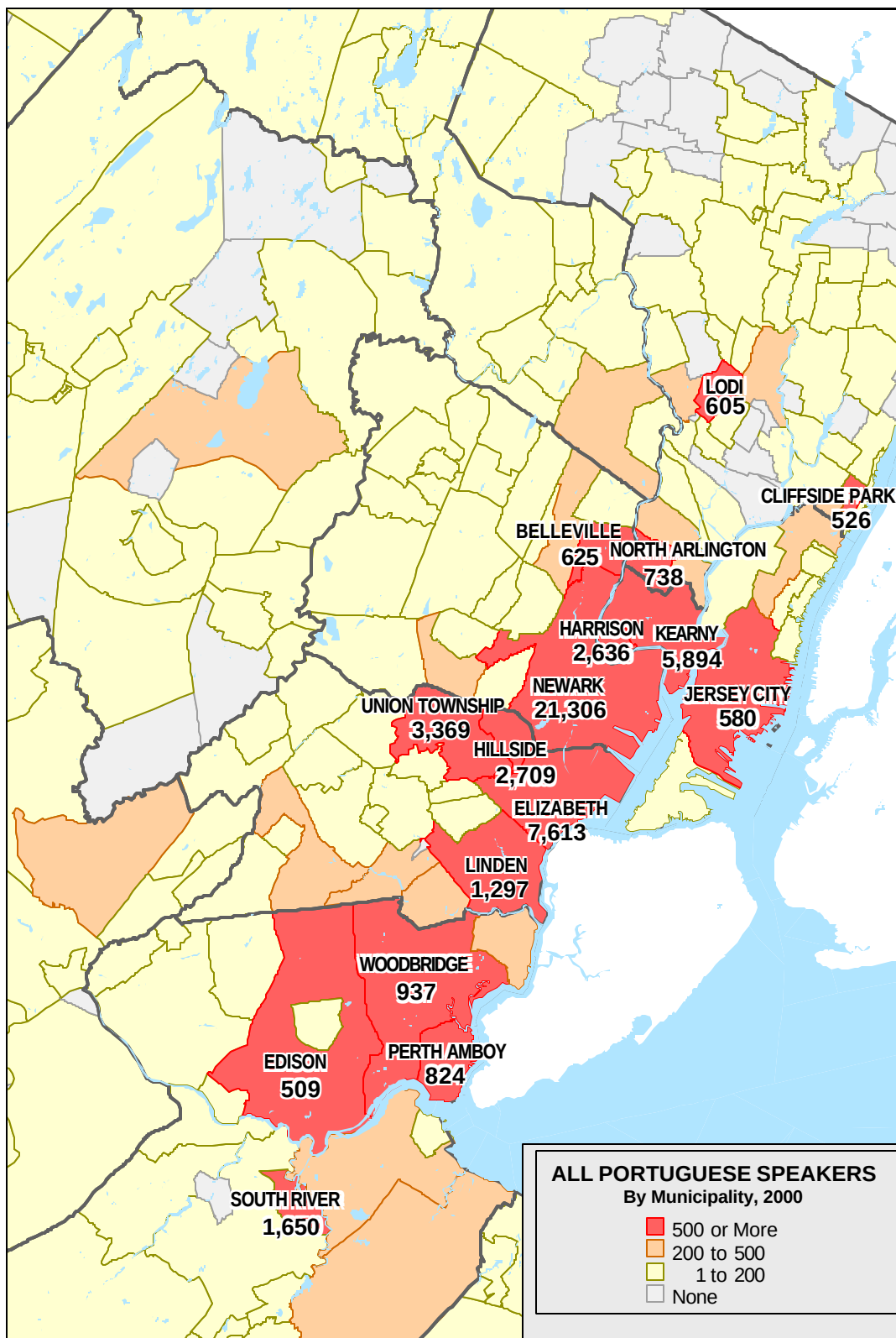


Figure 15. Distribution of Portuguese speakers in New Jersey

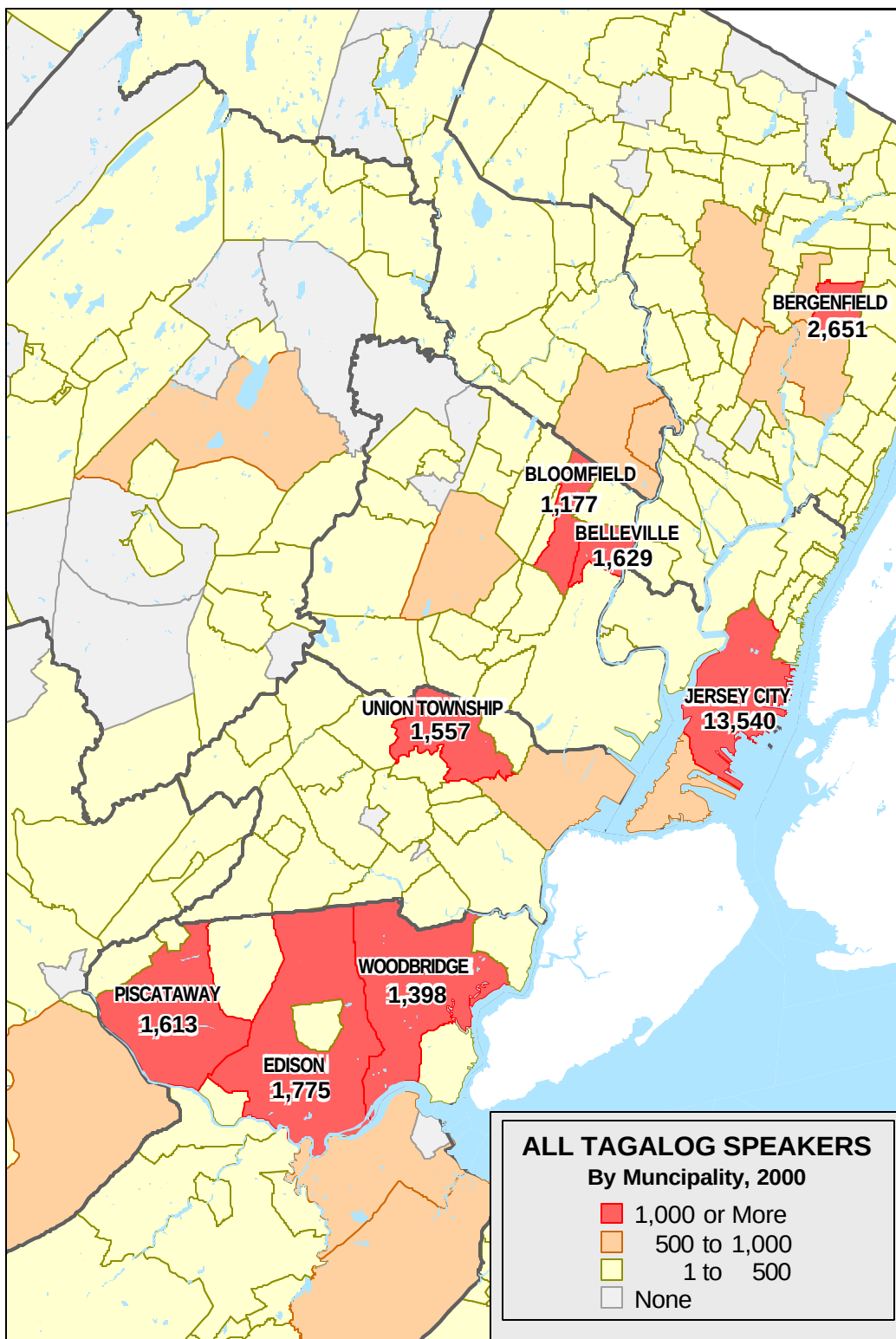


Figure 16. Tagalog speakers by municipality, 2000, Northeast New Jersey

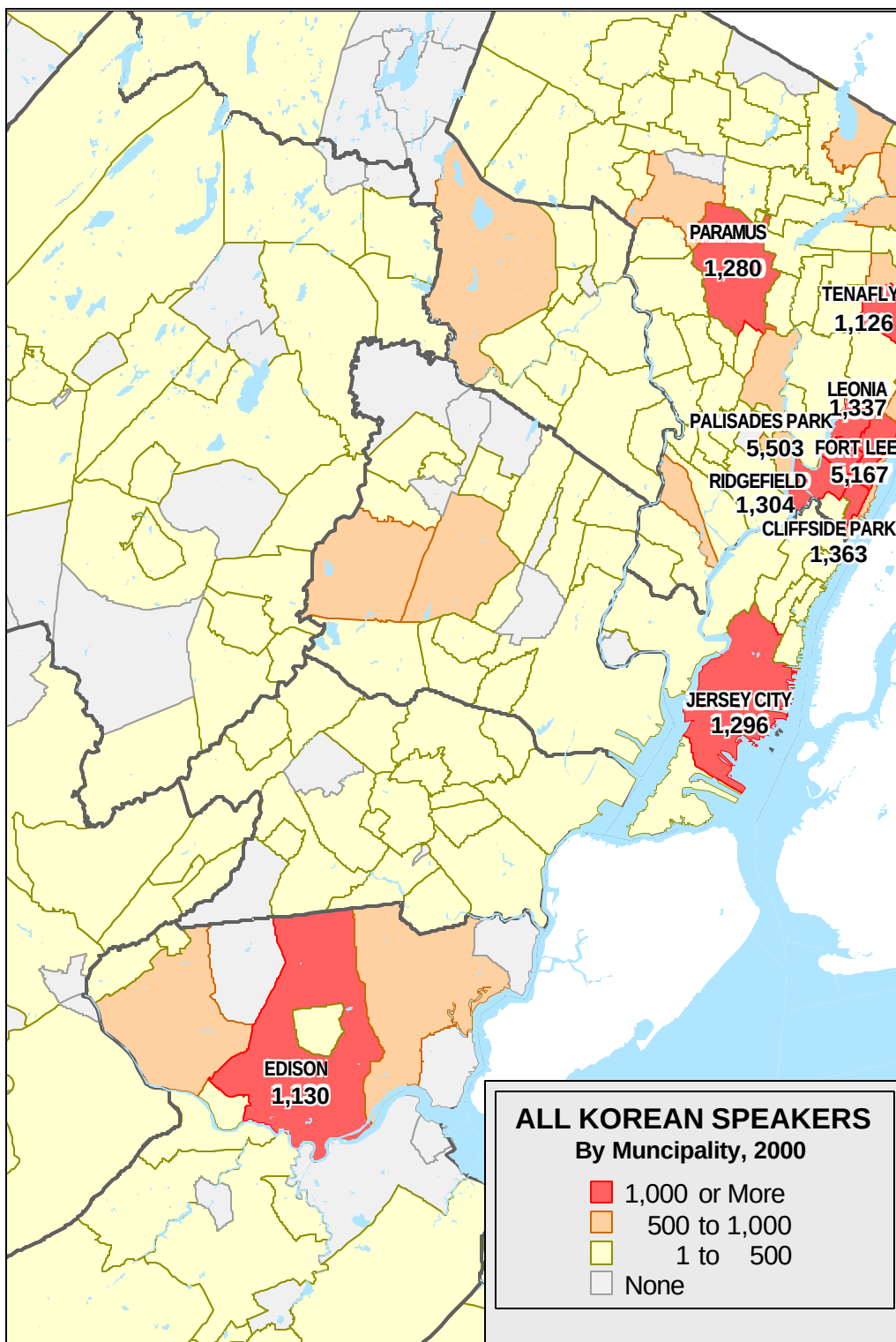


Figure 17. Korean speakers by municipality, 2000, Northeast New Jersey

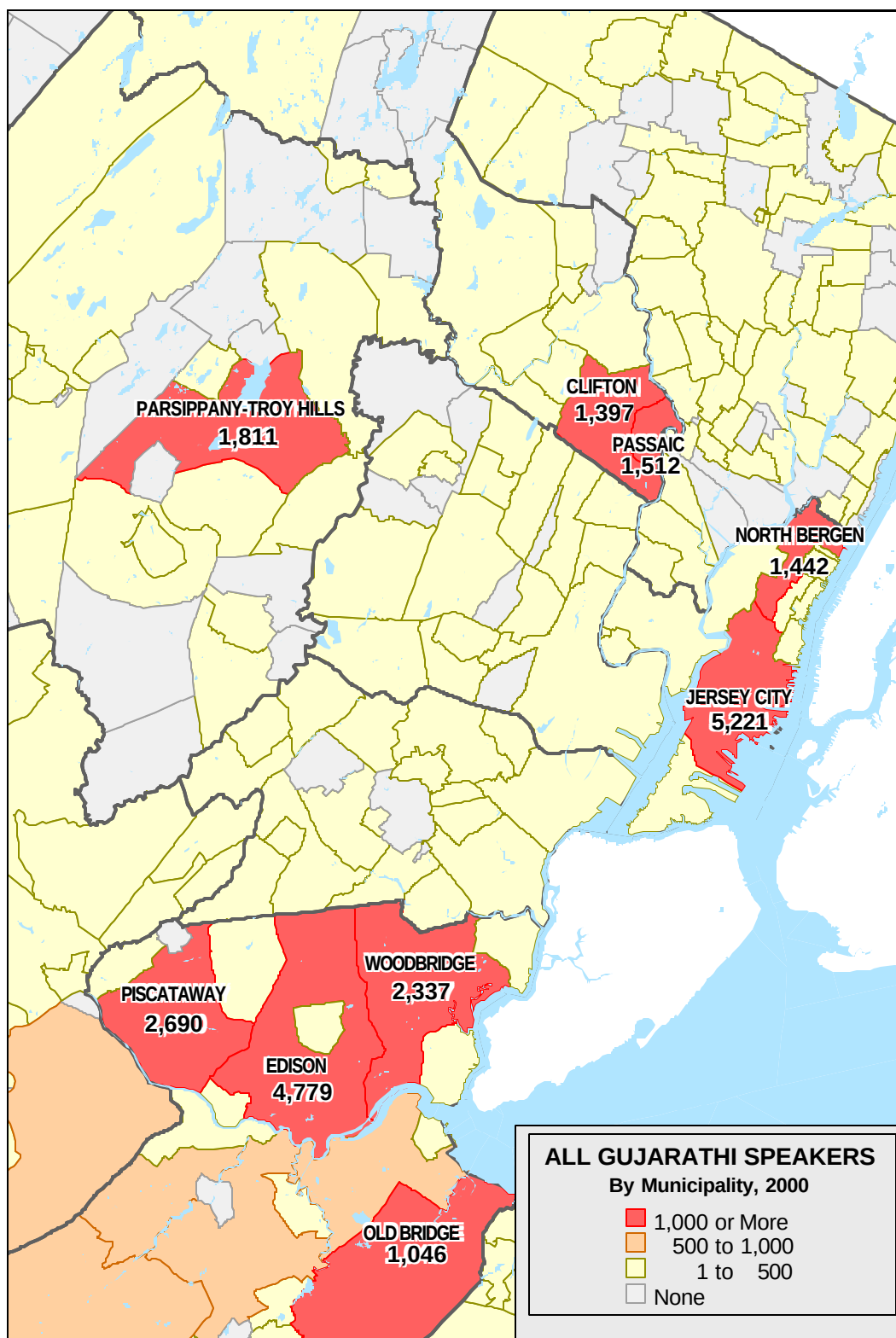


Figure 18. Gujarathi speakers by municipality, 2000, Northeast New Jersey

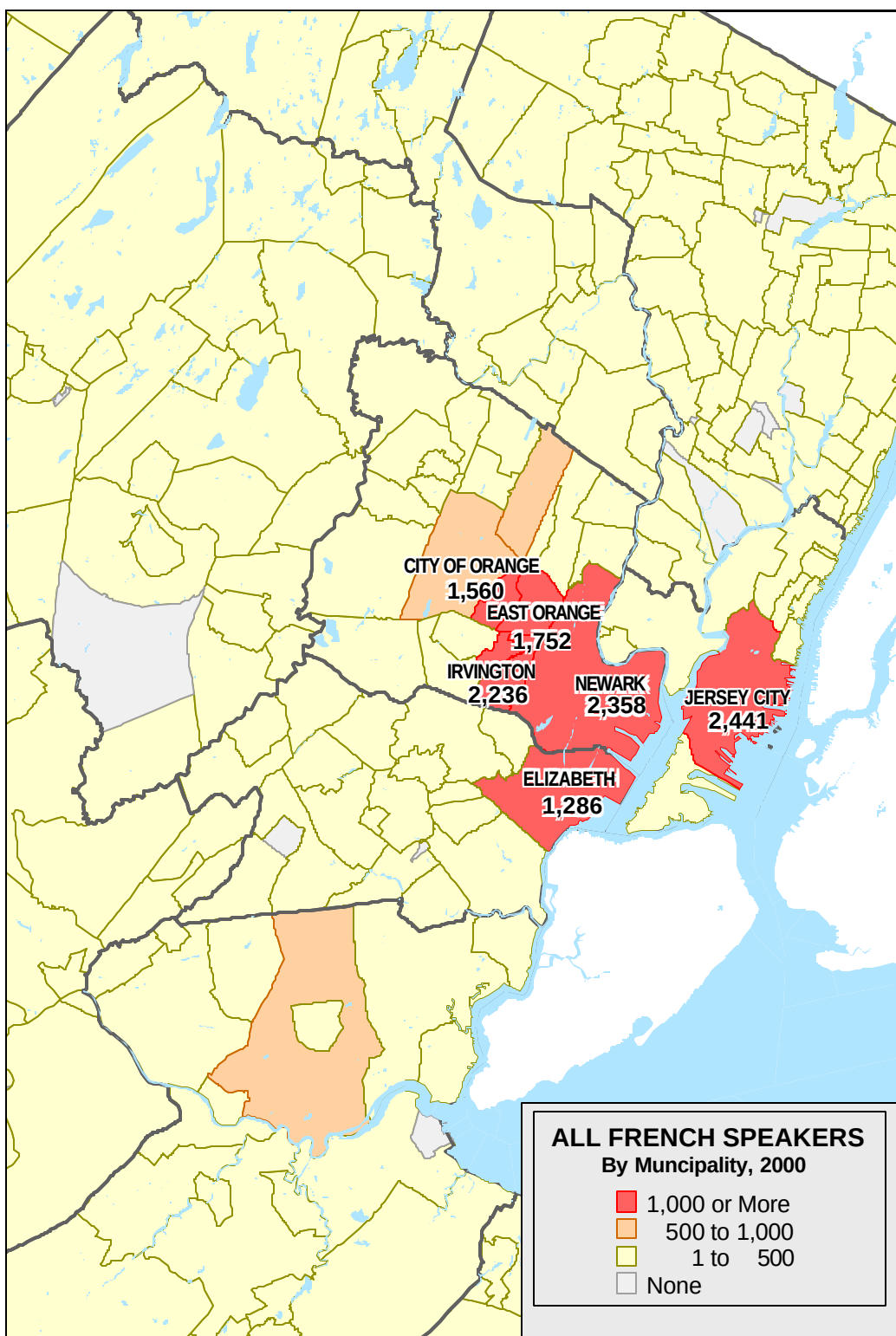


Figure 19. French speakers by municipality, 2000, Northeast New Jersey

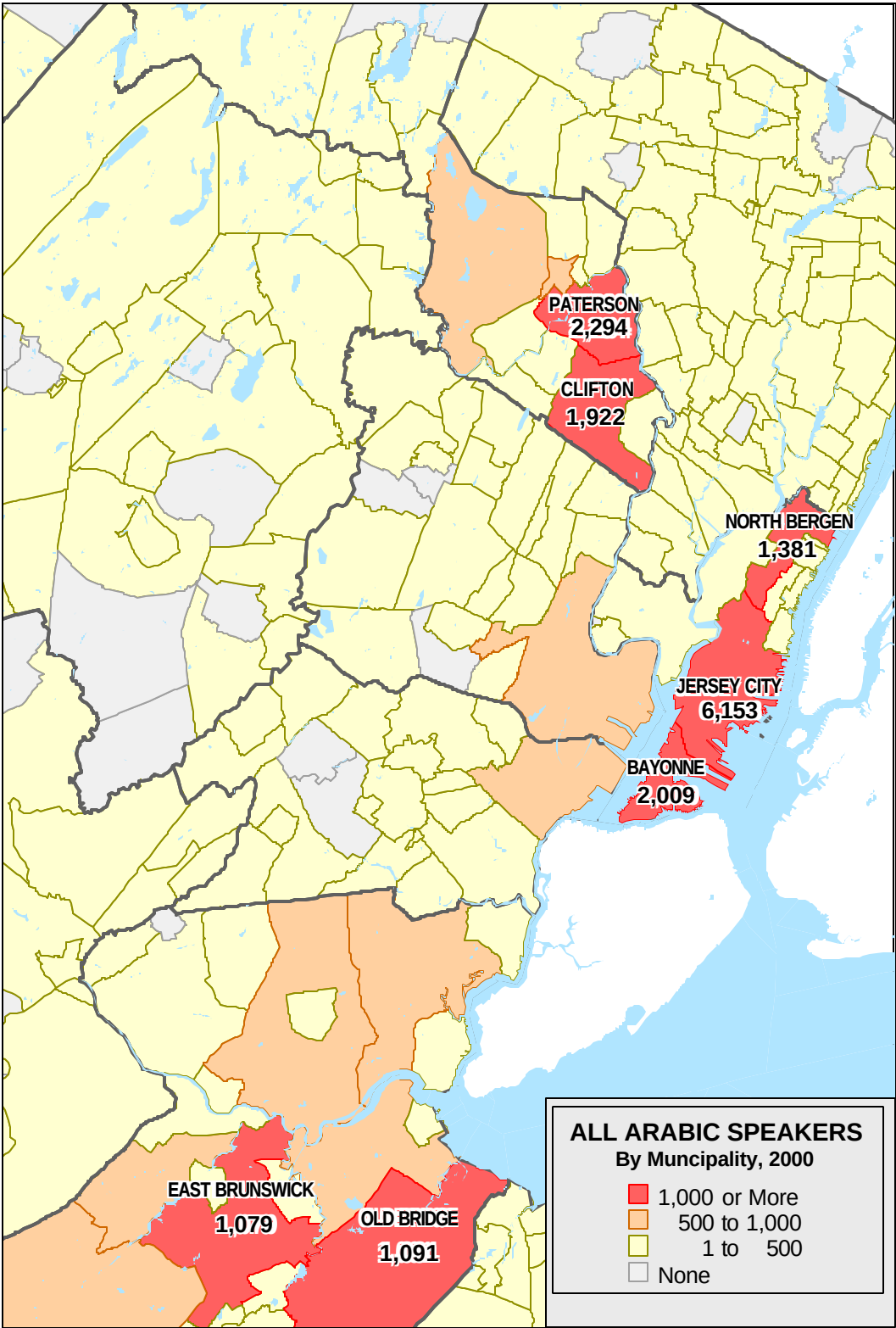


Figure 20. Arabic speakers by municipality, 2000, Northeast New Jersey



Figure 21. German speakers by municipality, 2000, Northeast New Jersey

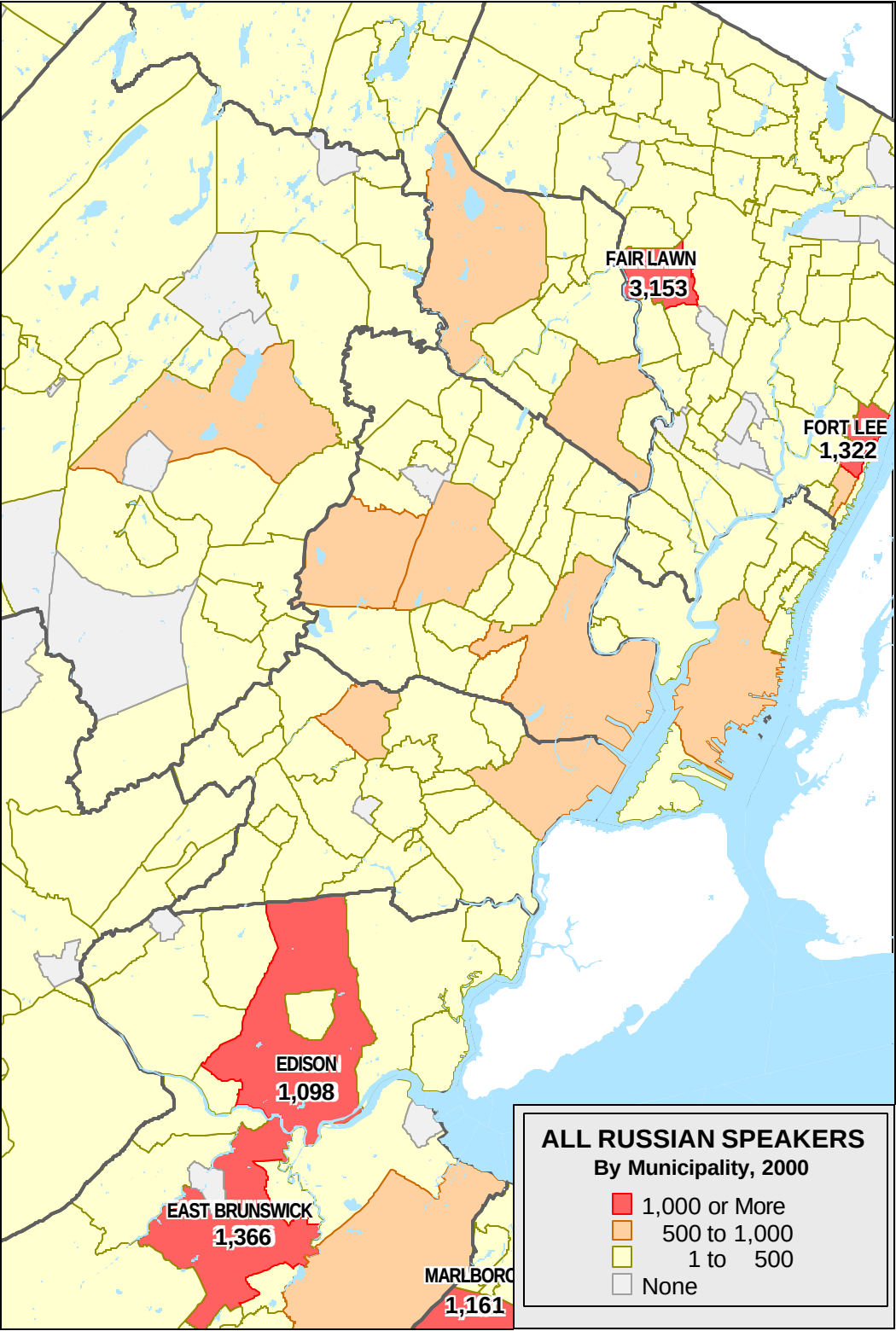


Figure 22. Russian speakers by municipality, 2000, Northeast New Jersey

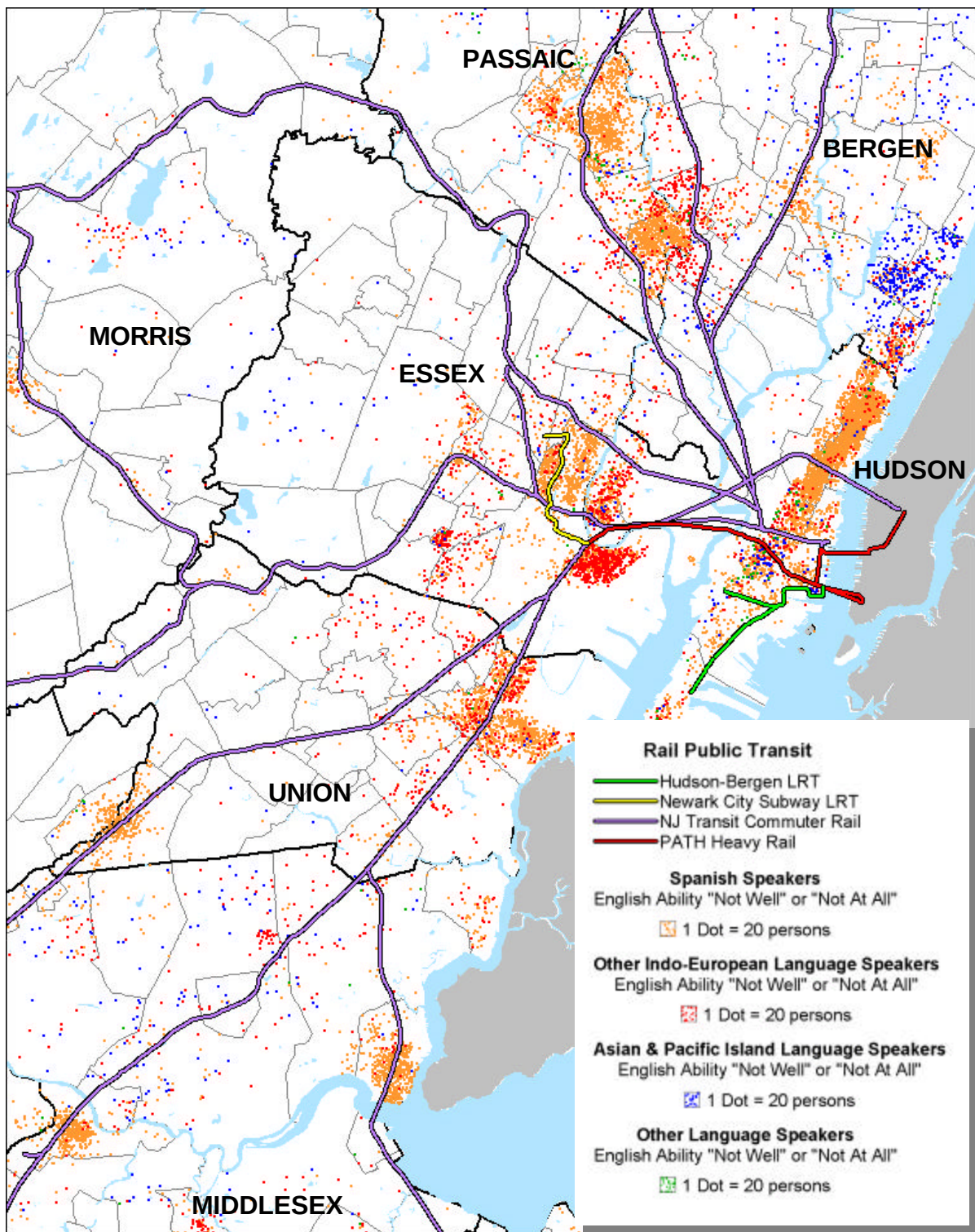


Figure 23. Rail network and LEP population in the Urban Core

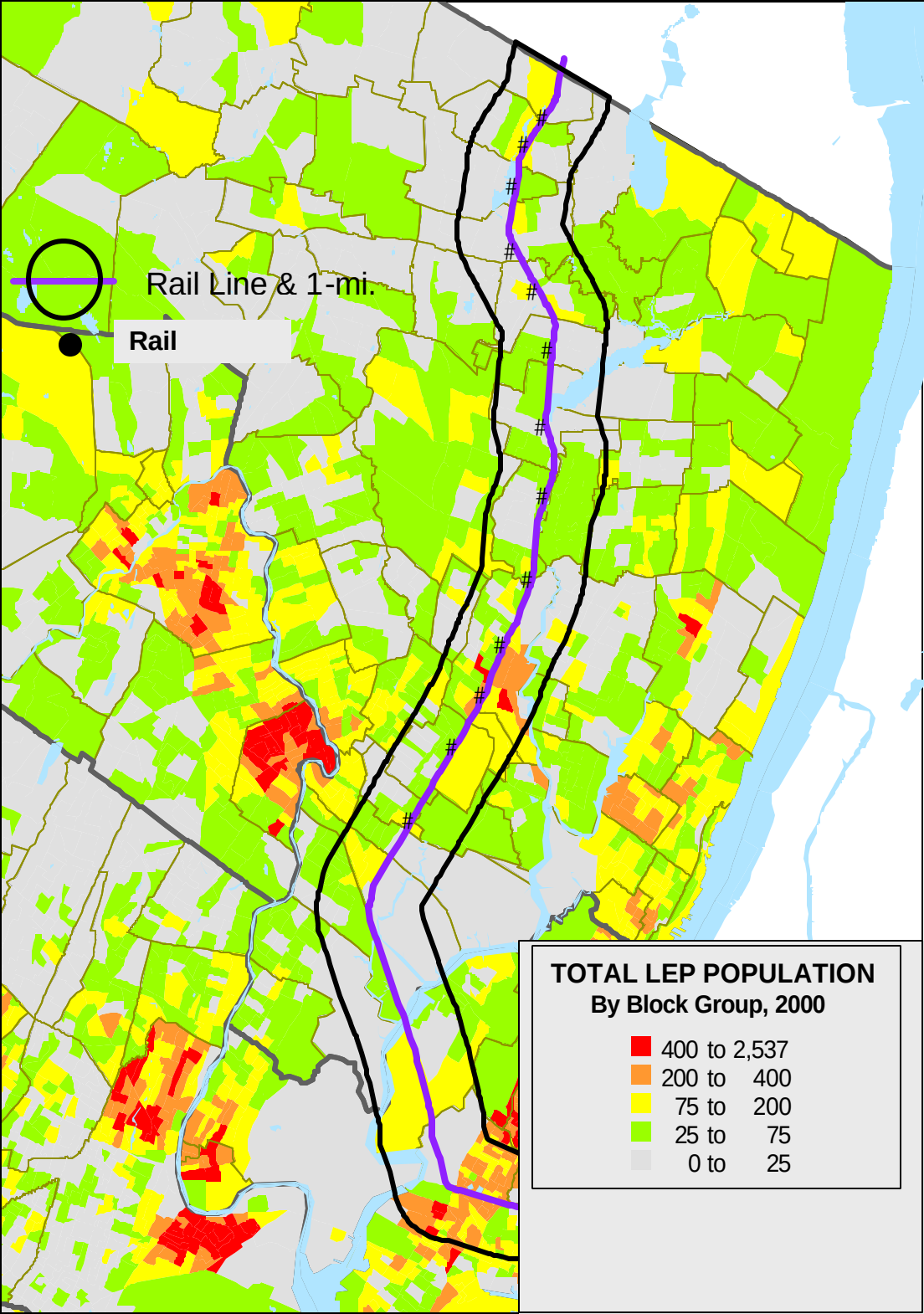


Figure 24. LEP population along transit lines

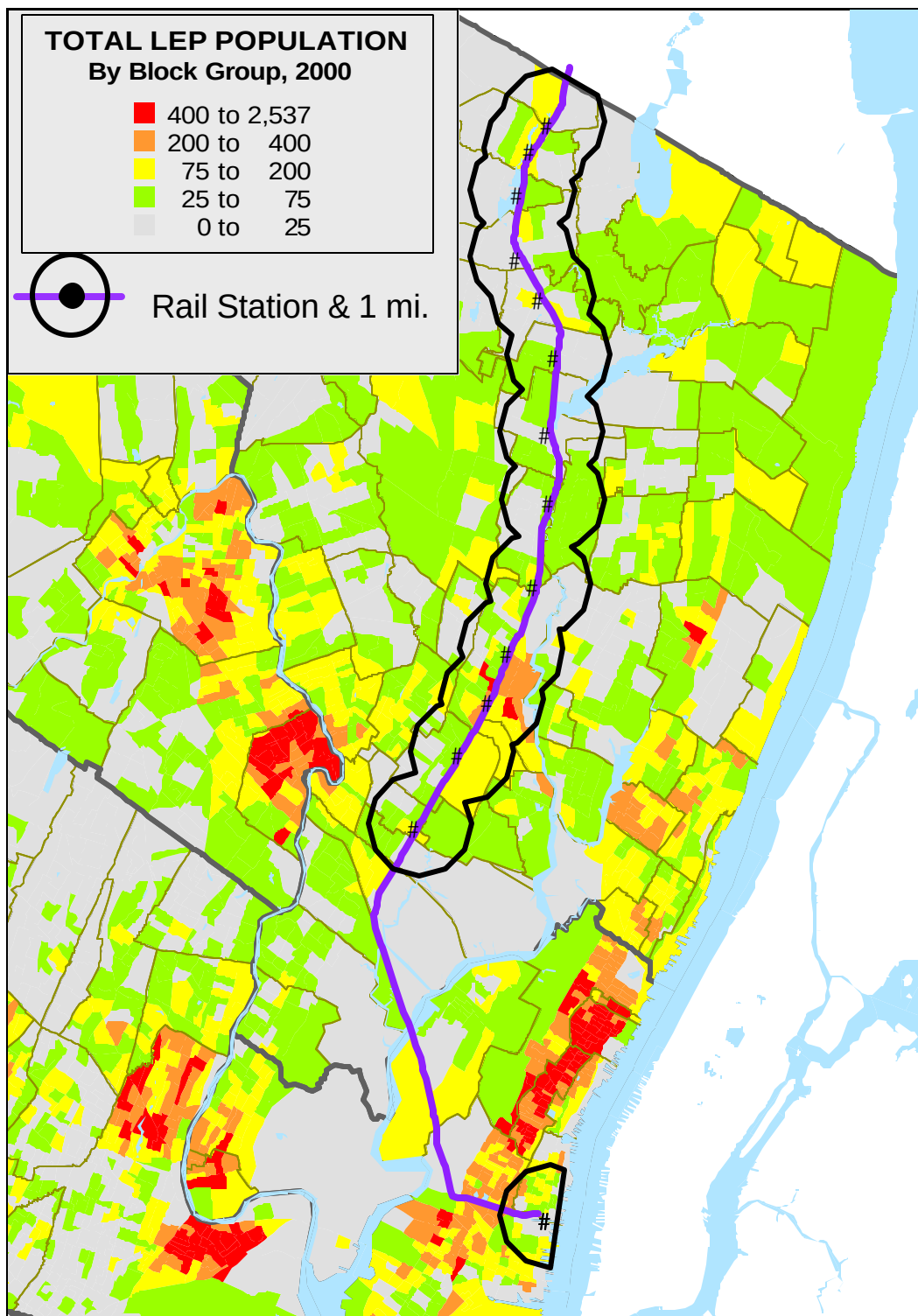


Figure 25. LEP population around transit stations



Figure 26. LEP travel survey sites

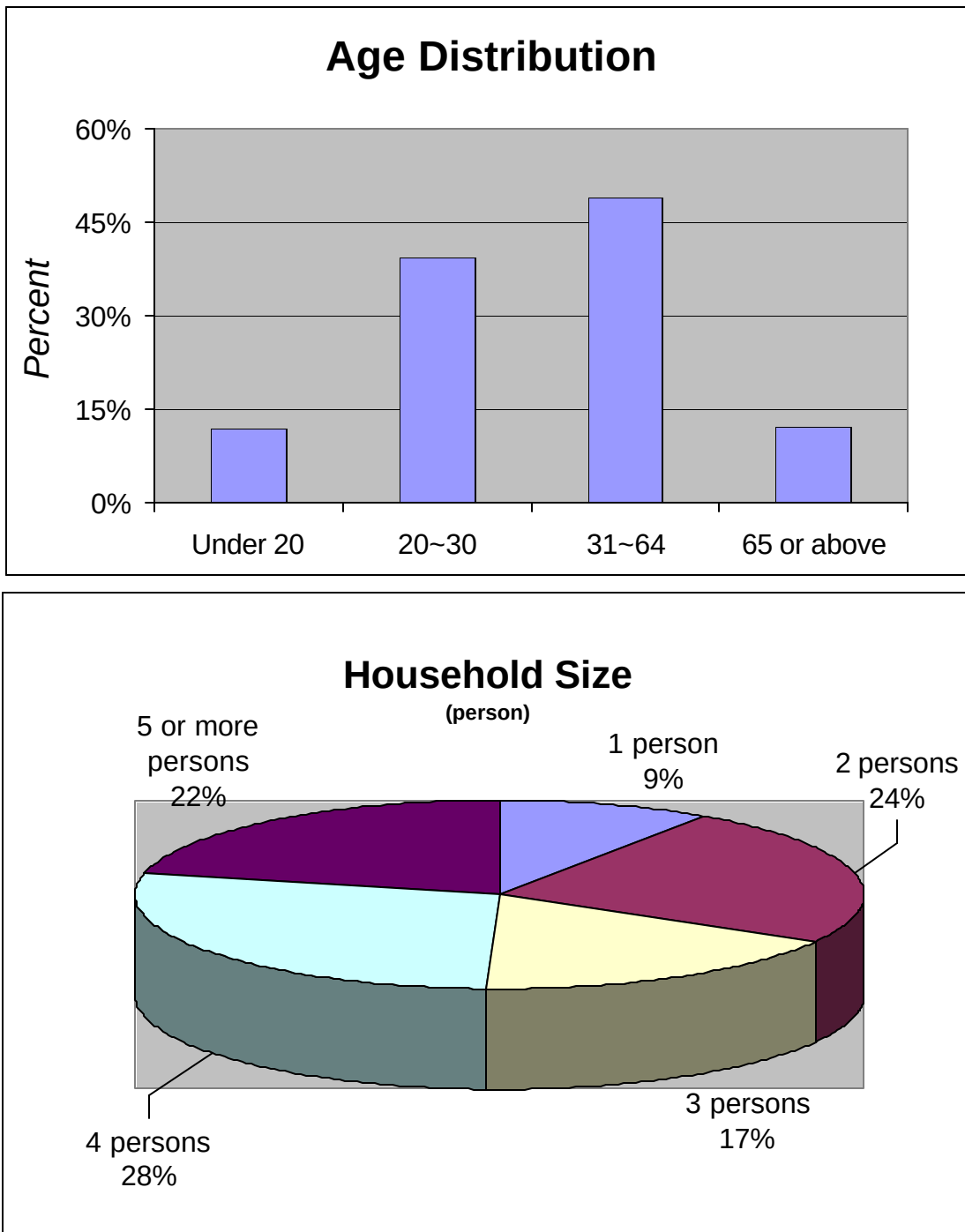


Figure 27. Demographic characteristics of LEP communities

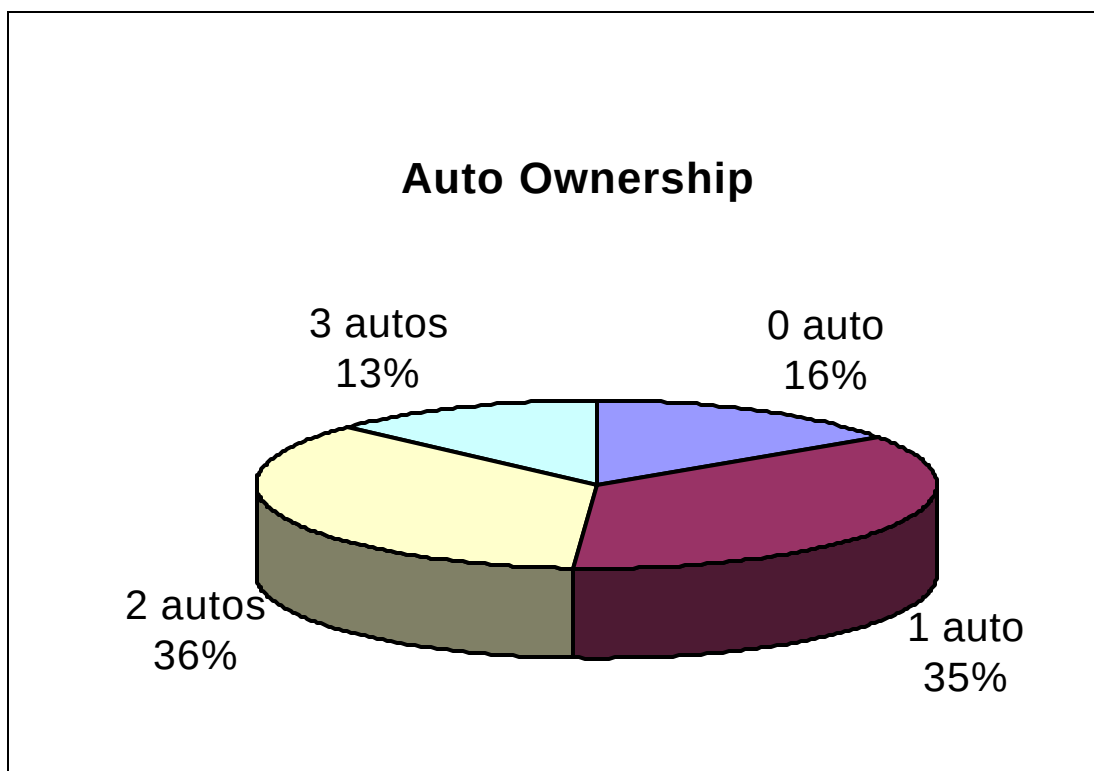
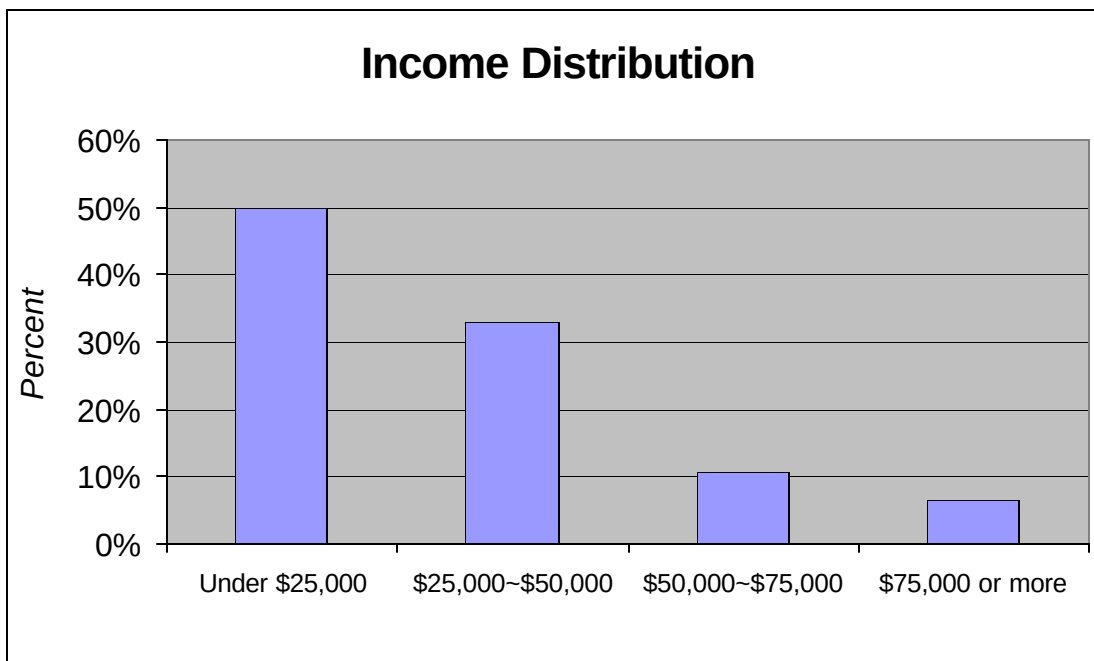


Figure 28. Economic status of surveyed LEP population

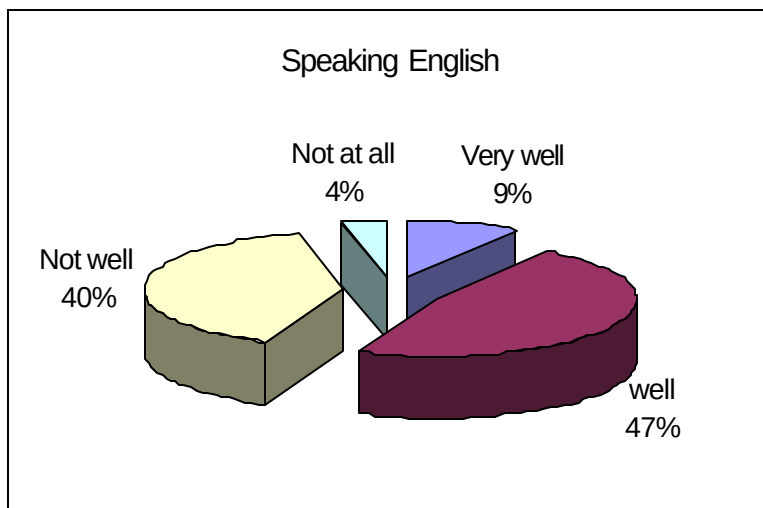
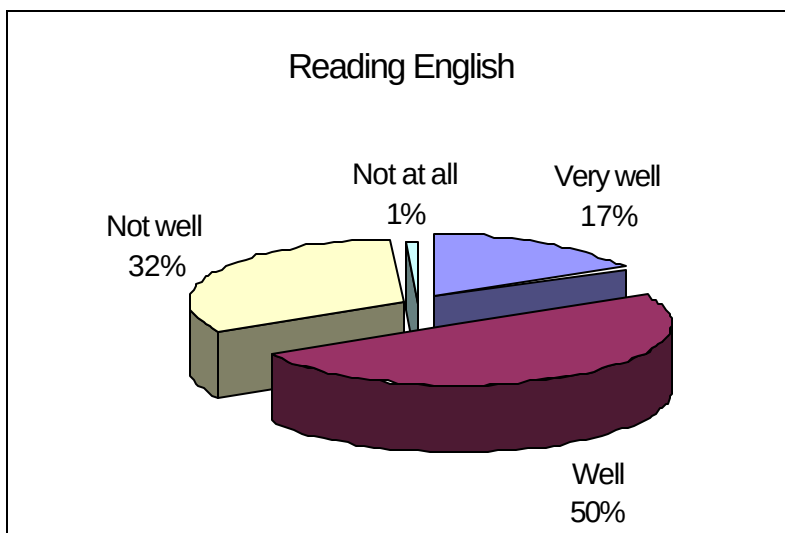
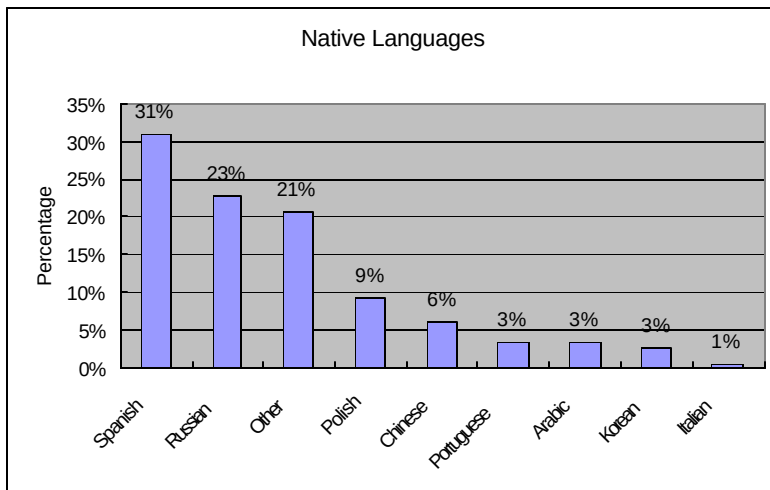


Figure 29. Language backgrounds of surveyed LEP population

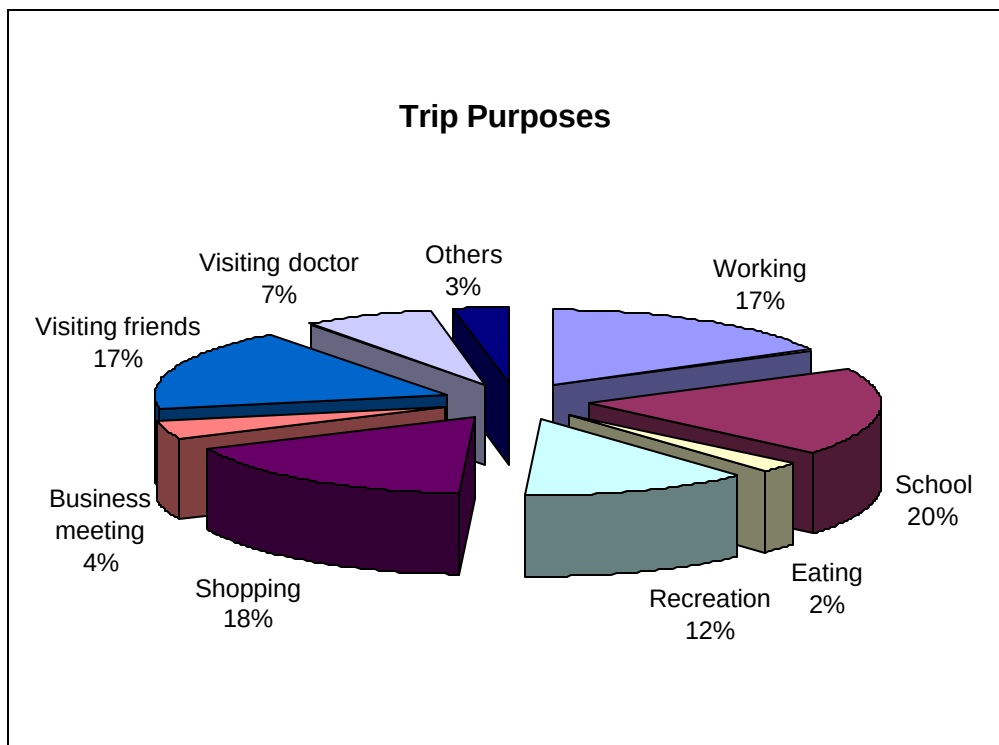
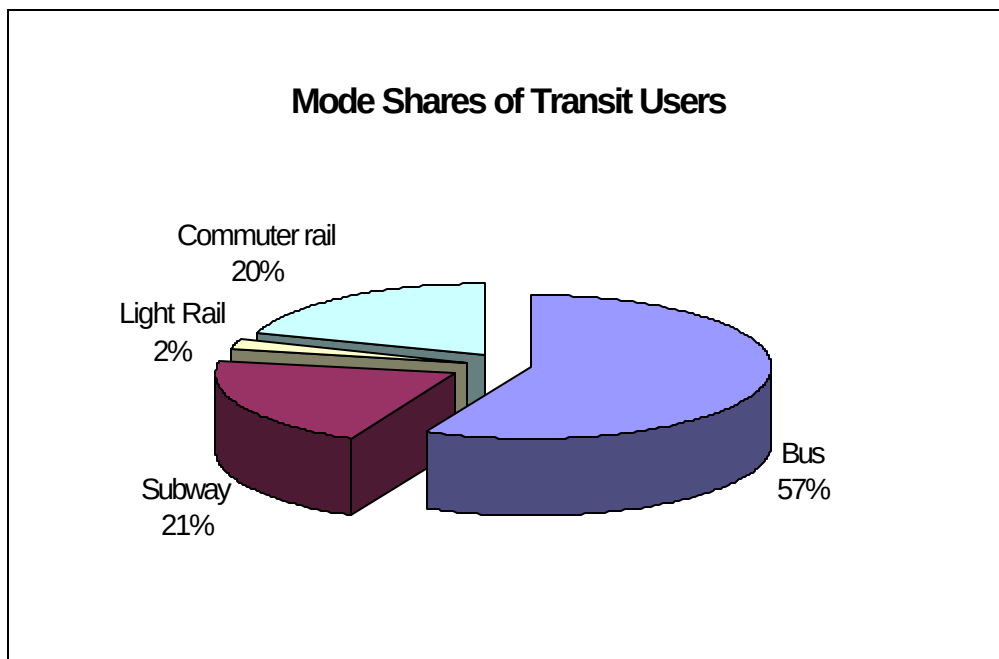


Figure 30. Travel choices of surveyed LEP population

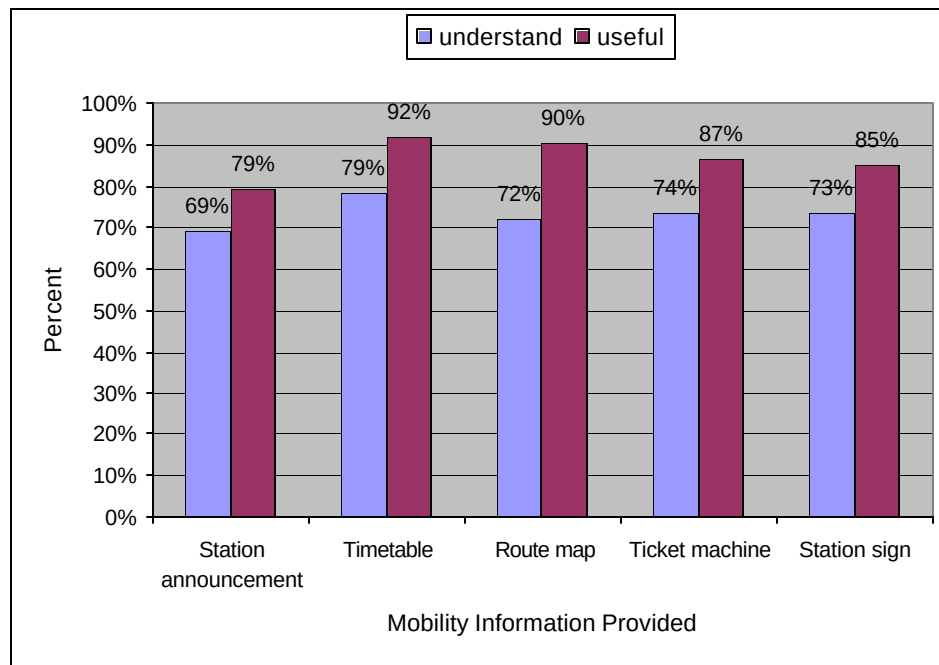


Figure 31. Understanding and usefulness of mobility information provided

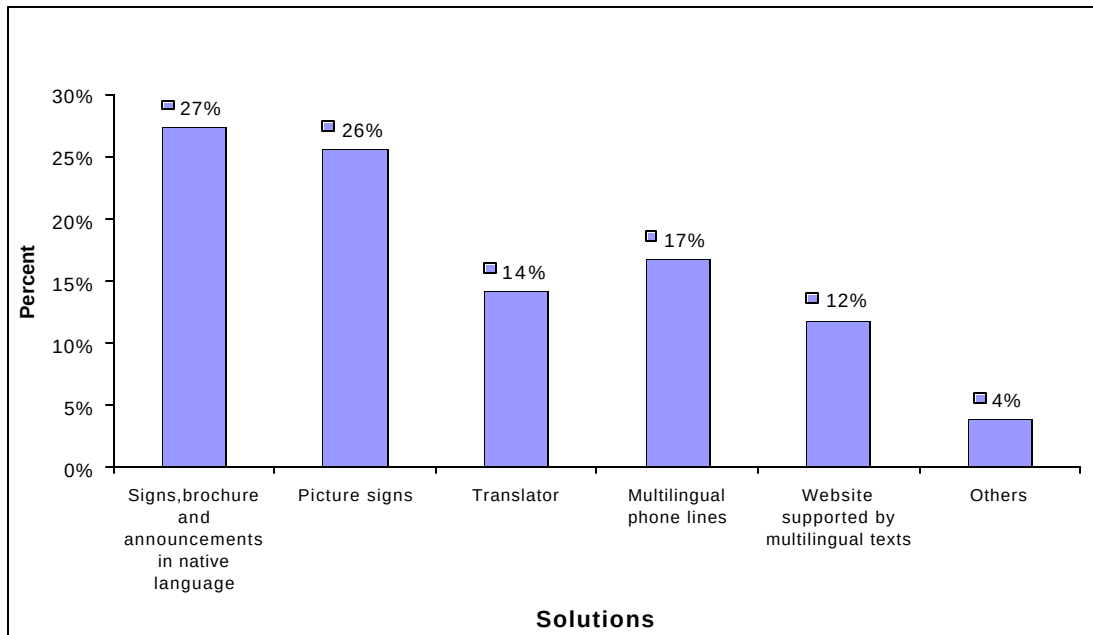


Figure 32. Acceptances of solutions

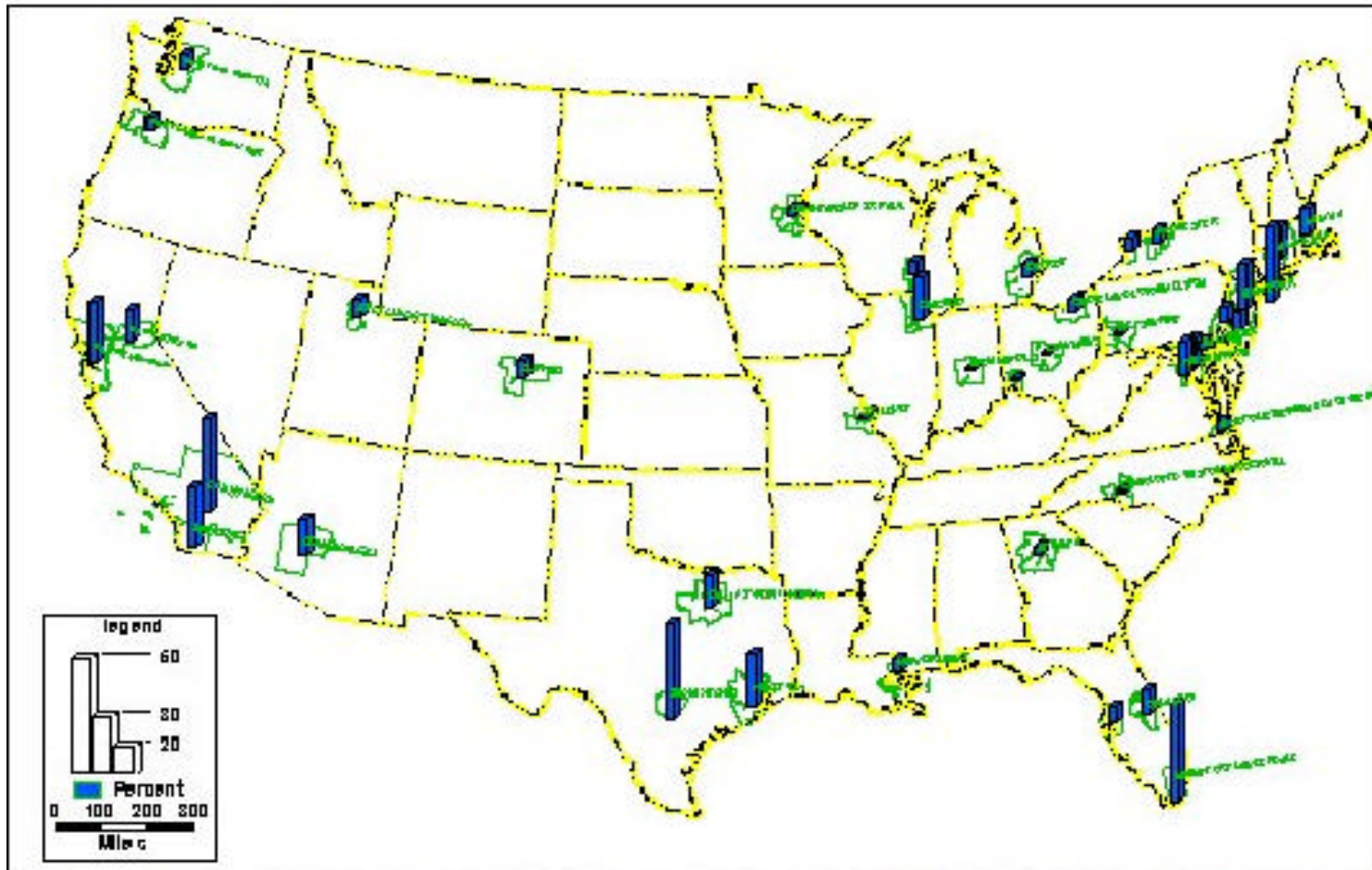


Figure 33. The distribution of the LEP population in the U.S.

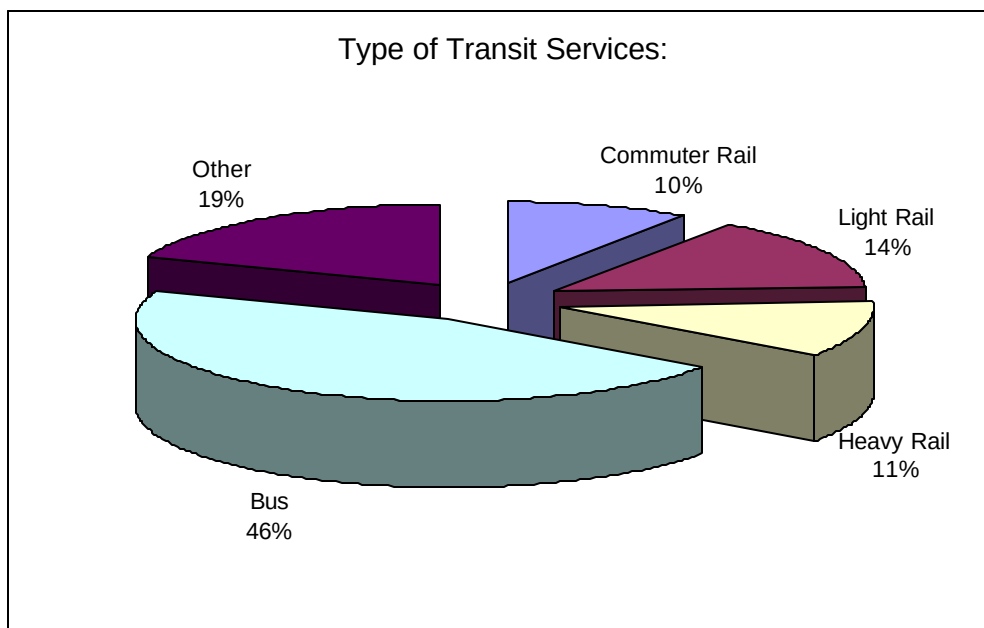


Figure 34. Type of transit services

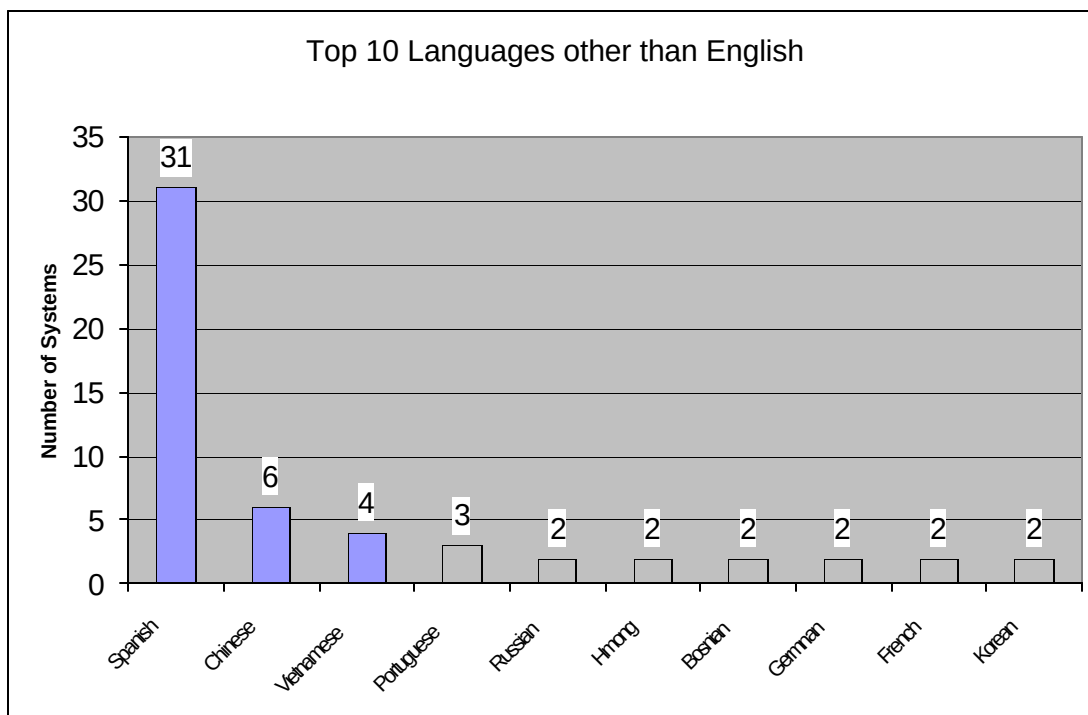


Figure 35. Top languages other than English

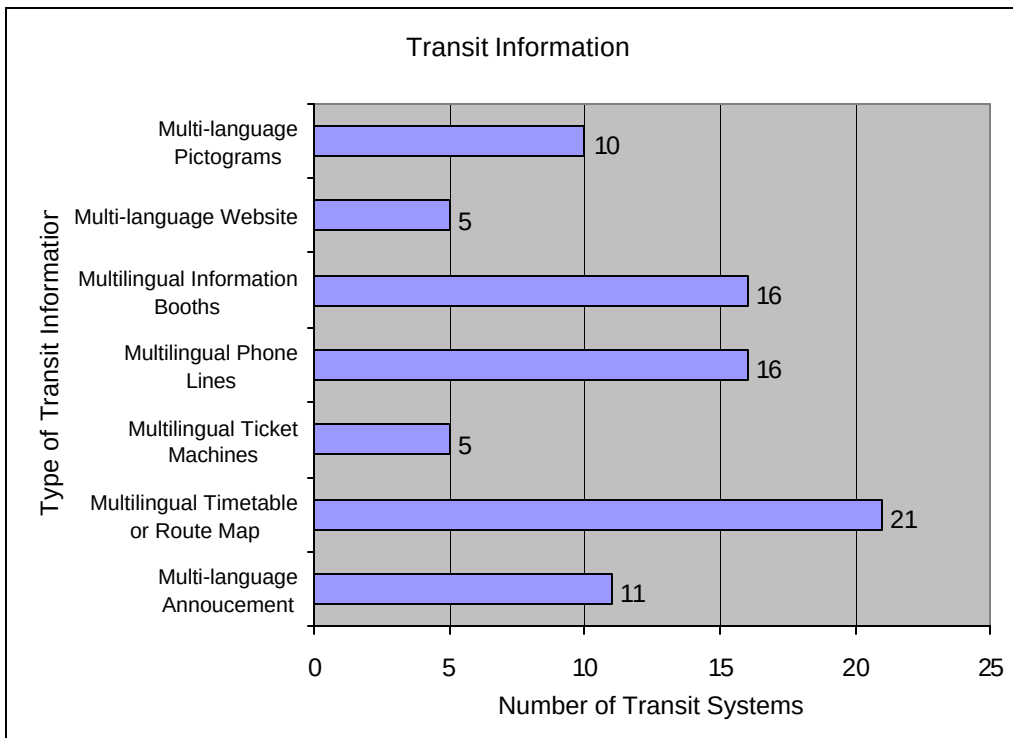


Figure 36. Transit information provided for LEP travelers

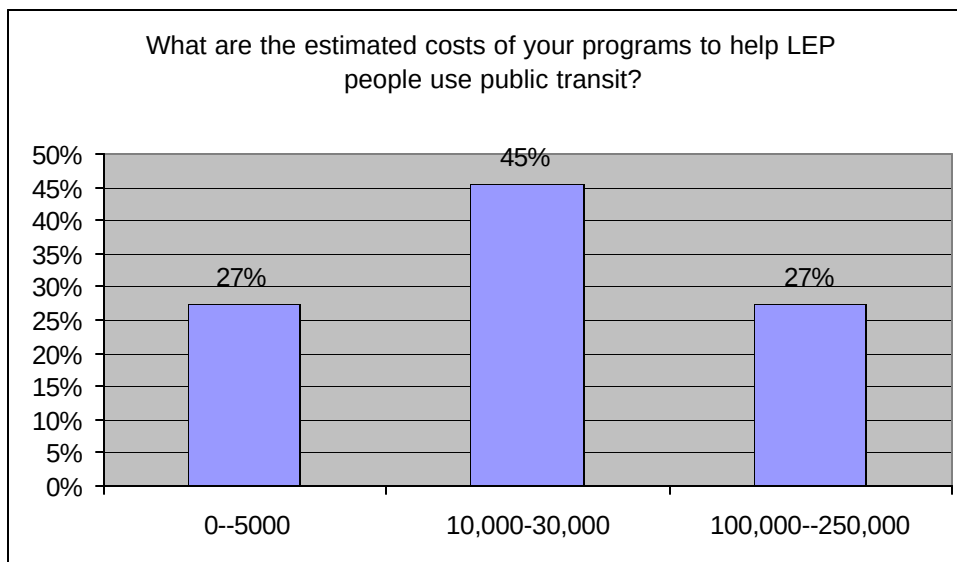


Figure 37. Estimated costs to help LEP people use public transit

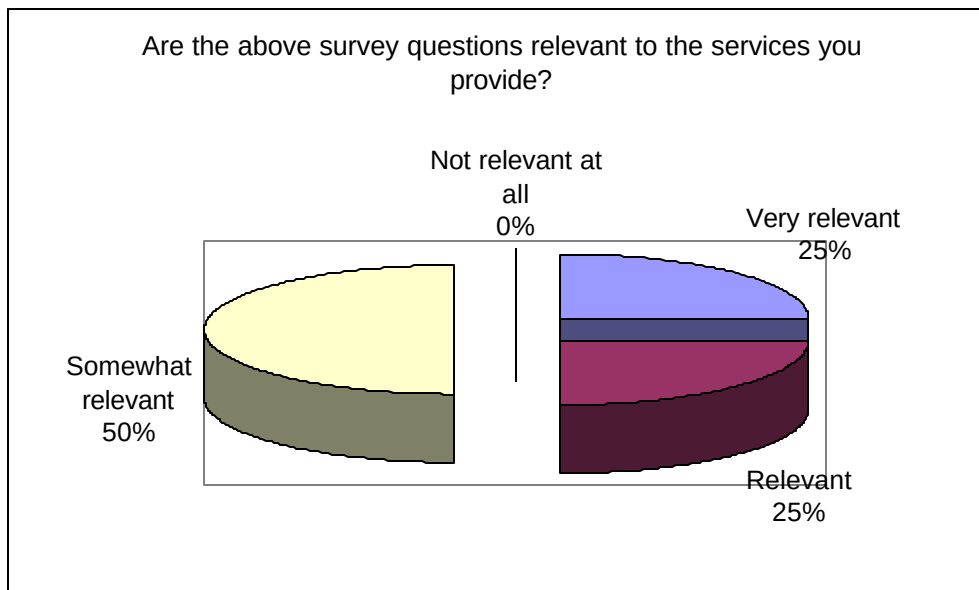


Figure 38. The relevance of this survey to the services of the transit agencies

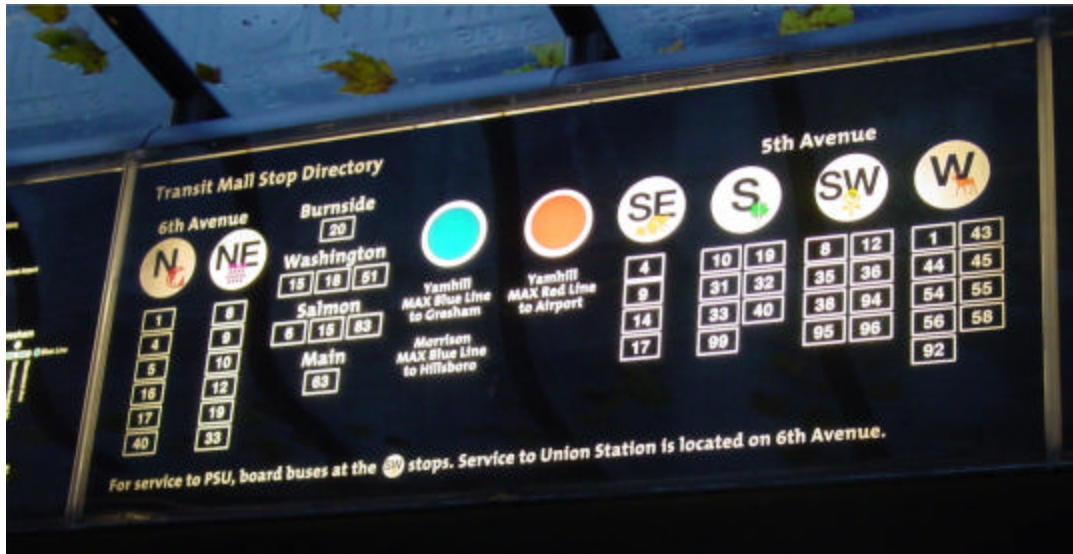


Figure 39. Transit directory of Tri-Met

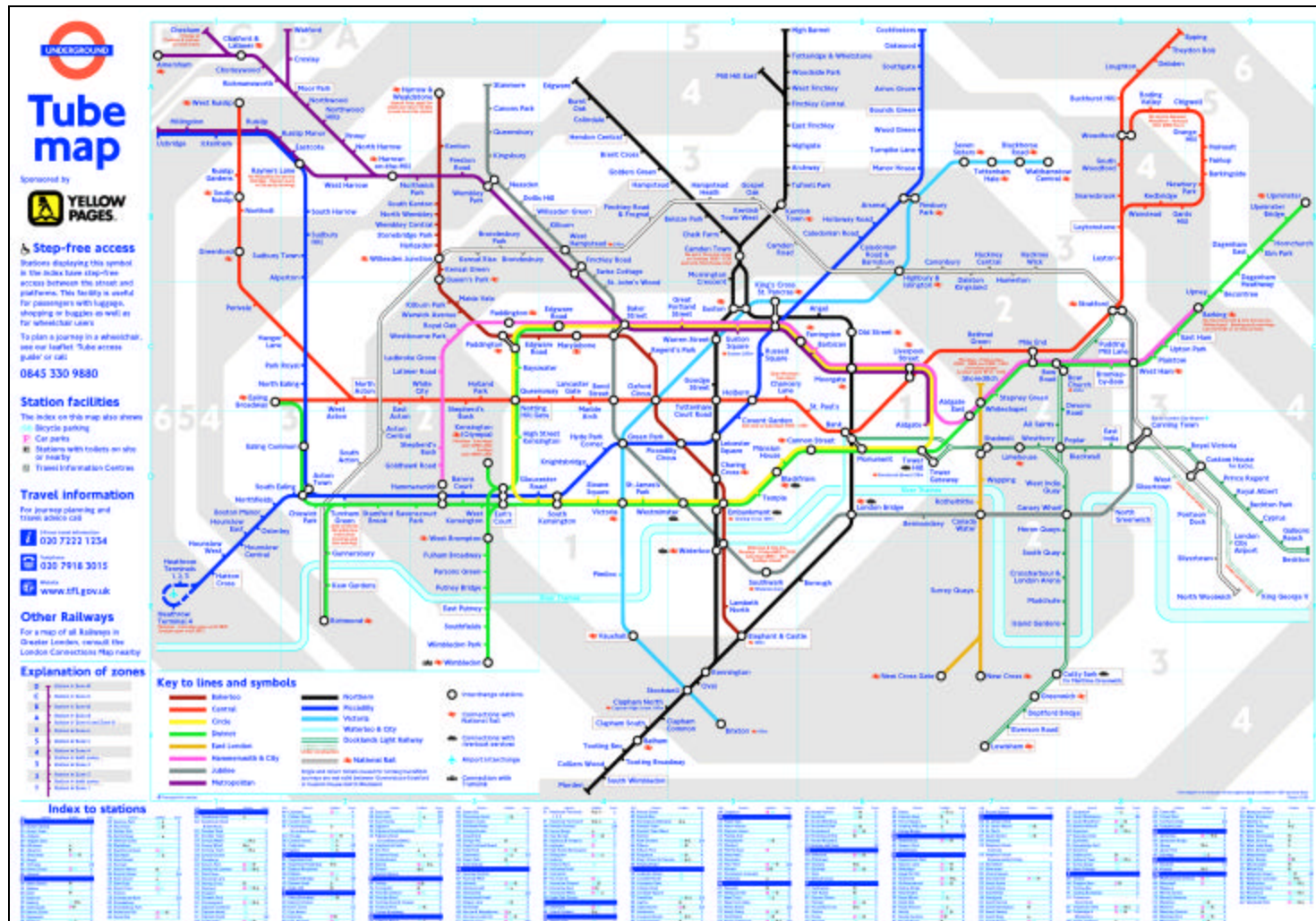


Figure 40. London subway map

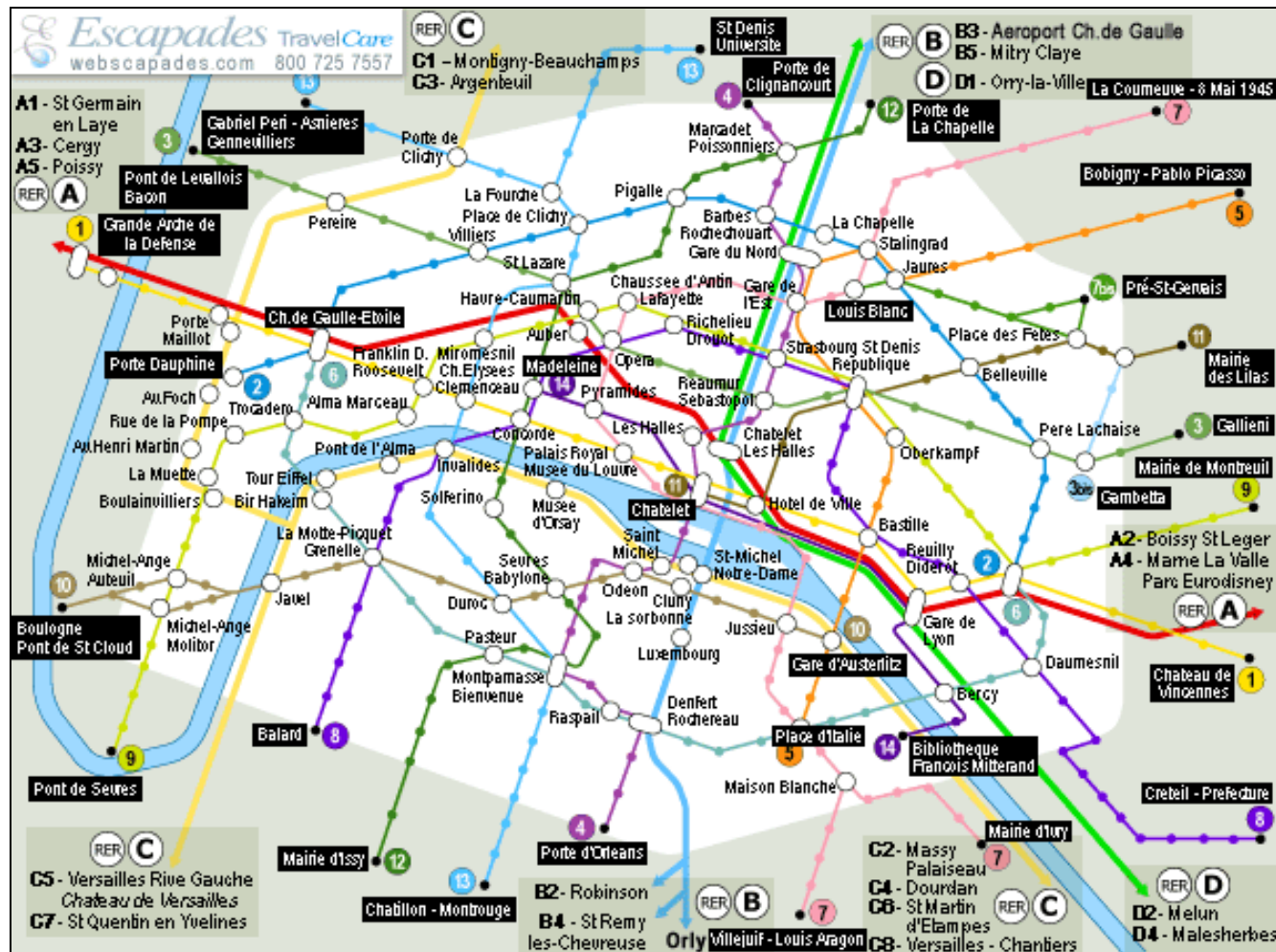


Figure 41. Paris subway map



Figure 42. Multilingual Guide for ticket vending machine in Germany

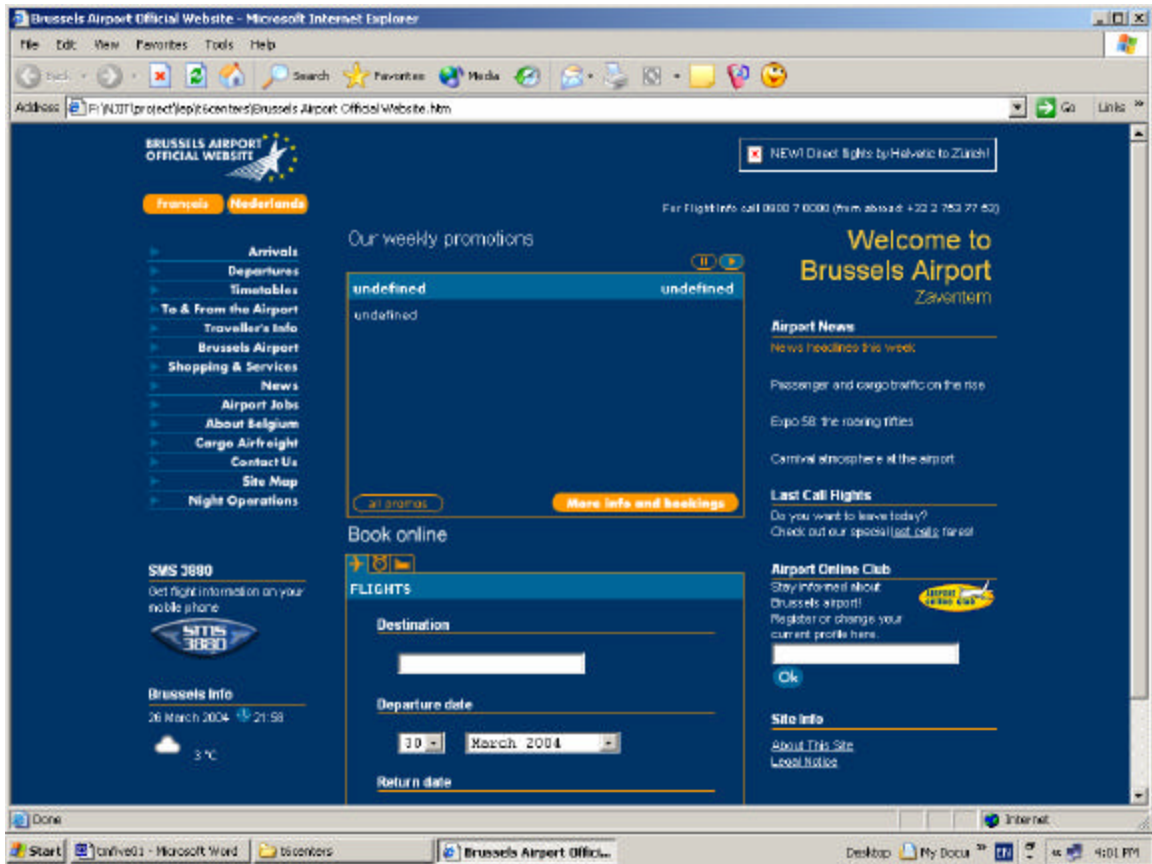


Figure 43. Language choices shown in Brussels airport homepage



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

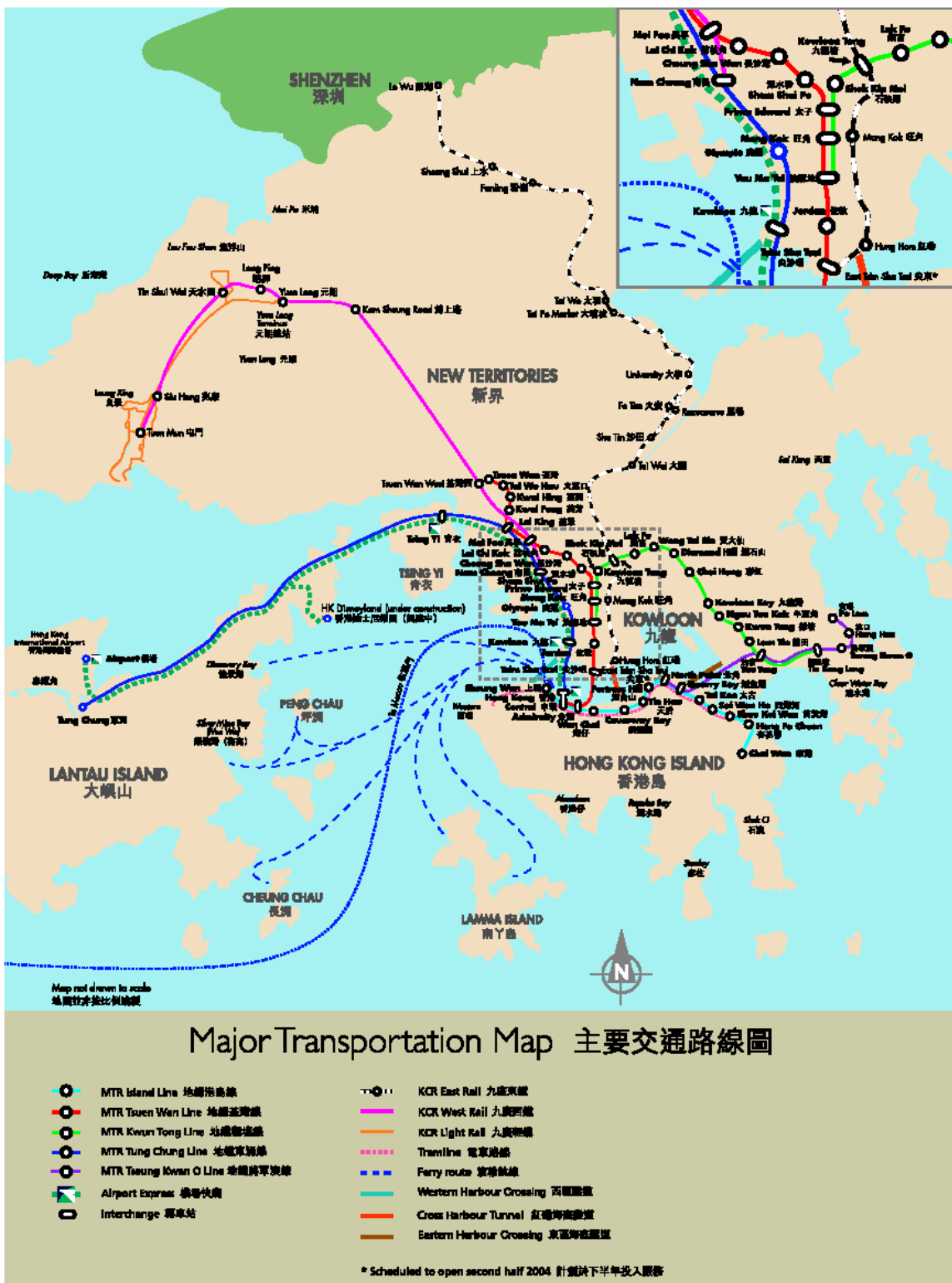


Figure 47. Major transportation network in Hong Kong

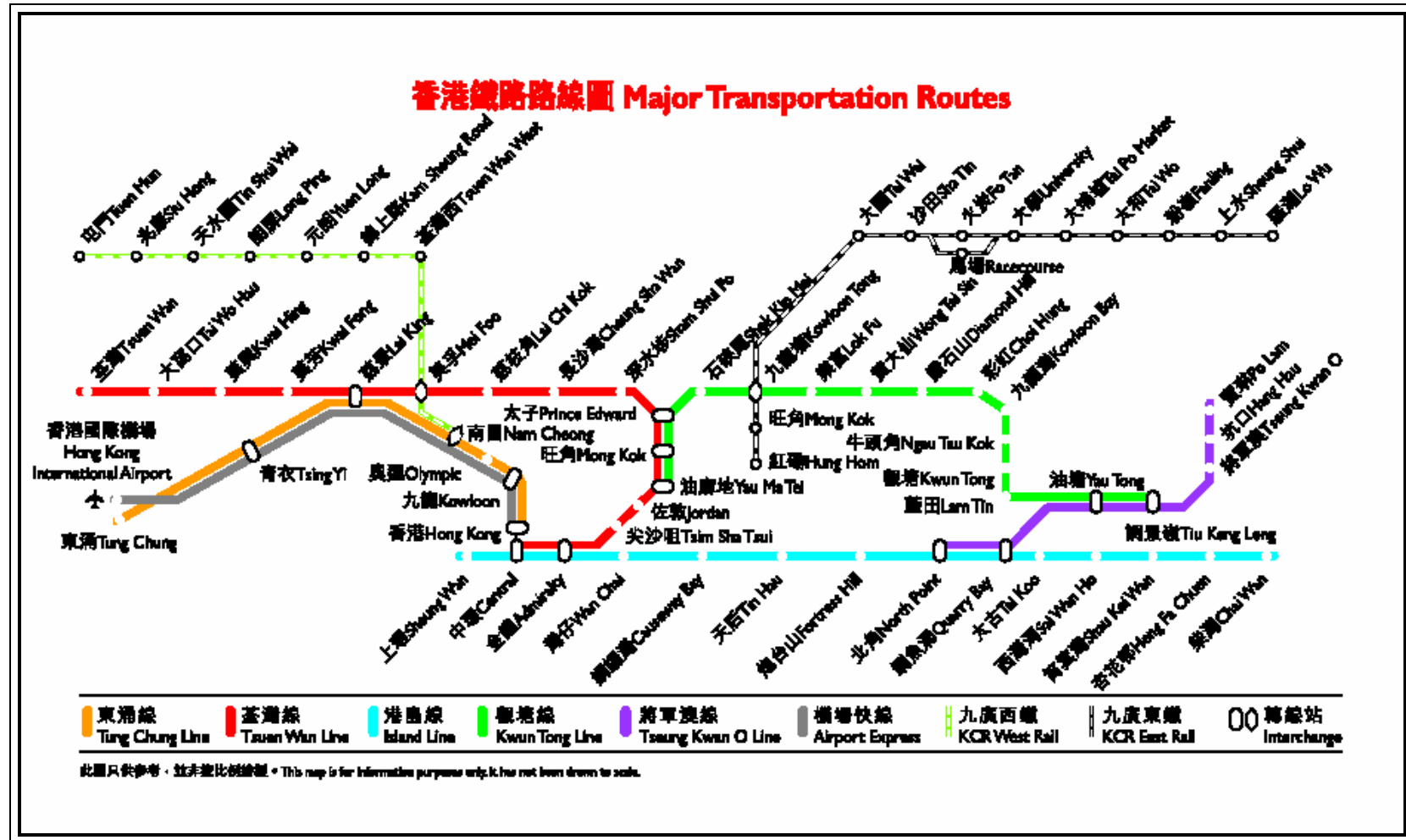


Figure 48. Hong Kong rail map



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.

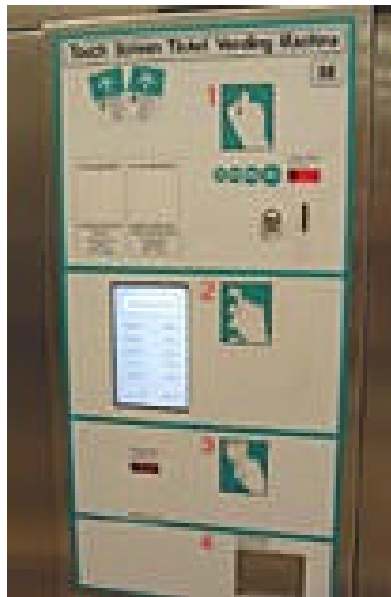


Figure 50. Instructions used in the Singapore Tourism Center website



Figure 51. Integrated long-distance rail network and airports in Germany

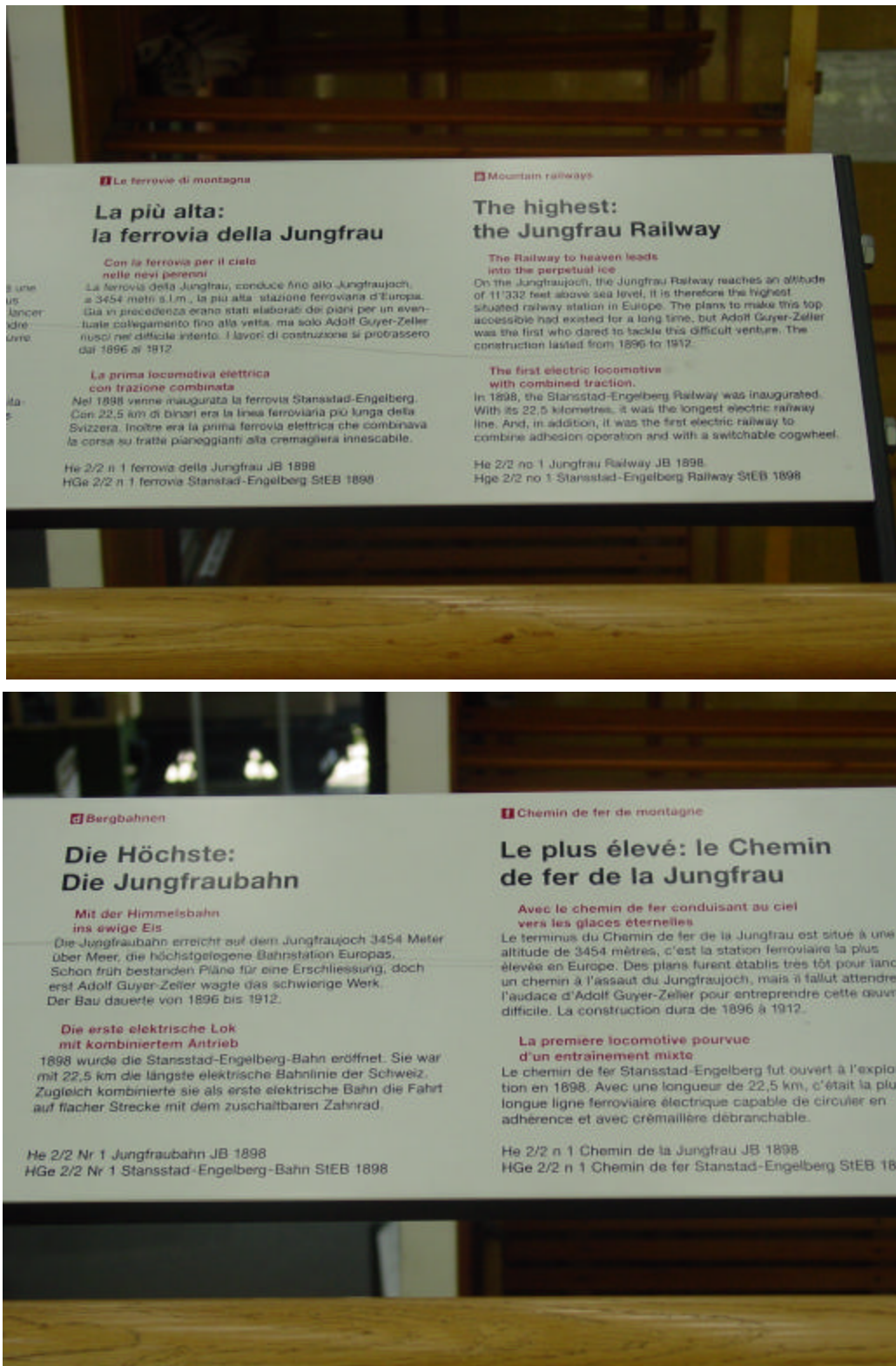


Figure 53. Transport museum narration in four different languages



Figure 54. Audio information by four different languages



Figure 55. A production sample of pictograms