U.S. Department
of Transportation
**Federal Transit
Administration**

Transportation Equity in Emergencies:
A Review of the Practices of State Departments of Transportation, Metropolitan Planning Organizations, and Transit Agencies in 20 Metropolitan Areas

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The Federal Transit Administration
Office of Civil Rights

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Demographic Profiles

A demographic profile of each metropolitan area featured in this report is located at
http://www.fta.dot.gov/civilrights/civil_rights_6343.html.

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I. Executive Summary

The Hurricane Katrina disaster of 2005 has prompted stakeholders in government and civil society to ensure that the civil rights of persons in the United States are protected during emergencies. While Katrina affected hundreds of thousands of people along the Gulf Coast, those populations that were least able to escape harm's way and most acutely affected by the disaster included racial and ethnic minorities, people with disabilities, and older adults whose civil rights America's landmark laws were established to uphold. As policy makers at all levels of government work to improve their emergency preparedness, disaster response, and disaster recovery activities in the wake of recent catastrophic events, government has a responsibility to ensure that persons will not be denied the benefits of, be excluded from participation in, or be subject to discrimination under these vital programs and activities on the grounds of race, color, national origin, disability, age or other classes covered under our nation's civil rights laws and policy directives.

The Federal Transit Administration's (FTA) Office of Civil Rights commissioned this report in order to promote nondiscrimination in the emergency preparedness activities administered by recipients of FTA financial assistance. This report reviews the extent to which transit providers, metropolitan planning organizations, and state departments of transportation in selected metropolitan regions in the United States and Puerto Rico are identifying and addressing the needs of populations that may be especially vulnerable in the event of a natural or man-made disaster. The report also provides resources that should assist officials in these and other metropolitan regions to better incorporate attention to populations with specific mobility needs into their ongoing emergency planning activities. This report does not constitute a civil rights compliance review of any FTA recipient nor was this report prepared in response to a complaint of discrimination against a recipient.

This study focuses on emergency preparedness activities being conducted in 20 metropolitan regions that have recently experienced natural or man-made disasters and also have populations with relatively high overall numbers and proportions of racial and ethnic minorities, persons with low incomes, persons with limited English proficiency, and persons living in households without vehicles. Our assumption was that officials in these regions would be especially attuned to the emergency evacuation needs of these populations and would be a source of effective and promising practices. However, with some exceptions, the agencies reviewed in this study have taken very limited steps towards involving populations with specific mobility needs in emergency preparedness planning, identifying the locations of and communicating emergency preparedness instructions to these populations, or coordinating with other agencies to meet the specific needs of these populations in an emergency. While many agencies have conducted important outreach, analysis, and coordinating activities to address the needs of their general population in emergencies, few have targeted these activities to assist their region's most vulnerable people.

Part 2 of this report discusses emergency preparedness for populations with specific needs and summarizes federal civil rights requirements, specific guidance on emergency

preparedness issued by FTA, and the findings of recent reports by other governmental and non-governmental agencies. Part 3 describes this report's scope and Part 4 explains the study's methodology. Part 5 summarizes the demography, transit coverage, and disaster risks of the selected regions. Part 6 discusses the activities of FTA recipients in these regions, as they relate to emergency preparedness, and Part 7 highlights promising practices gleaned from reviews of emergency preparedness plans and interviews with agency staff members. Part 8 consists of conclusions and recommendations, and the appendices present detailed demographic profiles of the 20 metropolitan regions selected for study which should help planners in these regions better target their activities towards specific-needs populations (and planners in other regions might consider preparing similar profiles of their area).

State departments of transportation, metropolitan planning organizations, and public transportation providers have the potential to play important supporting roles before, during, and after emergencies that require evacuation. This report and accompanying technical resources should assist these and other emergency management agencies in facilitating the safe and efficient evacuation of people—particularly those for whom community and public transportation is their primary means of mobility—and ensuring equitable and inclusive public action in times of need.

II.   Introduction and Background

Public emergency evacuations in response to natural and man-made emergencies occur frequently in the United States. According to the Nuclear Regulatory Commission, emergency evacuations of at least 100 people occur more than once a week, and major evacuations of more than 1,000 people occur more than three times per month. While most prior evacuations have proceeded safely and effectively, this nation's experience during the September 11, 2001, terrorist attacks and in the aftermath of Hurricane Katrina's August 29, 2005, landfall on the Gulf Coast have raised concern that government at all levels is not adequately prepared to respond to major disasters or catastrophic incidents and, in particular, is not well prepared to assist members of the public who, by virtue of their age, ability, income, national origin, or medical history, will have specific mobility, sheltering, communications, or other special needs in emergency events.[1]

The incomplete evacuation of New Orleans prior to Hurricane Katrina's landfall, combined with the widespread flooding after the hurricane, required a post-hurricane evacuation of 70,000 people in New Orleans for which federal, state, and city officials had not been prepared. Hundreds of people who remained behind died as floodwaters enveloped low lying neighborhoods in waters above the roof lines. Those who escaped to high ground suffered horrible conditions in the Superdome, the Convention Center, and other spontaneous gathering spots. Meanwhile, hundreds of city buses and school buses that could have been used for an evacuation sat flooded or without drivers.[2]

Studies that have been issued after Katrina indicate that low-income residents, most of whom were African American, as well as persons with disabilities, older adults persons with limited English proficiency, and other persons (such as tourists without access to private transportation) were most likely to have remained in vulnerable areas prior to Katrina making landfall and were most adversely affected by the hurricane and subsequent flooding. Many low-income residents either did not have access to private transportation or had exhausted their disposable income by the end of the month and had no money for gasoline. In a survey of people from New Orleans who were evacuated to the Astrodome and other large facilities in Houston, 23% of respondents stated they were physically unable to leave and an additional 23% of respondents indicated that they had

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[1] As noted in the Department of Homeland Security's Nationwide Plan Review, published in June 2006, no singular definition of the term "special needs" exists although the term is widely used within the emergency management world. The term "special needs" generally includes people with disabilities, minority groups, people who do not speak English, children, and the elderly as well as people who live in poverty, people without private transportation, people who rely on caregivers for assistance, and people who live in facilities such as nursing homes and supervised group homes as well as people living independently. This report focuses on a subset of this larger population of persons who may have specific needs in an emergency.

[2] Detailed accounts of the impacts of and government action before, during, and after Hurricane Katrina can be found in reports published by the White House, the U.S. Senate Committee on Homeland Security and Government Affairs, and the U.S. House of Representatives Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina.

to care for someone who was physically unable to leave.[3] Other residents who could have left chose not to heed evacuation orders. Older adults and people with disabilities were disproportionately affected by the disaster. According to the AARP, 73% of Hurricane Katrina-related deaths in the New Orleans area were among persons aged 60 or over, although they comprised only 15% of the population of New Orleans. People who could not speak or understand English may have also had difficulty accessing emergency evacuation instructions.[4]

The demography of New Orleans made many of its residents especially vulnerable to the effects of the hurricane. Prior to Katrina, nearly 50,000 poor New Orleanians lived in neighborhoods where the poverty rate exceeded 40% and the city ranked second among the nation's 50 largest cities in the degree to which poor families, mostly African American, were clustered in extremely poor neighborhoods. In addition, 15% of households in New Orleans did not own personal vehicles, compared with 10% of households in the United States. Under these circumstances, many people in New Orleans' high-poverty neighborhoods could not rely on friends or relatives for transportation, shelter, or financial assistance when disaster struck. Although New Orleans' geographic characteristics meant that its residents were especially vulnerable to the effects of hurricanes, many additional American metropolitan regions that may also be at risk for natural and man-made disasters also have racially segregated areas with concentrated poverty and high proportions of households without vehicles.[5]

Previous Studies

In the wake of Hurricanes Katrina and Rita, reports published by the Government Accountability Office (GAO), multiple federal agencies, and not-for-profit organizations have evaluated the state of emergency preparedness in areas around the country. The scope and methodology of recent reports vary, with some reports focusing on emergency preparedness for a specific segment of society, such as people with disabilities or older adults, and others examining measures for a wider population of persons with specific needs. Likewise, some reports have focused on a small sample of state or local government agencies while other reports have a national scope. Regardless of the scope or methodology, recent reports have consistently concluded that gaps remain in emergency preparedness for populations with specific mobility needs. Emergency management personnel may benefit from reviewing the following reports (web links to these reports can be found in the "Resources" section of this report).

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[3] *Survey of Hurricane Katrina Evacuees*, the Washington Post/Kaiser Family Foundation/Harvard University, September 2005.

[4] The U.S. DOT Catastrophic Hurricane Evacuation Plan Assessment describes minimal disaster response efforts to help evacuate the Spanish-speaking community of the Gulf Coast.

[5] *Katrina's Window: Confronting Concentrated Poverty Across America*, by Alan Berube and Bruce Katz, the Brookings Institution, October 2005.

Table II-1: Summary of Relevant Reports

Report Title	Sponsoring Organization	Publication Date	Geographic Area Studied	Activities Reviewed	Focus Populations
Catastrophic Hurricane Evacuation Plan Evaluation	U.S. DOT	June 2006	5 Gulf Coast states and selected counties in these states	Evacuation and sheltering	People with disabilities, children, elderly, people in institutions, people without vehicles
In the Eye of the Storm	National Council of La Raza	February 2006	Areas affected by Katrina and Rita	Communications, evacuation, sheltering, employment	Latinos
Nationwide Plan Review	U.S. DHS	June 2006	State, territorial, urban area emergency plans	Evacuation, sheltering, medical care, police, fire, rescue	People with disabilities
We Can Do Better	AARP	May 2006	Nationwide	Evacuation, sheltering, medical care, communication	Older adults
Strategies in Emergency Preparedness for Transportation-Dependent Populations	National Consortium on Human Services Transportation	September 2006	Nationwide	Coordination, identification of transportation-dependent groups evacuation	Transportation-dependent populations
The Impact of Hurricanes Katrina and Rita on People with Disabilities	National Council on Disability	August 2006	Gulf Coast areas affected by Katrina and Rita	Evacuation, sheltering, medical care, housing, education, employment	People with disabilities
Emergency Evacuation Report Card	American Highway Users Alliance	October 2006	37 largest urban areas	Evacuation using highways	Highway users
Transportation-Disadvantaged Populations: Actions Needed to Clarify Responsibilities and Increase Preparedness for Evacuations	U.S. GAO	December 2006	California, Florida, Louisiana, New York, Washington, DC	State and local transportation/evacuation.	Low-income persons, people with disabilities, older adults, LEP persons

"Catastrophic Hurricane Evacuation Plan Evaluation," prepared by the U.S. Department of Transportation (issued 2006). In response to requirements of Section 10204 of SAFETEA-LU and the FY 2006 DOT Appropriations Act, U.S. DOT developed a systematic, analytical process to evaluate the readiness and adequacy of state and local jurisdictions' evacuation plans. Evacuation plans for all five Gulf states—Alabama, Florida, Louisiana, Mississippi, and Texas—and a sample of 58 counties and parishes in each state were assessed on how well they addressed seven key elements of evacuation planning and implementation. The seven areas are decision-making and management; planning; public communication and preparedness; evacuation of people with special needs; evacuation operations; sheltering; and training and exercises. This report determined that plans in the Gulf Coast region for evacuating persons with various special needs generally are not well developed. The report recommended that state and local agencies should work with the special needs communities to develop systems whereby those requiring specialized transportation or sheltering services during evacuations can make their needs known to emergency managers and operators of transportation and sheltering services before evacuations.

"Nationwide Plan Review," prepared by the Department of Homeland Security (DHS) (issued June 2006). The purpose of this report was to assess the status of

catastrophic planning and draw initial conclusions for strengthening plans and planning processes at the federal, state, and local levels of government. The review defines special needs as encompassing an extremely broad segment of the population, including people with disabilities, minority groups, people who do not speak English, children and the elderly, those who live in poverty or are on public assistance, and those who rely on public transportation. Specific weaknesses in planning areas noted include: (1) there is a widespread inability to provide messages to the public in multiple languages, (2) overall, planners have not thoroughly and/or realistically determined how they will manage special needs populations that require evacuation, and (3) traditional sheltering procedures do not adequately accommodate special needs populations. The review outlines 15 initial conclusions for states and 24 for the federal government. Most conclusions focus on the need to make specific improvements in plans and to modernize planning efforts.

"Transportation-Disadvantaged Populations: Actions Needed to Clarify Responsibilities and Increase Preparedness for Evacuations," prepared by the United States Government Accountability Office (issued December 2006). This report reviews the practices of emergency management, public safety, and transit and transportation agency officials in five major cities—Los Angeles, CA; Miami, FL; New Orleans, LA; Buffalo, NY; and Washington, DC—as well as state emergency management and transportation officials in Florida, Louisiana and New York, to determine the extent to which officials in these states and localities were addressing the needs of transportation-disadvantaged populations, which included people with disabilities, older adults, and people with low-income and limited English proficiency. The GAO report determined that state and local governments are generally not well prepared to evacuate transportation-disadvantaged populations, but some have begun to address challenges and barriers. The report also concluded that the federal government could do more to assist state and local governments to address the needs of transportation-disadvantaged populations.

"We Can Do Better – Lessons Learned for Protecting Older Persons in Disasters," prepared by AARP (issued May 2006). This report highlights lessons learned from a conference of national, state, and local leaders on the needs of older adults in disasters as well as a literature review and data from a survey of persons aged 50 or older conducted by Harris Interactive on behalf of AARP in November 2005. The report notes that government emergency planning documents or processes at any level—federal, state, or local—rarely mention the needs of vulnerable older persons. The report recommends establishment of clear lines of authority among federal, local, and state governments as well as with private sector entities, and that the federal Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities also address the needs of vulnerable older persons who do not have disabilities.

"The Impact of Hurricanes Katrina and Rita on People with Disabilities: A Look Back and Remaining Challenges," prepared by the National Council on Disability (NCD) (issued August 2006). This report focuses on the effects of hurricanes on people with all types of disabilities and highlights the need for plans to be more inclusive of

disabled persons. It highlights some of the challenges faced by the disabled community in evacuation, shelter, and recovery operations. These include barriers to accessible emergency information and accessible transportation. The emergency preparedness and response to hurricanes Katrina and Rita are presented. The NCD found that almost immediately after Katrina, there were roughly 155,000 people with disabilities over the age of 5—or about 25% of the cities' populations—living in the three cities hardest hit by the hurricane: Biloxi, MS; Mobile, AL; and New Orleans, LA. The report notes NCD's findings on communications actions during Katrina, including those by the Federal Communications Commission and FEMA and the failure to use the Emergency Alert System. The report notes that local evacuation plans failed to adequately provide for the transportation needs of people with disabilities for two reasons. First, many local planners reported they were unaware that people with disabilities have special evacuation needs. Second, when local planners were aware of the need to plan for people with disabilities, the plans failed because they did not involve people with disabilities in the development of the plans.

"In the Eye of the Storm," prepared by the National Council of La Raza (issued February 2006). This report examines how the needs of Latinos and other communities were addressed by the federal government and the American Red Cross. The report focuses on communications, evacuation, sheltering and employment, and includes recommendations to improve public and private response in future disasters. This report addressed the importance of providing emergency information and instructions in multiple languages.

"Strategies in Emergency Preparedness for Transportation-Dependent Populations," prepared by the National Consortium on Human Services Transportation (issued September 2006). According to this report, identifying and tracking the locations and needs of transportation-dependent people during emergencies are considerations that require a preemptive communitywide effort. Before an emergency occurs, this would mean establishing information that confirms the locations of, and particularly concentrations of, individuals who require transportation during an evacuation. This report discusses the need for collaboration, especially among transportation interests, with organizations and agencies involved in emergency response, and a variety of community-based groups, in planning for the transportation needs of residents requiring mobility assistance during an emergency.

"Emergency Evacuation Report Card 2006," prepared by the American Highway Users Alliance (issued 2006). This report evaluates and rates the evacuation capacity of America's 37 largest urban areas and concludes that 25 urban areas could face greater challenges than New Orleans experienced after Hurricane Katrina. The report notes that each urban area examined needs to be prepared to evacuate its citizens in the event of catastrophe, and that urban areas are preparing disaster readiness plans that include detailed plans for evacuations. The report recommends the establishment of a National Standards and Reporting System in a cooperative effort of governments at every level, expansion of roadway capacity, expansion of automobile access, and completion of urban area evacuation operations planning.

Existing and Pending Federal Guidance on Emergency Preparedness for Populations with Specific Needs

The Federal Transit Administration (FTA) and Federal Highway Administration (FHWA), together with their partners in the transportation industry, have issued or are in the process of issuing guidance on emergency preparedness, disaster response, and disaster recovery based on lessons learned from recent disasters and on information learned from the above reports.

FTA's Disaster Response and Recovery Resource for Transit Agencies was developed in August of 2006 (see http://www.fta.dot.gov). This resource provides best practices and links to specific resources for transit agencies concerning critical disaster elements such as emergency preparedness, disaster response, and recovery. One section of this resource includes guidance on identifying and addressing the specific needs of predominately minority and low-income communities, persons with limited English proficiency, persons with disabilities, and older adults in the delivery of emergency services. The resource recommends several tips for ensuring that transit agencies and MPOs adequately address the needs of these populations in the emergency preparedness planning process. These include:

- Encouraging and securing the participation of special needs populations in the planning process when developing emergency preparedness plans;
- Identifying areas with high concentrations of minority and low-income persons, persons with limited English proficiency, persons with disabilities, and older adults who may require additional assistance in an emergency, including evacuation;
- Partnering with faith- or cultural-based, social service, and other nonprofit organizations that are active in local communities to link residents with emergency preparedness information and services;
- Ensuring adequate resources, including the appropriate numbers and types of vehicles for evacuating special needs populations during an emergency; and
- Providing information regarding emergency evacuation and transportation with local partnering agencies and organizations.

Strategies in Emergency Preparedness for Transportation-Dependent Populations, including the **Transportation and Emergency Preparedness Checklist**, was prepared in September of 2006 by the National Consortium on Human Services Transportation (see http://www.emergencyprep.dot.gov) with input from the U.S. Department of Transportation. This report highlights the essential strategies for providing safe and efficient transportation for persons requiring mobility assistance in the event of an emergency. These include:

- Planning and coordinating the transportation needs of vulnerable populations in advance;
- Developing strong community partnerships;
- Identifying and locating transportation-dependent populations;

- Developing effective and innovative methods to communicate with those in need of mobility prior to and during emergency situations; and
- Ensuring appropriate access to necessary equipment and vehicles for evacuation.

In addition, FHWA and FTA are collaborating in producing a series of primers on evacuation for use by state and local agencies. This material is expected to be completed in 2007 and will provide specific guidance for conducting evacuations and include information addressing the needs of transportation-disadvantaged populations.

Civil Rights Directives

In addition to existing guidance on emergency preparedness, civil rights statutes and policy directives may apply to the emergency preparedness programs, policies, and activities administered by recipients of federal financial assistance. These directives include:

Title VI of the Civil Rights Act of 1964 and the U.S. DOT Title VI Regulations under 49 CFR 21. Title VI provides that no person in the United States shall, on the grounds of race, color, or national origin, be denied the benefits of, excluded from participation in, or subject to discrimination under programs or activities receiving federal financial assistance. The U.S. DOT Title VI regulations effectuate the provisions of Title VI for recipients of DOT funding. They prohibit recipients, in the course of determining the types of services, financial aid, benefits, and facilities that they will provide, from using criteria or methods of administration that have the effect of subjecting persons to discrimination on the basis of their race, color, or national origin, and require recipients to take affirmative action to ensure that no person is excluded from participation in or denied the benefits of the recipient's programs or activities on the grounds of race, color, or national origin.

U.S. DOT Order on Environmental Justice (issued April 1997). This order states that it is the policy of DOT to promote the principles of environmental justice (as embodied in Executive Order 12898, "Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations") through the incorporation of those principles in all DOT programs, policies, and activities. The principles of environmental justice are to avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations, to ensure the full and fair participation by all potentially affected communities in the transportation decision-making process, and to prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

U.S. DOT Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons (issued December 2005). This policy guidance clarifies the responsibilities of recipients of federal financial assistance from the U.S. Department of Transportation and aids them in fulfilling their responsibilities to limited English proficient persons, pursuant to Title VI of the Civil Rights Act of 1964 and

Executive Order 13166, "Improving Access to Services for Persons With Limited English Proficiency."

The December 12, 2005, Memorandum from Assistant Attorney General for Civil Rights Wan J. Kim to the Directors of Civil Rights at all Federal Agencies. This memorandum from the Department of Justice requested that federal agencies provide assistance in responding to the urgent needs of limited English proficient and other vulnerable communities affected by hurricanes Katrina and Rita. The memorandum urged each agency to consider civil rights issues in all aspects of its hurricane response, both in the short term and the long term.

Section 504 of the Rehabilitation Act of 1973. This section of the Act provides that no otherwise qualified individual with a disability in the United States shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance or under any program or activity.

Americans with Disabilities Act of 1990 (ADA) and the DOT ADA Regulations at 49 CFR Parts 37 and 38. The ADA prohibits discrimination and ensures accessible transportation for persons with disabilities. The DOT ADA regulations contain provisions on acquisition of accessible vehicles by private and public entities, requirements for complementary paratransit service by public entities operating a fixed-route system, and other provisions of nondiscriminatory accessible transportation service.

Executive Order 13347, Individuals with Disabilities in Emergency Preparedness (issued July 2004). This order states that it is the policy of the federal government to ensure the safety and security of individuals with disabilities in situations involving disasters, including earthquakes, tornadoes, fires, floods, hurricanes, and acts of terrorism. According to the order, each federal agency is required to consider, in its emergency preparedness planning, the unique needs of agency employees with disabilities and individuals with disabilities whom the agency serves. The order also encourages the consideration of the unique needs of employees and individuals with disabilities served by state, local, and tribal governments and private organizations in emergency preparedness planning.

Age Discrimination Act of 1975 prohibits discrimination on the basis of age in programs and activities receiving federal financial assistance.

III.   Study Scope

This study was designed to complement existing or pending assessments of the state of emergency preparedness activities in jurisdictions across the United States. Given limited resources, the study focused on activities designed to address the needs of some but not all populations that could be defined as having "special needs" in an emergency. Likewise, the study surveyed activities in a limited number of metropolitan regions across the United States and focused on the activities of some but not all of the agencies that have a role to play in emergencies.

Populations

This study focused on emergency preparedness activities designed to address the needs of the following populations:

Racial and ethnic minorities. These populations comprised a disproportionate share of persons who remained in New Orleans during the hurricane Katrina disaster and are more likely to have low incomes or live in households without vehicles.[6] Persons who are members of racial and ethnic minority groups may not necessarily need additional transportation assistance in an emergency because the inability to provide personal transportation or access conventional public transportation is usually a function of income or age or disability. However, it is essential that government agencies secure the trust and cooperation of the affected public in an emergency and, in this respect, a recent study indicates that racial and ethnic minorities may be more likely to discount information received from government agencies in emergency situations.[7] This report sought to determine the extent to which the focus agencies were taking specific steps to communicate and build relationships with the racial and ethnic minority populations served by the agencies.

Persons with low-incomes. This population comprises a disproportionate share of persons who do not have ready access to personal transportation or could not afford to

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[6] For the purposes of this study, "minority" means a person who is: (1) Black (a person having origins in any of the black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).

[7] The New York Academy of Medicine's *Redefining Readiness* included a nationwide survey in which participants were given scenarios of a smallpox outbreak and a dirty bomb explosion in their communities and asked how they would respond. In response to the smallpox outbreak scenario, 41% of survey respondents said they were worried that government officials would tell them to do something that is not in their best interests and/or that government officials would decide to do something that the government knew would harm them in some way. These concerns were more prevalent among people who are Hispanic (61%), African American (57%), foreign born (55%), have low incomes (51%), or did not attend college (51%) and these concerns would make 26% of the population afraid to go to a vaccination site in the scenario.

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use personal transportation in an emergency. Low-income populations may also have difficulty obtaining shelter, medical assistance, and other services during and after an emergency.[8]

Persons with limited English proficiency. People who have a limited ability to read, write, speak, or understand English represent a growing population in the United States.[9] According to the 2000 census, the number of people with limited English proficiency increased by 65% from 1990 to 2000. Among limited English speakers, Spanish is the language most frequently spoken, followed by Chinese (Cantonese or Mandarin), Vietnamese, and Korean. Public transit is a key means of achieving mobility for many LEP persons. According to the 2000 census, more than 11% of LEP persons aged 16 years and over reported use of public transit as their primary means of transportation to work, compared with about 4% of English speakers. In emergency situations, LEP persons may need to receive information and instructions in languages other than English and may need additional transportation assistance in an emergency that requires an evacuation.

Persons living in households without vehicles. This population includes households that cannot drive or cannot afford to own a vehicle as well as persons who have chosen not to own vehicles.[10] Households with incomes under $25,000 comprise a disproportionate share of zero-vehicle households, as do recent immigrants and racial and ethnic minorities. People with disabilities and older adults may also be disproportionately represented in this category. The 2000 census reported a total of 10.9 million zero-vehicle households and such households are concentrated in the northeast United States. While some zero-vehicle households may be able to rely on friends, neighbors, or extended families to evacuate in emergencies, this population is likely to depend on government assistance to evacuate.

Geographic Areas

This study focused on metropolitan areas (as defined by the U.S. Census) because many natural and man-made disasters affect entire regions. The study examined data from the 2000 census to identify metropolitan areas with both high total numbers and high proportions of the study's focus populations. The regions selected for study ranked among the top 20 metropolitan statistical areas in at least five of the following categories:

1. The total number of minority persons residing in the region

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[8] Low income is defined in the U.S. DOT Order on Environmental Justice, and for the purposes of this study, as a person whose median household income is at or below the Department of Health and Human Services poverty guidelines.

[9] The U.S. DOT Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons states that individuals who do not speak English as their native language and who have a limited ability to read, write, speak, or understand English can be limited English proficient. This report categorized as LEP persons who reported to the 2000 census that English was not their native language and that they spoke English less than "very well."

[10] The data on zero-vehicle households featured in this report are derived from the "vehicles available" question on the 2000 census long form.

2. The proportion of total persons in the region who are members of minority groups
3. The total number of low-income persons residing in the region
4. The proportion of total persons in the region who are low income
5. The total number of persons in the region with limited English proficiency
6. The proportion of total persons in the region with limited English proficiency
7. The total number of households in the region without vehicles
8. The proportion of total households in the region without vehicles

The region selection also reflected an intention to study areas in geographically diverse parts of the country, with large, mid-sized, and small populations and that are particularly vulnerable to natural disasters, such as hurricanes, earthquakes, floods, forest fires, and winter storms, and man-made disasters, such as industrial accidents and terrorist attacks.

This screening resulted in the selection of the following metropolitan regions (the regions are presented in this section and in the remainder of the report and Appendix, geographically from the west to east):

1. Honolulu, HI Core-Based Statistical Area (CBSA)
2. San Jose-San Francisco-Oakland, CA Core Statistical Area (CSA)
3. Los Angeles-Long Beach-Riverside, CA CSA
4. Seattle-Bellevue-Tacoma, WA CSA
5. Flagstaff, AZ CBSA
6. Brownsville-Harlingen, TX CBSA
7. Houston-Baytown-Huntsville, TX CSA
8. Lafayette, LA CBSA
9. Pine Bluff, AR CBSA
10. St. Louis, MO-IL CBSA
11. Chicago-Naperville-Joliet, IL-IN-WI CSA
12. Atlanta-Sandy Springs-Marietta, GA CBSA
13. Albany, GA CBSA
14. Pittsburgh, PA CBSA
15. Miami-Ft. Lauderdale-Miami Beach, FL CBSA
16. Washington-Baltimore-Northern Virginia, DC-MD-VA-WV CSA
17. Philadelphia-Camden-Vineland, PA, NJ, DE-MD CSA
18. New York-Newark-Bridgeport, NY-NJ-CT-PA CSA
19. Boston-Worchester-Manchester, MA-NH CSA
20. San Juan-Caguas-Fajardo, PR CSA

Of the 20 metropolitan areas selected for study six regions have populations of less than 1 million people, 12 have populations of between 1 million and 10 million, and two regions (Los Angeles and New York) have populations of over 10 million. The median population of the metropolitan areas is 3,604,165. The region's total geographic area ranges from 604 square miles in the case of Honolulu CBSA to over 18,000 miles for the Flagstaff CBSA. Additional data on these regions are presented in this report's Appendix A and accompanying metropolitan area profiles.

FTA Recipients

FTA assessed the emergency preparedness programs and activities of its three primary grant recipients: public transportation providers, metropolitan planning organizations (MPO), and state departments of transportation (State DOT). It is important to note that in emergency situations it is not these agencies but the local government authorities, usually the city or county emergency management agency, that provide initial response capabilities. Local government emergency management agencies are responsible for coordinating the other entities that have responsibilities during a crisis and the local political executive has the authority to issue an evacuation order. At the same time, transit agencies, MPOs, and State DOTs have the potential to play important roles in an emergency and some of these entities have provided important support in past events. (A complete list of the agencies that were examined for this report is included in Appendix B.)

State departments of transportation are usually the primary agency for their state's emergency support function (ESF) #1 (Transportation). State DOTs provide technical assistance and resources to local governments prior to an emergency and provide transportation resources in the event that local resources become overwhelmed in an emergency. State DOTs may provide resources to local and state governments in neighboring jurisdictions through mutual assistance agreements and the Emergency Management Assistance Compact (EMAC). State DOTs typically collect and analyze traffic information, provide evacuation route plans, conduct traffic incident management with first responders and local law enforcement, and order and provide traffic operations resources to support evacuation and other movement coordination.

Metropolitan planning organizations generally have information that could be useful for evacuation planning, including demographic data, roadway capacity data, information on planned roadway and transit improvements, and traffic count data, as well as transportation modeling capabilities to predict traffic congestion. Some MPOs may also have the responsibility to support the State DOT, local government, and/or emergency management agency in evacuation modeling. In addition, some MPOs are also operational organizations that may coordinate transit services and have other resources to assist in evacuations. Because the impacts of many man-made and natural disasters are experienced at the regional level, MPOs could act as a forum where local agencies coordinate with their regional counterparts.

Transit agencies are a potential source of vehicles and personnel during emergencies.[11] Agency staff and vehicles could be used to transport people from an affected area to shelters or to designated staging areas for intercity transportation, if necessary. Transit agencies that provide fixed-route service are also required to provide complementary paratransit service for eligible persons with disabilities, and these providers have information on the locations and mobility needs of their clients. The ability of transit

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[11] This study did not examine the programs, policies, or activities of providers of school bus, charter bus, or intercity bus transportation or intercity rail transportation, although these entities have been and continue to be involved in emergency preparedness and disaster response activities.

agencies to participate in evacuations will vary depending on the nature of the emergency, whether local agencies have advance warning of the event, whether the affected population is within the transit agency's service area, and whether local planning and coordination has taken place within the transit agency and between the agency and local stakeholders.

Researchers for this study sought to obtain information from 18 State DOTs, 20 MPOs, and 34 transit agencies that serve the 20 metropolitan regions selected for study. (A list of agencies where information requests were made is included in Appendix B to this report.)[12]

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[12] FTA did not seek to obtain information for every transit agency serving each of the 20 metropolitan areas. In large metropolitan areas, such as the San Francisco, Los Angeles, and New York regions, this study sought information from agencies that served the areas within the region with high proportions of the study's focus populations.

IV. Study Methodology

This study took place between June 2006 and January 2007 and consisted of the following steps:

Metropolitan Area Profiles

Researchers prepared demographic profiles for each of the 20 regions selected for study. The profiles are designed to identify the transportation resources in each region, the types of disasters that have affected the regions in the past or may occur in the region in the future, and any populations that might be particularly at risk during an emergency and can be found at http://www.fta.dot.gov/civilrights/civil_rights_6343.html.

Each profile contains the following information:

1. The geographic boundaries of the region and the political jurisdictions that comprise the region
2. The state department(s) of transportation, metropolitan planning organization(s), and transit agencies serving the region
3. The number and proportion of minority, low-income, and limited English proficient persons residing in the region, including any areas within the region where the proportion of minority and low-income residents is greater than the regional average
4. Geographic Information Systems (GIS) maps highlighting areas where the proportion of minority, low-income, and limited English proficient residents is greater than the regional average overlaid on a map of the transit routes serving these areas
5. The number and proportion of households without vehicles available and areas within the region where the proportion of households without vehicles available is greater than the regional average
6. GIS maps that highlight areas where the proportion of households without vehicles available is greater than the regional average overlaid on a map of the transit routes serving these areas
7. Correlation tables of minority persons, low-income persons, limited English proficient persons, and households without vehicles
8. A brief description of the natural and/or man-made disasters that have directly affected the region in the past 20 years
9. A description of which types of natural and/or man-made disasters are most likely to affect the region in the future[13]

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[13] An inventory of natural and man-made disasters in each metropolitan area was compiled by accessing information on the National Climatic Data Center "Billion Dollar Weather Disasters" website at http://lwf.ncdc.noaa.gov/oa/reports/billionz.html. These data were cross-referenced with the disasters listed on FEMA's disaster website at http://www.fema.gov/news/disasters.fema. Information on past and potential man-made disasters was complied through web and Wikipedia searches and by the NRC's list of nuclear facilities in each state.

Emergency Plan Reviews

Based on the information collected in the metropolitan area profiles, researchers attempted to identify and obtain any emergency preparedness plans or information documents produced by the State DOTs, MPOs, and transit agencies in the regions. Researchers searched agency websites for emergency preparedness information and contacted agencies that did not have such information on their website with an invitation to share any emergency preparedness plans with FTA. The FTA Office of Civil Rights informed these agencies that it was producing a technical assistance report and was not conducting a compliance review or investigating a complaint of discrimination. The FTA Office of Civil Rights also communicated that it was not asking the recipients to provide any sensitive security information in response to this request.

Researchers reviewed agency emergency preparedness plans for information on the following six topics:

1. Any public involvement process that contributed to the agency's emergency preparedness plan and, in particular, any opportunities for minority, low-income, and LEP persons and households without vehicles to participate in this process.
2. The extent to which unique emergency response needs for each of the above groups were identified and accounted for.
3. Any provisions for communicating the emergency plan and emergency preparedness instructions to the public and, in particular, any provisions to communicate emergency information to minority, low-income, and LEP persons and households without vehicles.
4. Any provisions for evacuating persons in emergency situations and, in particular, evacuation procedures that address the needs of minority, low-income, and LEP persons and households without vehicles.
5. Any provisions to use the region's transit system or coordinated human services transportation to assist in an evacuation prior to or following an emergency, and use of transit and coordinated human services transportation to return people to their communities after the emergency has ended and it is safe to return.
6. Any provisions for coordinating emergency preparedness with relevant local, state, and federal agencies and, in particular, any coordination plans that focus on emergency preparedness for minority, low-income, and LEP persons and households without vehicles.

Follow-Up Interviews with Selected Agencies

After reviewing the emergency preparedness information that was either published on-line or provided by the agencies, researchers invited representatives from nine State DOTs, nine MPOs, and nine transit agencies to discuss their emergency preparedness, disaster response, and disaster recovery plans in greater detail. These interviews, which were conducted via phone and e-mail, were designed to clarify existing agency plans and identify effective or promising practices that could be shared with other FTA grantees.

V. Overview of the Metropolitan Area Demographics

The 20 metropolitan areas in this study are home to thousands of low-income racial and ethnic minorities without ready access to private transportation and whose demographics mirror the thousands of New Orleanians who remained in the city during and after the Hurricane Katrina disaster. Many of these people live in high-poverty neighborhoods similar to New Orleans' Lower Ninth Ward and may be especially vulnerable in an emergency because of the social isolation, degraded infrastructure, high crime rates, low population density, and other social problems common to many high-poverty urban neighborhoods.[14]

This chapter provides an overview of the information contained in the metropolitan area profiles prepared for this study and includes the following findings:

- Most of the metropolitan areas contain neighborhoods with high levels of racial segregation. Thirteen of the 20 areas contain census tracts where the proportion of minority persons was at least twice the average for the region and 12 out of 20 areas contained census tracts where racial and ethnic minorities comprised 80% to 100% of the population of that tract.

- Most of the metropolitan areas also contain neighborhoods with concentrated poverty. Fifteen of the 20 areas contain census tracts where the proportion of persons below the poverty line was twice the average for the metropolitan area. Fourteen of 20 metropolitan areas include census tracts where the proportion of persons living below the poverty line is at least 40%.

- Ten of the 20 metropolitan areas include census tracts where the proportion of LEP persons is at least 40%.

- Fifteen of the 20 metropolitan areas contain census tracts where at least 40% of the households are without vehicles. These areas consist of the 14 metropolitan areas with populations of 1 million or more as well as the Honolulu Hawaii metropolitan area.

- There appears to be a great deal of geographic overlap between the neighborhoods with high levels of racial segregation, concentrated poverty, and zero-vehicle households.

- The metropolitan regions with populations of 1 million or more have extensive transit coverage and most of the census tracts with high proportions of low-

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[14] The relationship between urban environmental depravation and mortality during a natural disaster is discussed in *Heat Wave: A Social Autopsy of Disaster in Chicago*, by Eric Klinenberg. *Heat Wave* describes the characteristics of Chicago neighborhoods whose residents experienced a disproportionately high number of heat-related deaths in the 1994 heat wave. The Chicago community areas with the highest heat-related mortality rates also included high rates of elderly individuals living alone, high crime rates, and high proportions of people living in poverty.

income persons and households without vehicles reside within the public transit service area.

- The metropolitan areas with populations of under 1 million have less extensive public transit coverage and a number of census tracts in these regions with relatively high proportions of households without vehicles may not have easy access to public transportation.

- All of the metropolitan areas have experienced a wide range of natural or man-made disasters in recent years, including severe storms, tornados, flooding, hurricanes, earthquakes, fires, severe winter weather, heat waves, and terrorist attacks. No one type of disaster predominates across the 20 metropolitan areas.

The remainder of this chapter details the results of the demographic analysis of the metropolitan areas studied.

Summary of Demographic Information

The table below summarizes the demographic information developed and utilized during this study for the 20 regions. For the purpose of comparison, statistics for the United States and for pre-Katrina New Orleans are also provided in this and the following tables.

Table V-1: Summary of Demographic Information Based on Arithmetic Mean of Census Tracts

Region Number	Region Name	Population	Minority Population (%)	Limited English Proficiency Population (%)	Percent of Population Below Poverty	Percent of Zero-Car Households
	United States	281,421,906	25%	8%	12%	10%
	New Orleans-Metairie-Kenner, LA (2000)	1,316,510	43%	3%	18%	15%
1	Honolulu, HI	876,151	77%	14%	11%	12%
2	San Jose - San Francisco-Oakland, CA	7,088,410	40%	17%	9%	10%
3	Los Angeles-Long Beach-Riverside, CA	16,365,553	44%	24%	15%	11%
4	Seattle-Bellevue-	3,604,165	20%	6%	9%	7%

Region Number	Region Name	Population	Minority Population (%)	Limited English Proficiency Population (%)	Percent of Population Below Poverty	Percent of Zero-Car Households
	Tacoma, WA					
5	Flagstaff, AZ	116,320	34%	11%	17%	7%
6	Brownsville-Harlingen, TX	335,227	20%	37%	34%	12%
7	Houston-Baytown-Huntsville, TX	4,815,122	30%	15%	14%	9%
8	Lafayette, LA	239,086	30%	5%	17%	10%
9	Pine Bluff, AR	107,341	49%	1.2%	18%	10%
10	St. Louis, MO-IL	2,698,687	26%	2%	12%	11%
11	Chicago-Naperville-Joliet, IL-IN-WI	9,302,726	38%	11%	13%	17%
12	Atlanta-Sandy Springs-Marietta, GA	4,247,981	40%	6%	11%	10%
13	Albany, GA	157,833	54%	1.4%	23%	14%
14	Pittsburgh, PA	2,431,087	13%	16%	12%	15%
15	Miami-Ft. Lauderdale-Miami Beach, FL	5,007,564	28%	19%	14%	11%
16	Washington-Baltimore-No. VA, DC-MD-VA-WV	7,572,647	40%	6%	9%	14%
17	Philadelphia-Camden-Vineland, PA, NJ, DE-MD	5,883,585	28%	5%	11%	15%
18	New York-Newark-Bridgeport, NY-NJ-CT-PA	21,361,785	39%	16%	13%	29%
19	Boston-Worchester-Manchester, MA-NH CSA	5,715,698	16%	8%	9%	13%

Region Number	Region Name	Population	Minority Population (%)	Limited English Proficiency Population (%)	Percent of Population Below Poverty	Percent of Zero-Car Households
20	San Juan-Caguas-Fajardo, PR	2,518,893	21%	71%	44%	29%
	Total & Average for 20 regions reviewed	100,445,861 35%	34,034,895 33%	14,239,582 14%	11,842,121 11%	5,874,874 5%

For each of the areas summarized above, details of the demographics for each region and correlations among the populations examined are presented on the following pages.

Racial and Ethnic Minorities

- The average minority population proportion across all 20 regions is 33%.
- The minority proportions range from 13% in Pittsburgh, PA, to 77% in Honolulu, HI.
- Ten out of 20 regions had census tracts where the proportion of minority persons was greater than the 33% 20-region average. Only one region has a proportion of minority persons that is more than double the 20-region average.

The following table ranks the 20 regions based on minority population proportion.

Table V-2: Minority Proportion Summary

Region	Proportion Minority Population
United States	25%
New Orleans-Metairie-Kenner, LA (2000)	43%
Honolulu, HI	77%
Albany, GA	54%
Pine Bluff, AR	49%
Los Angeles-Long Beach-Riverside, CA	44%
San Jose -San Francisco-Oakland, CA	40%
Washington-Baltimore-No. VA, DC-MD-VA-WV	40%
Atlanta-Sandy Springs-Marietta, GA	40%
New York-Newark-Bridgeport, NY-NJ-CT-PA	39%
Chicago-Naperville-Joliet, IL-IN-WI	38%
Flagstaff, AZ	34%
Houston-Baytown-Huntsville, TX	30%
Lafayette, LA	30%
Miami-Ft. Lauderdale-Miami Beach, FL	28%
Philadelphia-Camden-Vineland, PA, NJ, DE-MD	28%
St. Louis, MO -IL	26%
San Juan-Caguas-Fajardo, PR	21%
Seattle-Bellevue-Tacoma, WA	20%
Brownsville-Harlingen, TX	20%
Boston, MA	16%
Pittsburgh, PA	13%
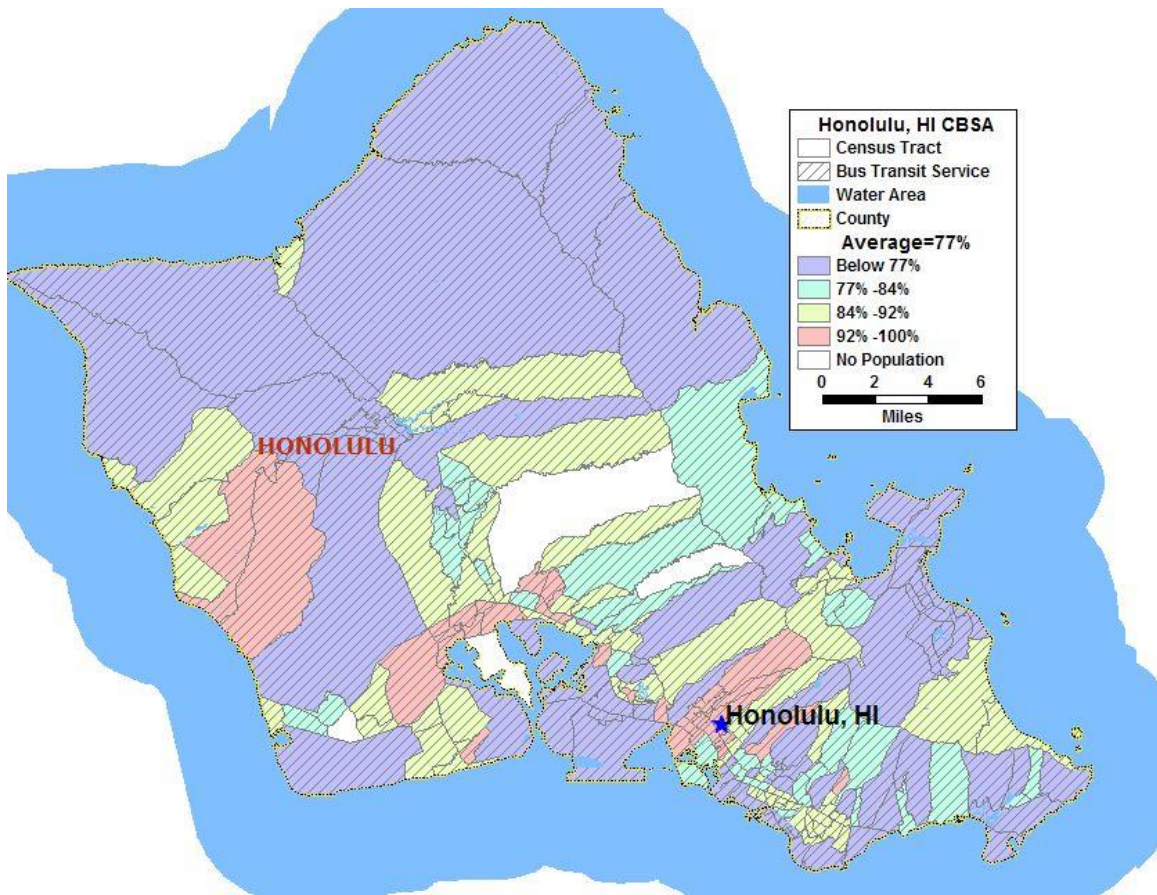
Map V-1: Honolulu, HI CBSA Minority Population

This map of the Honolulu, HI CBSA illustrates a region where 63% of the census tracts located in the CBSA have an above average percentage of minority population.

Persons with Low-Incomes

- The average below poverty population proportion across all 20 regions is 11%.
- The low-income proportions range from 9% in the Boston, San Francisco, Seattle, and Washington, DC metropolitan areas to 44% in the San Juan metropolitan area.
- Twelve out of 20 regions had census tracts where the proportion of below poverty persons was greater than the 11% 20-region average.

The table on page 27 ranks the 20 regions based on below poverty population proportion.

Table V-3: Low-Income Population Summary

Region	Proportion Below Poverty
United States	12%
New Orleans-Metairie-Kenner, LA (2000)	18%
San Juan-Caguas-Fajardo, PR	44%
Brownsville-Harlingen, TX	34%
Albany, GA	23%
Pine Bluff, AR	18%
Flagstaff	17%
Lafayette, LA	17%
Los Angeles-Long Beach-Riverside, CA	15%
Miami-Ft. Lauderdale-Miami Beach, FL	14%
Houston-Baytown-Huntsville, TX	14%
New York-Newark-Bridgeport, NY-NJ-CT-PA	13%
Pittsburgh, PA	12%
St. Louis, MO-IL	12%
Philadelphia-Camden-Vineland, PA, NJ, DE-MD	11%
Honolulu, HI	11%
Atlanta-Sandy Springs-Marietta, GA	11%
Chicago-Naperville-Joliet, IL-IN-WI	10%
San Jose -San Francisco-Oakland, CA	9%
Seattle-Bellevue-Tacoma, WA	9%
Boston, MA	9%
Washington-Baltimore-No. VA, DC-MD-VA-WV	9%
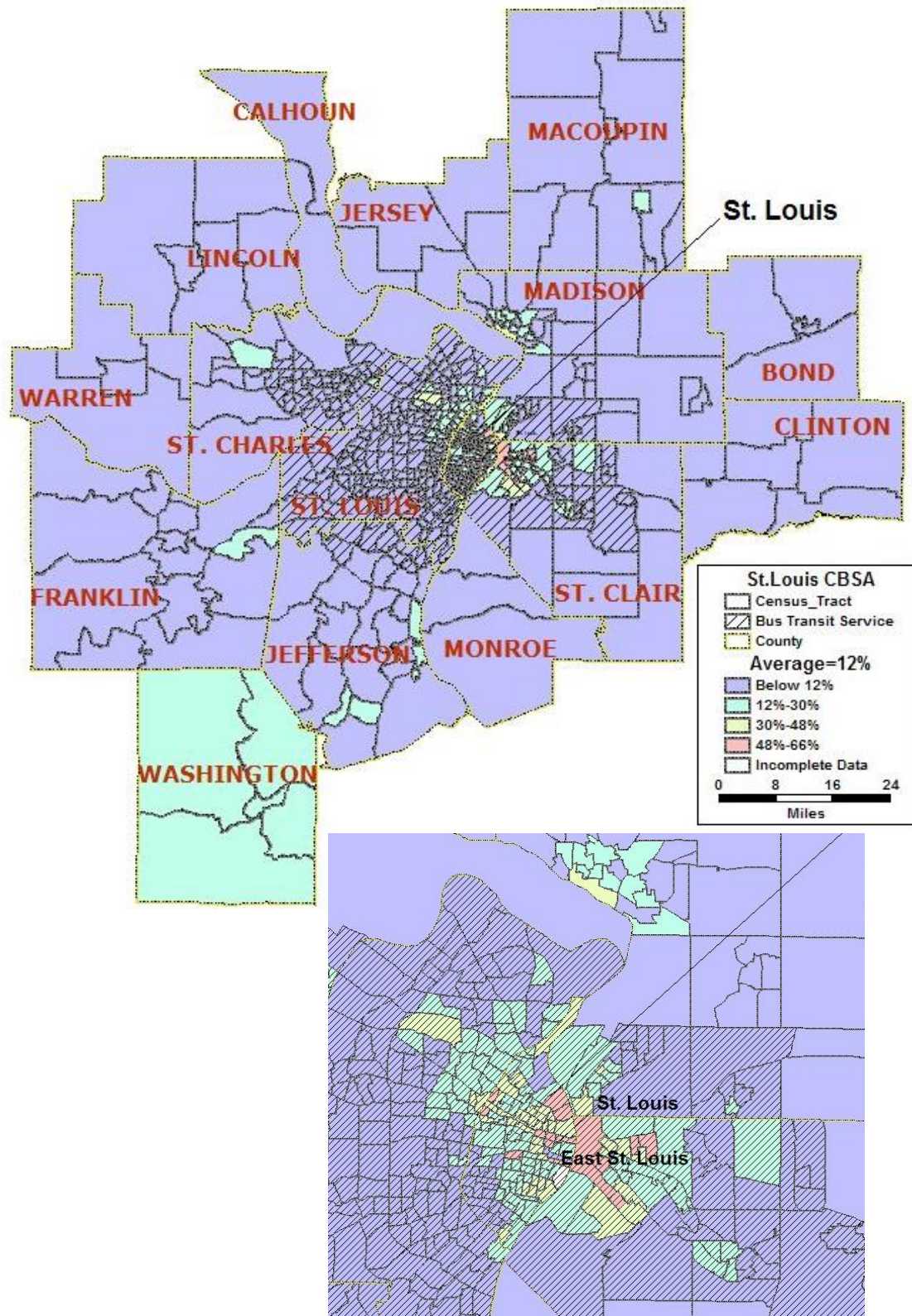
Map V-2: St. Louis, MO-IL CSA Below Poverty Population

The map of the St. Louis metropolitan area illustrates a region with relatively low proportions of persons living below poverty in the outlying areas but with neighborhoods in the urban core where up to 66% of the persons are below the poverty line.

Persons with Limited English Proficiency

- The average limited English proficient population proportion across all 20 regions is 14%.
- The limited English proportions range from 1.2% in Pine Bluff, AR to 71% in San Juan-Caguas, PR.
- Eight out of 20 regions had census tracts where the proportion of limited English proficient persons was greater than the 14% 20-region average. Only the San Juan-Caguas, PR region, which is a native-Spanish-speaking territory, has a proportion of limited English proficient persons that far exceeds the 20-region average. Brownsville- Harlingen, TX, located near the U.S.-Mexico border had an LEP proportion that was more than double the 20-region average.

The following table ranks the 20 regions based on limited English proficient population proportion.

Table V-4, LEP Proportion Summary

Region	Proportion LEP
United States	8%
New Orleans-Metairie-Kenner, LA (2000)	3%
San Juan-Caguas-Fajardo, PR	71%
Brownsville-Harlingen, TX	37%
Los Angeles-Long Beach-Riverside, CA	24%
Miami-Ft. Lauderdale-Miami Beach, FL	19%
San Jose -San Francisco-Oakland, CA	17%
New York-Newark-Bridgeport, NY-NJ-CT-PA	16%
Pittsburgh, PA	16%
Houston-Baytown-Huntsville, TX	15%
Honolulu, HI	14%
Chicago-Naperville-Joliet, IL-IN-WI	11%
Flagstaff, AZ	11%
Boston, MA	8%
Washington-Baltimore-No. VA, DC-MD-VA-WV	6%
Seattle-Bellevue-Tacoma, WA	6%
Atlanta-Sandy Springs-Marietta, GA	6%
Lafayette, LA	5%
Philadelphia-Camden-Vineland, PA, NJ, DE-MD	5%
St. Louis, MO –IL	2%
Albany, GA	1%
Pine Bluff, AR	1%
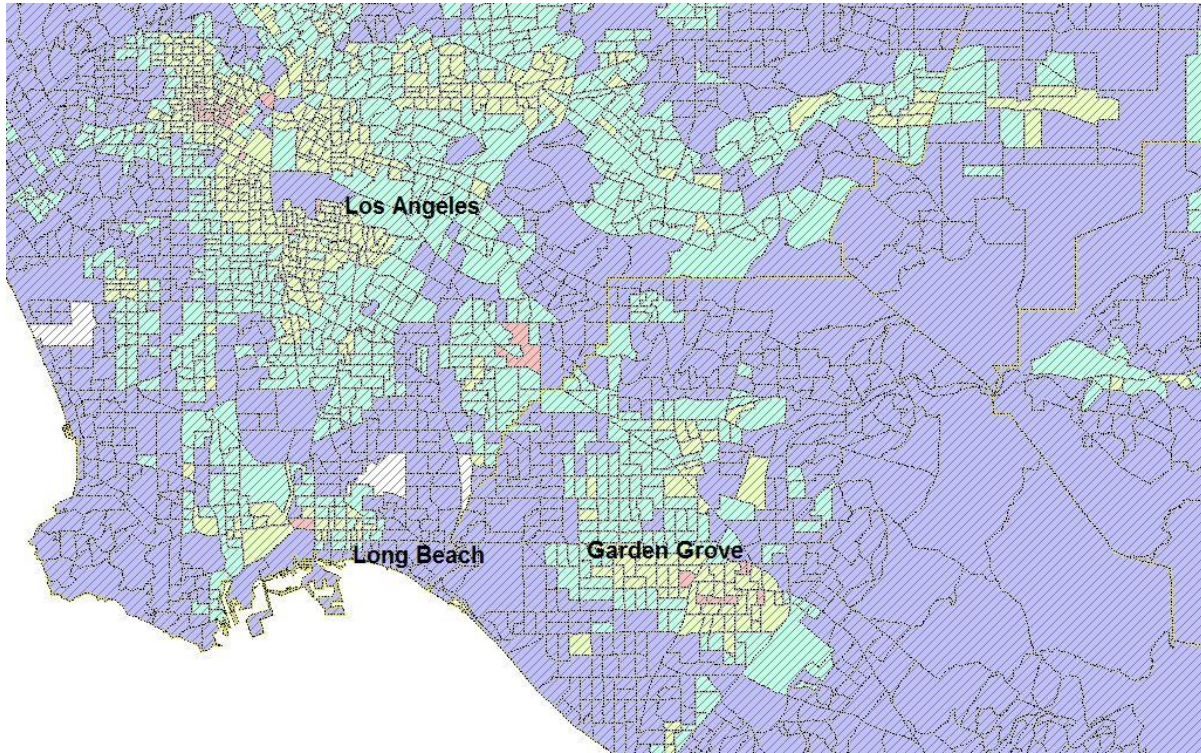
Map V-3: Los Angeles CSA LEP Population

The map of the Los Angeles CSA illustrates a metropolitan area with some neighborhoods with high proportions of persons who may be LEP. The census tracts shaded in yellow have between 46% and 67% of persons who speak English less than "very well" and the tracts shaded in red have between 67% and 100% of the population who speak English less than "very well."

Zero-Car Households

- The average zero-car household proportion across all 20 regions is 5%.
- The zero-car household proportions range from 7% in Seattle-Bellevue-Tacoma, WA and Flagstaff, AZ to 29% in the New York-Newark-Bridgeport, NY-NJ-CT-PA and San Juan-Caguas-Fajardo, PR CSAs.
- All 20 regions had census tracts where the proportion of zero-car households was greater than the 5% 20-region average. Thirteen of the regions had a proportion of zero-car households that was more than double the 20-region average.

The following table ranks the 20 regions based on zero-car household proportion.

Table V-5: Zero-Car Household Summary

Region	Proportion Zero-Car Households
United States	10%
New Orleans-Metairie-Kenner, LA (2000)	15%
New York-Newark-Bridgeport, NY-NJ-CT-PA	29%
San Juan-Caguas-Fajardo, PR	29%
Chicago-Naperville-Joliet, IL-IN-WI	17%
Pittsburgh, PA	15%
Philadelphia-Camden-Vineland, PA, NJ, DE-MD	15%
Washington-Baltimore-No. VA, DC-MD-VA-WV	14%
Albany, GA	14%
Boston-Worchester-Manchester, MA-NH CSA	13%
Honolulu, HI	12%
Brownsville-Harlingen, TX	12%
Los Angeles-Long Beach-Riverside, CA	11%
Miami-Ft. Lauderdale-Miami Beach, FL	11%
St. Louis, MO–IL	11%
Atlanta-Sandy Springs-Marietta, GA	10%
San Jose -San Francisco-Oakland, CA	10%
Pine Bluff, AR	10%
Lafayette, LA	10%
Houston-Baytown-Huntsville, TX	9%
Seattle-Bellevue-Tacoma, WA	7%
Flagstaff, AZ	7%

Map V-4: Baltimore, MD Zero-Car Households
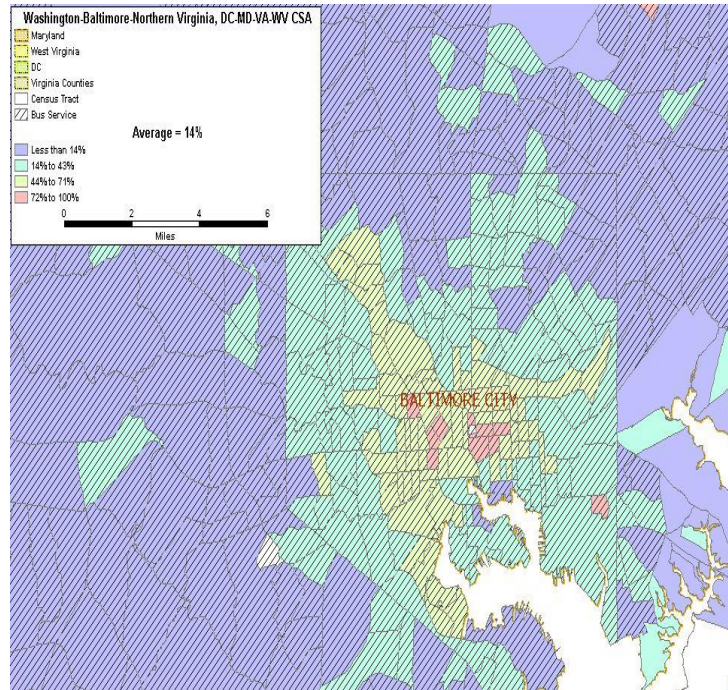
The above map from the Washington, DC-Baltimore metropolitan area is an example of a region where zero-vehicle households are concentrated in urban neighborhoods. Some Baltimore neighborhoods have between 44% and 100% of households without vehicles.

Correlations

As discussed in the Methodology section, four demographic populations taken from the census data (minority persons, low-income persons, limited English proficient persons (LEP), and households without vehicles available) were examined to determine if there were any correlations among the data. The following charts compare each individual demographic with the other three demographics used in the study. The closer the correlation coefficient is to 1.0, the stronger the correlation between the data. Using correlations, emergency preparedness coordinators may be able to determine where and how they may need to adjust or improve their preparedness plans to meet the needs of the transit-dependent populations in their area.

The table below presents a summary of the correlation coefficients for the demographic data examined as part of this study. The table columns are arranged in descending order of the number of areas with correlations over 0.50. These data are further discussed below.

Table V-6: Summary of Correlation Coefficients – Minority Population
(Correlations over 0.50 shown in **bold**)

Region	Below Poverty – Zero-Car HH	Minority – Below Poverty	Minority – Zero-Car HH	Below Poverty – LEP	Minority – LEP	Zero-Car HH – LEP
Honolulu	**0.57**	0.50	0.18	**0.58**	**0.76**	0.50
San Jose	**0.63**	**0.51**	0.37	0.40	**0.73**	0.36
Los Angeles	**0.68**	**0.75**	0.45	**0.77**	**0.79**	0.50
Seattle	**0.62**	**0.64**	0.34	**0.57**	**0.89**	0.34
Flagstaff	**0.76**	**0.91**	**0.65**	0.26	0.32	0.14
Brownsville	**0.58**	**0.65**	0.40	**0.83**	**0.83**	0.47
Houston	**0.82**	**0.71**	**0.57**	**0.77**	**0.65**	**0.54**
Lafayette	**0.79**	**0.87**	**0.78**	**0.62**	0.31	0.27
Pine Bluff	**0.83**	**0.68**	**0.65**	0.12	0.02	-0.01
St. Louis	**0.79**	**0.71**	**0.60**	0.18	0.10	0.30
Chicago	**0.82**	**0.74**	**0.70**	0.08	0.05	0.06
Atlanta	**0.90**	**0.63**	**0.63**	0.13	0.15	0.05
Albany	**0.68**	**0.81**	**0.64**	-0.27	-0.06	0.16
Pittsburgh	**0.71**	**0.52**	**0.60**	0.23	0.21	0.35
Miami	**0.63**	**0.66**	0.22	0.50	0.16	0.29
Washington, DC	**0.76**	**0.56**	0.42	0.19	0.41	0.09
Philadelphia	**0.82**	**0.79**	**0.70**	**0.61**	0.44	0.44
New York	**0.65**	**0.77**	**0.57**	**0.70**	**0.63**	**0.51**
Boston	**0.73**	**0.72**	**0.57**	**0.76**	**0.76**	**0.62**
San Juan	**0.70**	0.42	0.41	**0.68**	0.49	0.44
Number of Areas with Correlations > 0.50	20	18	12	10	8	3
New Orleans	**0.88**	**0.75**	**0.72**	-0.13	-0.11	-0.13

- <u>Below Poverty Population and Zero-Car Households</u> – The table shows that below poverty population is most strongly associated with zero-car households. All 20 areas show correlations of over 0.50 between these two statistics. The correlation coefficients range from a low of 0.57 (Honolulu, HI) to a high of 0.90 (Atlanta, GA).

- <u>Below Poverty and Minority Populations</u> – Below poverty and minority populations also show correlations of over 0.50 among the areas examined. All but two of the areas in the study had correlations above this range between these two statistics. The lowest correlation among these 18 areas was observed in San Jose, CA with a coefficient of 0.51 and the highest was observed in Flagstaff, AZ with a coefficient of 0.91.

- <u>Minority Population and Zero-Car Households</u> – These two statistics exhibit a correlation of over 0.50 in more than half (12 of 20) of the areas. The correlation coefficients in these 12 areas appear to be clustered between 0.57 and 0.78. Furthermore, the areas in which this stronger positive relationship is observed are mostly in the Eastern and Midwest regions of the country.

- Below Poverty and LEP Populations – Half of the areas examined in this study exhibit a correlation of over 0.50 between below poverty and LEP populations. Correlation coefficients in these 10 areas range from a low of 0.58 (Honolulu, HI) to a high of 0.83 (Brownsville, TX).

- Minority and LEP Populations – Eight of the areas showed a correlation of over 0.50 between minority and LEP populations. The highest correlation coefficient (0.89) was observed for Seattle, WA. Brownsville, TX also shows a particularly strong positive correlation with a coefficient of 0.83.

- Zero-Car Households and LEP – Only three of the 20 areas showed a correlation of over 0.50 between zero-car households and LEP population. These areas are: Boston, MA (0.62); Houston, TX (0.54); and New York, NY (0.51).

By using correlations such as those discussed above, emergency preparedness coordinators can identify how they can better serve the needs of transportation-disadvantaged populations in their areas. For example, they could ensure that emergency notices and broadcasts are made in languages other than English in order to reach those populations with limited English proficiency. Also, emergency planners can identify areas in which not only transportation, but other resources might be needed (e.g., temporary housing, emergency living expenses, and relocation expenses).

Public Transportation Coverage

Overall, most areas examined in this study have extensive public transit coverage, particularly among the larger urban areas (e.g., New York, Boston, Washington, Miami, Philadelphia, Pittsburgh, Los Angeles, Seattle, and San Francisco-San Jose). These areas also tend to operate a diverse mix of services—motorbus, paratransit, heavy rail, light rail, and commuter rail. While there are pockets of census tracts with higher than average minority, below poverty, and LEP populations and zero-car households that are not served by public transit, most of the census tracts fall within the transit service areas. An example of some of these areas are described below:

- Houston CSA – Nearly all of Harris County is served by transit. There are, however, small pockets of transit-disadvantaged populations in the surrounding areas that are not served by transit.

- San Juan CSA – There is a considerable concentration of census tracts with higher than average minority and below poverty populations and above average zero-car households in the transit service area. Although many similar census tracts exist outside the transit service area, these tend to be in the less densely populated suburban and rural areas.

- Atlanta CBSA – The disadvantaged areas of DeKalb, Fulton, and Clayton counties appear to be well served by transit service from the different transit

agencies that operate in the region. The areas not served by transit tend to be distant from the urban core and have relatively few census tracts with higher than average transit-disadvantaged populations.

- Pittsburgh CBSA – The urban areas of Allegheny County, including Pittsburgh, are served well by transit services. As such, nearly all of the census tracts with minority and LEP populations, and zero-car households are within the transit service boundary. However, a relatively small number of below poverty census tracts are located in the rural areas of Butler, Armstrong, and Fayette counties outside the transit service boundary.

- Honolulu CBSA – Nearly all of the Island of Oahu is served by the transit system. Only a sparsely populated area at the island's interior lacks access to transit.
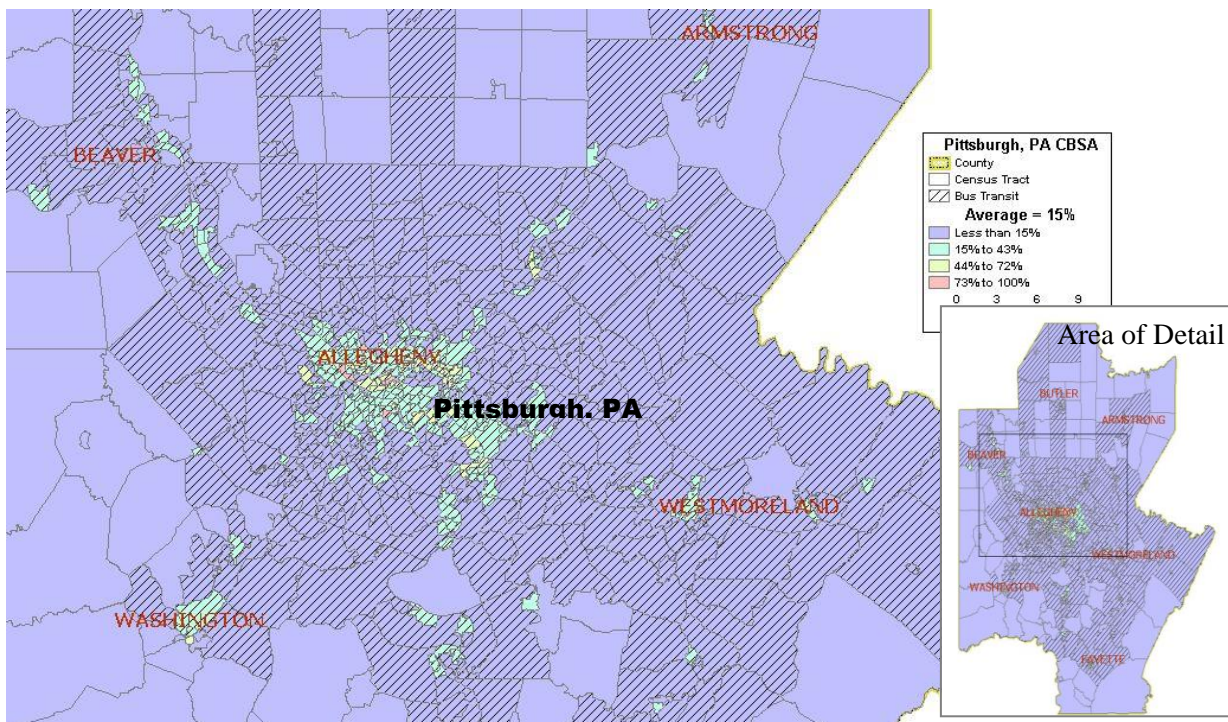
Map IV-5: Pittsburgh, PA CSA Zero-Car Population

The map of the Pittsburgh, PA CBSA illustrates a region where nearly all of the census tracts with an above average percentage of zero-car households are within the transit service boundary. As shown, the census tracts with higher than average proportions of zero-car households are predominately in the urban core, which is very well served by transit.

Transit service coverage is less extensive in the smaller urban areas, particularly in the outlying communities. The smaller urban areas tend to have fewer agencies providing transit service as well as a less diverse mix of operations. The transit systems tend to provide only bus and paratransit services. Examples of some of these areas are described below:

- Lafayette CBSA – The areas to the south and east of the city are not within the transit service boundary. These areas also have a number of census tracts with higher than average minority, below poverty, and LEP populations and to a lesser extent zero-car households.

- Brownsville-Harlingen CBSA – There are a large proportion of census tracts that are not within the transit service area—24 of the 39 census tracts with above average minority populations are outside the transit service boundary.

- Pine Bluff CBSA – This area also has a fair number of census tracts that are not served by transit and also have above average concentrations of minority, below poverty, and LEP populations and zero-car households.

- Flagstaff CBSA – The transit service area is confined to the urban core of the city. Large areas outside the urban center, including areas with some of the highest concentrations of minority, below poverty, and LEP populations and zero-car households, are not served by the transit system.
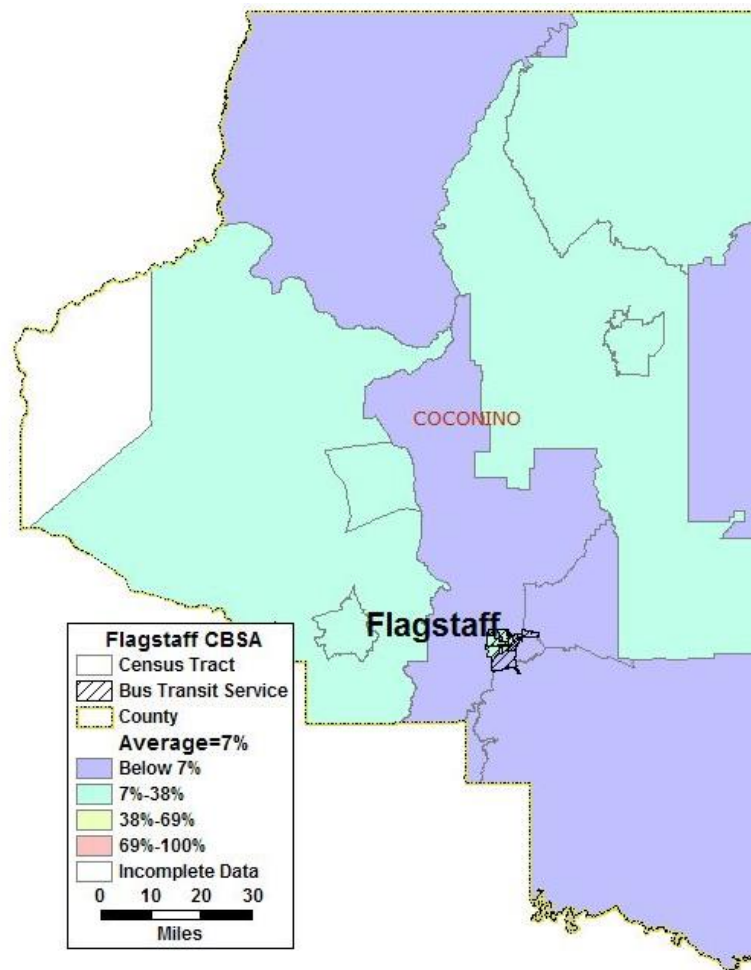
Map IV-6: Flagstaff, Arizona CBSA Zero-Car Population

The map of the Flagstaff, AZ CBSA illustrates an area where many of the census tracts with an above average percentage of zero-car households are outside the transit service area.

While the transit service area is not necessarily a direct indicator of a region's ability to adequately respond to an emergency incident, the availability of transit assets and facilities may factor into a region's response. As such, it is important for emergency planners to know which communities within their region are potentially vulnerable and how the regional assets and resources can be used to mitigate the negative impacts of emergency incidents when they occur.

Vulnerabilities to Natural and Man-made Disasters

The table below summarizes some of the identified occurrences of natural and man-made disasters that have occurred in the regions of this study over the past 10 years as well as the types of disasters for which the metropolitan areas are most at risk.

Table IV-7: Summary of Natural and Man-made Disasters[15]

Region	Past Event	Risk of Future Event
Honolulu	Wild fire, flood	Earthquake
San Francisco	Earthquake, wild fire, mudslide	Earthquake
Los Angeles	Earthquake, wild fire, mudslide	Earthquake
Seattle	Severe storm, flood, tornado	Earthquake
Flagstaff	Wild fire, flood, tornado	Wild fire
Brownsville	Hurricane, flood	Hurricane
Houston	Hurricane, flood, tornado	Hurricane
Lafayette	Hurricane	Hurricane
Pine Bluff	Severe storm, flood, tornado	Severe storm
St. Louis	Severe winter weather	Winter weather, heat wave
Chicago	Heat wave, severe winter weather	Winter weather, heat wave
Atlanta	Severe storm	Severe storm
Albany	Severe storm, tornado	Severe storm
Pittsburgh	Severe storm, severe winter weather	Severe storm, winter weather
Miami	Hurricane	Hurricane
Washington DC	Terrorist attack, hurricane	Terrorist attack, hurricane
Philadelphia	Hurricane, severe winter weather	Hurricane, severe winter weather
New York	Terrorist attack, blackout	Terrorist attack, hurricane
Boston	Severe winter weather	Hurricane, severe winter weather
San Juan	Hurricane	Hurricane

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[15] Sources: National Climatic Data Center "Billion Dollar Weather Disasters" website at http://lwf.ncdc.noaa.gov/oa/reports/billionz.html and FEMA's disaster website at http://www.fema.gov/news/disasters.fema.

VI.   Results of the Agency Plan Assessment

As noted in the Methodology section of this report, emergency response plans were obtained either through agency websites or by written request from FTA's Office of Civil Rights. While researchers did not request any sensitive security information, many agencies were nonetheless reluctant to share information not currently available in the public domain, as it was incorporated into their security plans. For this study, FTA requested information on emergency response plans of 72 entities; consisting of 18 State DOTs, 34 transit agencies, and 20 MPOs and received information from 53 entities; consisting of 15 State DOTs, 25 transit agencies, and 13 MPOs was reviewed.

The table below presents the results of the analysis of emergency preparedness activities on the six topics listed in the methodology section.

Table VI-1, Summary of Agency Survey Results

Topic	State DOTs	Transit Agencies	MPOs
1. General Public Involvement	1 of 15	2 of 25	1 of 13
1a. Involvement on focus populations	0 of 15	0 of 25	0 of 13
2. Accounting for the needs of focus populations	3 of 15	3 of 25	0 of 13
3. Communicating emergency Information to the public	11 of 15	14 of 25	3 of 13
3a. Communicating to focus populations	0 of 15	3 of 25	2 of 13
4. General Evacuation Planning	9 of 15	14 of 25	6 of 13
4a. Evacuation planning for focus populations	2 of 15	1 of 25	0 of 13
5. Use of the transit system in an evacuation	9 of 15	14 of 25	12 of 13
6. General Coordination Procedures	12 of 15	25 of 25	13 of 13
6a. Coordination activities targeted at focus populations	0 of 15	0 of 25	0 of 13

Topic #1: Public Involvement in Emergency Preparedness Planning

Researchers sought information on any public involvement process that contributed to the agency's emergency preparedness plan and, in particular, any opportunities for minority, low-income, and LEP persons and households without vehicles to participate in this process.

Very few of the State DOTs, MPOs, or transit agencies surveyed sought to involve the public in general or members of the focus populations of this study in the course of assembling an emergency preparedness plan.

One State DOT does encourage general public involvement in the development of local and regional plans, but does not specifically focus on the populations that were a part of this study.

In some instances, plans produced by MPOs are made available to the public through various means, including through publications, at public meetings, and on their websites. The Metropolitan Washington Council of Governments has as a goal in its National Capital Region Homeland Security Strategic Plan to provide opportunities for individuals to become involved in emergency preparedness.

Two transit agencies, Chicago Transit Authority and New York's Metropolitan Transportation Authority (MTA), did note that they had provided for comment and feedback from the public on the plan once it was developed. (Because transit agencies were not generally the lead agency in the local or regional emergency response plan, there typically was no public input sought or utilized by transit agencies in developing these emergency preparedness plans.)

Topic #2: Identifying the Needs of Focus Populations

Researchers reviewed plans to determine the extent to which the plans identified and responded to the unique needs of the focus populations.

None of the plans prepared by State DOTs, MPOs, or transit agencies identified any specific mobility needs associated with racial and ethnic minorities, persons with low-incomes, persons with disabilities, and households without vehicles.

State DOT staff communicated to researchers that, in general, the county or local government is responsible for managing logistics for special needs groups and requesting additional transportation support from the state if needed. The Arizona and Louisiana DOT included portions of these groups in their plans, but did not provide information on the numbers or locations of these populations. Arizona includes LEP persons in its category of special needs and Louisiana includes institutionalized and non-institutionalized persons. Additionally, Louisiana includes persons without their own transportation in their state planning.

California's Office of Emergency Services encourages the use of community-based organizations to address the disabled, homeless, elderly, children, non-English speakers, people living in poverty, and people who are culturally or geographically isolated. However, it was noted the focus was not on transportation, but primarily the post-disaster needs of these vulnerable populations.

None of the MPOs had incorporated information on the focus populations into the emergency response plans in which they had a coordinating role. One MPO did note that the area covered was culturally diverse, and one MPO has as an action item to review Geographic Information System data in support of its plan.

Among the transit providers, the City and County of Honolulu includes in the group of primary evacuees, persons at home without cars and non-drivers. The Chicago Transit Authority noted that it has identified the rail lines that primarily serve minority

communities, but that it had limited additional information integrated into its plan. One transit agency, New York's MTA, which has a major role in its city's evacuation plan, noted that estimates on the number of people that would need evacuation took into account income and access to a private vehicle. Additionally, this agency noted that the public information on the city's plan is available in 11 languages.

Topic #3: Communicating to the General Public and to Focus Populations

Researchers sought information on any provisions for communicating emergency plan information and emergency preparedness instructions to the public and, in particular, any provisions to communicate emergency information to minority, low-income, and LEP persons and households without vehicles.

Most State DOTs, MPOs, and transit agencies assessed had plans to communicate emergency preparedness information to the general public, but only a few of these agencies had plans for targeting emergency communications to the focus populations of this study.

Eleven State DOTs indicated that they have plans to communicate with the public prior to and during an emergency, but none of the State DOT communications plans specifically addressed this report's focus populations. It was noted during plan review and interviews that during emergency events, DOTs may set up their own Emergency Operations Centers (EOC), if appropriate, and coordinate with the state EOC through appointed liaisons. In general, it was described that emergency information generated by the DOT and meant for the public is typically sent to the public information officer in the state EOC for dissemination. The types of communications to the public included information on the locations of the disaster and evacuation route information. Five of the states described information on a process similar to that described above.

Among the MPOs, San Francisco's Metropolitan Transportation Commission has a role in testing the communications systems of the local area transit systems and conducts an annual exercise to test information dissemination from them to the public. The Metropolitan Washington Council of Governments has as a goal in the National Capital Region Homeland Security Strategic Plan to establish public emergency message templates for disseminating information to special needs populations, which include people with disabilities and non-English speakers.

Fourteen transit agencies provided information on providing emergency information to the general public. Three agencies, Los Angeles County Metropolitan Transportation Authority, New York's Metropolitan Transportation Authority, and Chicago Transit Authority, noted their ability to communicate in multiple languages in the event of an emergency. While these agencies all noted that they were not the lead coordinating agency, they did note their ability to communicate with the public in multiple languages. New York's MTA and the Chicago Transit Authority also cited their localities' use of a "311" phone number to disseminate emergency information to the public and the staffing of these call centers with bilingual personnel. New York's MTA also noted its locality

also has a website that makes emergency preparedness materials available on the Internet in multiple languages.

Topic #4: Evacuation Planning for the General Public and Focus Populations

Researchers sought information on any provisions for evacuating persons in emergency situations and, in particular, evacuation procedures that address the needs of minority, low-income, and LEP persons and households without vehicles.

Most agencies assessed had plans for evacuating the general public in emergencies, but only a few agencies had plans targeted at evacuating the focus populations. Nine of the State DOTs provided information on coordinating either evacuation or sheltering aspects during an emergency with transportation, and Arizona and Louisiana discussed those with "special needs." Arizona includes LEP persons in its category of special needs and Louisiana includes institutionalized and non-institutionalized persons. Arizona included in its Evacuation ESF, for which the DOT is a support agency, the need to ensure that at the county or local level, consideration be given to ensuring that persons with special needs, including LEP persons, are identified, located, and evacuated.

None of the MPO plans reviewed focused on the evacuation or sheltering of the focus populations, however, information from six of the agencies reviewed included evacuation and sheltering in general for emergencies.

Transit agencies expressed that they have a key role in the transportation services for evacuation and safe return, but coordination is generally managed by the local or regional lead agency. One agency, New York's MTA, did utilize the local area's projected numbers of evacuees, which took into account income and access to a private vehicle, along with its own demographic and system information to develop detailed information on where service may need to be enhanced to facilitate an evacuation. Its plan also included providing increased personnel at key locations to control crowds and provide customer information.

Topic #5: Use of Public Transportation in Emergencies

Researchers sought information on any provisions to use the region's transit system or coordinated human services transportation to assist in an evacuation prior to or following an emergency, and use of transit and coordinated human services transportation to return people to their communities after the emergency has ended and it is safe to return. The majority of agencies assessed indicated that the transit system would play a role in an emergency evacuation.

Nine State DOTs provided information on using transit in evacuations. Most DOTs examined divide their states into DOT districts, each having its own administrative headquarters. The districts are typically responsible for coordinating availability, procurement, and use of transit assets with local entities such as transit agencies and school districts, and evacuation routes with local jurisdictions. Memoranda of

understanding and other agreements, usually managed by the DOTs or the states, are in place with local jurisdictions, transit agencies, and private/public transportation entities for agreement on transit assets availability to the partnering agencies as needed.

Twelve MPOs included information on how public transit and other transportation functions would be coordinated in an emergency. Most of the plans, even those in draft form, provide an inventory of transportation assets or have made provisions to include them in future drafts of their plans. In addition, 14 of the transit agencies provided specific information on their roles in an emergency.

Topic #6: Interagency Coordination

Researchers sought information on any provisions for coordinating emergency preparedness with relevant local, state, and federal agencies and, in particular, any coordination plans that focus on emergency preparedness for minority, low-income, and LEP persons and households without vehicles. The majority of agencies that were assessed, including all the MPOs and all the transit agencies that provided information to the researchers, indicated that they had procedures in place for coordinating with other agencies prior to and during an emergency, but none of the agencies had coordination measures in place that focused on emergency preparedness for the focus populations.

VII. Promising Practices

Although most State DOTs, MPOs, and transit agencies had few specific policies and procedures in place for responding to the specific needs of racial and ethnic minorities, low-income or LEP populations, and households without vehicles, researchers identified a number of promising practices developed by the agencies that were assessed and have the potential to be implemented in other metropolitan areas. This section summarizes such practices being developed or implemented by State DOTs, MPOs, and transit agencies.

State Departments of Transportation

In general, the decentralization of DOT emergency management functions among territorial districts enables DOTs to better coordinate transit asset utilization among county and local governments, transit agencies, school districts, and public/private transportation companies. This also can promote emergency management response with the establishment of an Emergency Operations Center in close proximity to the impact area and could be adopted by other agencies.

Memorandums of understanding or similar agreements among parties ensure full knowledge of assets available to potential impact areas, and assure the parties of full cooperation should their area be affected by an emergency event. Arizona's ESF-15 (Evacuation), for which Arizona DOT is a support agency, includes a concept of operations that is the responsibility of county and local governments (another set of ESF-15 support agencies). The concept states, "Consideration will be given to ensuring that special needs persons, i.e., non-English speaking, elderly, physically or mentally disabled, latchkey children, etc., are identified, located and evacuated from the danger area."

While there was not wide evidence of specific considerations of emergency services for households without vehicles addressed in State DOT plans, the State of Louisiana's Emergency Operations plan designates Louisiana DOTD as responsible for ESF-1 (Transportation). Attachment 8 to ESF-1 provides a general framework for Bus Staging Operations/Movement Control Center for ESF-1. The goal of Attachment 8 is to provide bus transportation for persons needing assistance evacuating from risk parishes, including special needs individuals.

Metropolitan Planning Organizations

While MPOs are not typically the lead agency in emergency response plan development, several of them appear to be developing or assisting in the coordination of these plans. For example, the Metropolitan Transportation Commission in the San Francisco region is involved in coordinating the region's plan and the East West Gateway Coordinating Council in the St. Louis region is developing a plan for which it expects to have an outline completed in early 2007.

The Metropolitan Washington Council of Governments provided information on extensive emergency plan coordination that it has performed in its region which includes a Community Engagement objective and initiatives on participation, education, and communication to be completed through 2009.

Transit Agencies

Some transit agencies are coordinating with state, county, and/or local emergency agencies and other emergency management partners to prepare to respond to populations with specific needs in an emergency. Miami-Dade Transit has representatives from bus and rail operations to act as liaisons to the appropriate city or county emergency operations center. AC Transit coordinates with county-level emergency response providers, and MTC has an emergency preparedness committee that works with local transit operators to help test emergency response plans. Sound Transit cited integration into regional and cross-jurisdictional planning activity as an effective practice for its agency.

Additionally, ongoing unified command training and operations among emergency management partners can serve to strengthen the effectiveness of emergency response plans. Chicago Transit Authority participates in unified command training and operations with governmental agencies, and coordinates with the City of Chicago, Cook County, Chicago Fire and Police departments, and the 40 suburban municipalities served by the authority.

One of the most far-reaching plans was prepared by the New York City Office of Emergency Management (OEM) and was provided by the Metropolitan Transportation Authority. OEM contracted with U.S. Army Corps of Engineers to conduct analyses detailing the number of persons and the demographics of the people who would have to be evacuated for three scales of emergency, and developed an evacuation and sheltering plan that is scalable according to the severity of the event. Public transportation is a key component of the New York City plan. The Metropolitan Transportation Authority has developed operating plans in support of the New York City Coastal Storm Plan that incorporate the analysis provided by OEM.

New Yorkers can learn their assigned evacuation center by calling 311, the Citizen Service Center, which can provide assistance in 170 languages. Additionally, maps of the city's evacuation centers are available in 11 languages on OEM's website at NYC.gov/oem. MTA NYC Transit provided travel directions from evacuation zones to evacuation centers for use by 311 and for the City's online Hurricane Evacuation Zone Finder tool hosted on OEM's website (available in English only). Printed materials are also provided by OEM in multiple languages; for example, the Ready New York household preparedness guide is available in ten languages.

The Los Angeles County Metropolitan Transportation Authority addresses emergency concerns of LEP persons using announcements in other than English. The agency also

has a staff of translators available through telephone. New York City has addressed emergency needs of LEP persons as well.

For the regions reviewed, the lead agencies for emergency management response are typically responsible for communications plans. Transit agencies generally provide a supporting role to these agencies regarding the transportation components of plans developed on the regional/local level. An increased use of the Internet as a communication tool was noted in many regions. Additionally, emergency response campaigns, such as the "Ready New York" efforts are becoming more prevalent to prepare communities for differing types of communities.

VIII.   Conclusions and Recommendations

The twenty metropolitan areas surveyed in this report have neighborhoods where large numbers of people may have difficulty evacuating in advance of or in the aftermath of a natural or man-made emergency. Each of the metropolitan areas surveyed includes racially segregated high-poverty areas with relatively high proportions of people with limited English proficiency and zero-vehicle households. In the event of an emergency, many of the residents of these neighborhoods may be more likely to discount emergency instructions or may not have the money or the mobility to evacuate independently.

Most of those neighborhoods with higher than average proportions of minority, low-income, and LEP persons and zero-vehicle households were well served by existing public transportation agencies, which, in theory and depending on the circumstances of the emergency, could play a role in evacuating people without other means of transportation. However most of the transit agencies as well as the metropolitan planning organizations and state departments of transportation surveyed in this report had taken limited steps to address the needs of these populations in an emergency.

In general, emergency response procedures of the focus agencies of this study do not routinely or systematically address the needs of the focus populations of this review. Many states, regions, and transit agencies have not thoroughly identified these transportation-disadvantaged populations within their areas. The inclusion of evacuation, sheltering, and return considerations for these populations in emergency response plans could be greatly enhanced.

Recommendations

- **Demographic profiles should be developed and incorporated into emergency response plans.** No matter who is the lead agency for developing the plans, an understanding of the populations that comprise the subject area of the plan would greatly improve the plans' applicability and effectiveness. Knowledge of the number and location of transportation-disadvantaged populations during an emergency is essential in evaluating if current assets or deployable assets will be available and adequate.

  The demographic profiles prepared in conjunction with this report (and which are located at http://www.fta.dot.gov/civilrights/civil_rights_6343.html) can assist agencies in estimating the number of people who may not be able to self-evacuate, in planning evacuation routes and staging areas, and in conducting targeted community outreach on emergency preparedness.

- **Strategies should be developed for more public input into the establishment of the plans.** There are sources of knowledge within communities on the particular needs of the transportation-disadvantaged. In addition to those noted in other reports, such as faith-based organizations, there are networks of community-based

organizations that serve disadvantaged populations and could provide valuable input into the emergency response, evacuation, sheltering, and return plans of local areas. Developing ways for these organizations to be involved in plan development would add to the sufficiency of these plans and the ability to carry them out.

- **Strategies should be developed for effective communication of the plans.** Knowing the concentrations of limited English proficiency populations and what their communications needs are will aid in the ability to communicate effectively with these populations during an emergency. Using demographic data and outreach to community-based organizations will aid in the plans' overall effectiveness.

- **Transit agencies should improve emergency management and response communication and coordination with county and state emergency management agencies.** In several instances during the study, transit agencies could not clearly define their role in the event of an emergency, beyond internal procedures. Because there is a wide range of types of agencies that lead the development and enactment of emergency response plans, transit agencies should be certain of their role in the event of emergencies, understand the command and control procedures for their assets, and provide input using the knowledge they have on moving the public.

These recommendations are similar to the guidance developed in the special needs section of FTA's Disaster Response and Recovery Manual, which was published in August of 2006, and the Transportation and Emergency Preparedness Checklist issued in September of 2006 by the National Consortium on Human Services Transportation. FTA's manual can be found at http://www.fta.dot.gov and the National Consortium's checklist and accompanying strategy paper can be found at http://www.disabilityinfo.gov.

IX. Resources

The links below connect the reader to source documents and other resources summarized or referenced in this report. Additional information on emergency preparedness, disaster response, and disaster recovery activities can be found at the following links:

- The FTA Safety and Security web page at http://transit-safety.volpe.dot.gov/

- The FTA Civil Rights web page at http://www.fta.dot.gov/civil_rights.html

- The U.S. DOT web page on emergency transportation for people with disabilities at http://www.emergencyprep.dot.gov

- The FHWA emergency transportation web page at http://www.ops.fhwa.dot.gov/publications/publications.htm#eto

Links to Guidance

- DOT Title VI Regulations http://www.fta.dot.gov/documents/49_CFR_21.doc.

- DOT Limited English Proficient Persons Guidance http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-23972.htm.

- SAFETEA-LU http://www.fta.dot.gov/index_4696.html.

- Section 504 of the Rehabilitation Act of 1973 http://www.usdoj.gov/crt/ada/adahom1.htm.

- Executive Order 13347, Individuals with Disabilities in Emergency Preparedness http://www.whitehouse.gov/news/releases/2004/07/20040722-10.html.

- Age Discrimination Act of 1975 http://www.dol.gov/dol/topic/discrimination/agedisc.htm.

- Americans with Disabilities Act of 1990 http://www.usdoj.gov/crt/ada/adahom1.htm.

Links to Related Reports

- The Federal Response to Hurricane Katrina: Lessons Learned
  http://www.whitehouse.gov/reports/katrina-lessons-learned.pdf.

- We Can Do Better – Lessons Learned for Protecting Older Persons in Disasters
  http://assets.aarp.org/rgcenter/il/better.pdf.

- Strategies in Emergency Preparedness for Transportation-Dependent Populations
  http://www.dotcr.ost.dot.gov/Documents/Emergency/Emergency Preparedness
  Strategy Paper.doc.

- National Workshop on Transportation Equity
  http://www.fta.dot.gov/documents/Masterdocument.doc.

- The Impact of Hurricanes Katrina and Rita on People with Disabilities
  http://www.ncd.gov/newsroom/publications/2006/pdf/hurricanes_impact.pdf.

- Government Accountability Office–Disaster Preparedness
  http://www.gao.gov/new.items/d06790t.pdf.

- Emergency Evacuation Report Card 2006
  http://www.highways.org/pdfs/evacuation_report_card2006.pdf.

Summaries of Other Related Materials

- Transit Agency Security and Emergency Management Protective Measures,
  November 2006. This guidance, prepared by the Federal Transit Administration in
  consultation with the Department of Homeland Security Transportation Security
  Administration and the Office of Grants and Training and the American Public
  Transportation Association, provides a comprehensive approach for transit
  agencies to integrate their entire security and emergency management programs
  with the Department of Homeland Security Advisory System threat conditions.
  http://transit-
  safety.volpe.dot.gov/publications/security/ProtectiveMeasures/PDF/ProtectiveMe
  asures.pdf.

- Disaster Response and Recovery Resource for Transit Agencies, August 2006.
  Prepared for the Federal Transit Administration, this report provides best
  practices and links to specific resources for transit agencies concerning critical
  disaster elements such as emergency preparedness, disaster response, and
  recovery.
  http://transit-safety.volpe.dot.gov/publications/safety/DisasterResponse
  /HTML/DisasterResponse.htm.

- Memorandum from Norman T. Mineta, Emergency Preparedness for People with Disabilities, August 2003. This memorandum provides answers to basic questions about emergency preparedness and the needs of people with disabilities in the Department of Transportation. http://www.dotcr.ost.dot.gov/documents/dotpart/pwd_guidelines.htm.

- The Public Transportation System Security and Emergency Preparedness Planning Guide, January 2003. This guidance, prepared for the Federal Transit Administration provides information to support the activities of public transportation systems to plan for and respond to major security threats and emergencies. http://transit-safety.volpe.dot.gov/Publications/security/PlanningGuide.pdf.

- U.S. Department of Transportation (DOT) Order 1900.9, April 2000. This DOT order describes the department's roles, responsibilities and actions that apply to emergency transportation management during domestic and national security emergencies. http://www.dot.gov/ost/oet/1900-9.pdf.

- Critical Incident Management Guidelines, 1998. Prepared for the Federal Transit Administration, this document provides comprehensive discussion of community activities necessary to support emergency preparedness, mitigation, response, and recovery. http://onlinepubs.trb.org/onlinepubs/security/FinalCrisisManagementGuidelines.pdf.

- Recommended Emergency Preparedness Guidelines for Urban Rural and Specialized Transit Systems, 1991. These guidelines, prepared for the Federal Transit Administration, provide recommendations designed to assist transit system and emergency response organization personnel to evaluate and modify their emergency response plans to address the needs of urban, rural, and specialized transit passengers. http://www.ctav.org/Downloads/Rec_Emer_Prep_For_Urban_Rural_Spec_Tran_Sys.pdf.

Appendix A
Summary of Demographic Profiles

Region 1: Honolulu, HI Core-Based Statistical Area (CBSA)

Statistic	Value
Area (sq. mi.)	604
Census Tracts	216
Total Population	876,151
Minority Population	689,668
Below Poverty Population	83,937
Population (5 years and older)	814,820
LEP Population (5 years and older)	113,550
Total Households	286,450
Zero-Car Households	36,614

Positive correlations greater than 0.50 among the **Honolulu, HI CBSA** regional populations:
- correlation of 0.76 between minority and LEP populations
- correlation of 0.58 between below poverty and LEP populations
- correlation of 0.57 between below poverty populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.50 between minority and below poverty populations
- correlation of 0.50 between LEP populations and zero-car households
- correlation of 0.18 between minority populations and zero-car households

Region 2: San Jose-San Francisco-Oakland, CA Core Statistical Area (CSA)

Statistic	Value
Area (sq. mi.)	8,818.6
Census Tracts	1,465
Total CSA Population	7,088,410
Minority Population	2,923,892
Below Poverty Population	607,698
Population (5 years and older)	7,783,306
LEP Population (5 years and older)	1,147,090
Total Households	2,571,456
Zero-Car Households	254,141

Positive correlations greater than 0.50 among the **San Jose -San Francisco-Oakland, CA CSA** regional populations:
- correlation of 0.73 between minority and LEP populations
- correlation of 0.63 between below poverty populations and zero-car households
- correlation of 0.51 between minority and below poverty populations

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.40 between below poverty and LEP populations
- correlation of 0.37 between minority populations and zero-car households
- correlation of 0.36 between LEP populations and zero-car households

Region 3: Los Angeles-Long Beach-Riverside, CA CSA

Statistic	Value
Area (sq. mi.)	34,000
Census Tracts	3,373
Total Population	16,365,553
Minority Population	7,344,772
Below Poverty Population	2,510,110
Population (5 years and older)	15,124,980
LEP Population (5 years and older)	3,707,686
Total Households	5,347,107
Zero-Car Households	537,885

Positive correlations greater than 0.50 among the **Los Angeles-Long Beach-Riverside, CA CSA** regional populations:
- correlation of 0.79 between minority and LEP populations
- correlation of 0.77 between below poverty and LEP populations
- correlation of 0.75 between minority and below poverty populations
- correlation of 0.68 between below poverty populations and zero-car households

Correlations between other populations that were below .50 are as follows:
- correlation of 0.50 between LEP populations and zero-car households
- correlation of 0.45 between minority populations and zero-car households

Region 4: Seattle-Bellevue-Tacoma, WA CSA

Statistic	Value
Area (sq. mi.)	8,247
Census Tracts	784
Total Population	3,604,165
Minority Population	741,164
Below Poverty Population	303,090
Population (5 years and older)	3,368,005
LEP Population (5 years and older)	213,575
Total Households	1,410,381
Zero-Car Households	108,408

Positive correlations greater than 0.50 among the **Seattle-Bellevue-Tacoma, WA CSA** regional populations:
- correlation of 0.89 between minority and LEP populations
- correlation of 0.64 between minority and below poverty populations
- correlation of 0.62 between below poverty populations and zero-car households

- correlation of 0.57 between below poverty and LEP populations

Correlations between other populations that were below .50 are as follows:
- correlation of 0.34 between minority populations and zero-car households
- correlation of 0.34 between LEP populations and zero-car households

Region 5: Flagstaff, AZ CBSA

Statistic	Value
Area (sq. mi.)	18,658
Census Tracts	27
Total Population	116,320
Minority Population	42,939
Below Poverty Population	20,609
Population (5 years and older)	107,876
LEP Population (5 years and older)	10,836
Total Households	40,448
Zero-Car Households	2,790

Positive correlations greater than 0.50 among the **Flagstaff CBSA** regional populations:
- correlation of 0.91 between minority and below poverty populations
- correlation of 0.76 between below poverty populations and zero-car households
- correlation of 0.65 between minority populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.32 between minority and LEP populations
- correlation of 0.26 between below poverty and LEP populations
- correlation of 0.14 between LEP populations and zero-car households

Region 6: Brownsville-Harlingen, TX CBSA

Statistic	Value
Area (sq. mi.)	953
Census Tracts	86
Total CBSA Population	335,227
Minority Population	66,088
Below Poverty Population	107,970
Population (5 years and older)	303,483
LEP Population (5 years and older)	106,588
Total Households	119,654
Zero-Car Households	11,305

Positive correlations greater than 0.50 among the **Brownsville-Harlingen, TX CBSA** regional populations:
- correlation of 0.85 between below poverty and LEP populations
- correlation of 0.83 between minority populations and LEP populations

- correlation of 0.65 between minority and below poverty populations
- correlation of 0.58 between below poverty and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.47 between LEP populations and zero-car households
- correlation of 0.40 between minority populations and zero-car households

Region 7: Houston-Baytown-Huntsville, TX CSA

Statistic	Value
Area (sq. mi.)	1,134
Census Tracts	908
Total Population	4,815,122
Minority Population	1,785,856
Below Poverty Population	649,801
Population (5 years and older)	4,429,761
LEP Population (5 years and older)	674,321
Total Households	1,689,003
Zero-Car Households	130,092

Positive correlations greater than 0.50 among the **Houston-Baytown-Huntsville, TX CSA** regional populations:
- correlation of 0.82 between below poverty population and zero-car households
- correlation of 0.77 between below poverty and LEP populations
- correlation of 0.71 between minority and below poverty populations
- correlation of 0.65 between minority and LEP populations
- a correlation of 0.57 between minority populations and zero-car households
- a correlation of 0.54 between LEP and zero-car households

Region 8: Lafayette, LA CBSA

Statistic	Value
Area (sq. mi.)	1,087
Census Tracts	50
Total Population	239,086
Minority Population	67,288
Below Poverty Population	39,477
Population (5 years and older)	221,495
LEP Population (5 years and older)	11,337
Total Households	89,536
Zero-Car Households	7,883

Positive correlations greater than 0.50 among the **Lafayette, LA CBSA** regional populations:
- correlation of 0.87 between minority and below poverty populations
- correlation of 0.79 between below poverty and zero-car households

- correlation of 0.78 between minority populations and zero-car households
- correlation of 0.62 between below poverty and LEP populations

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.31 between minority and LEP populations
- correlation of 0.27 between LEP populations and zero-car households

Region 9: Pine Bluff, AR CBSA

Statistic	Value
Area (sq. mi.)	2,085.3
Census Tracts	33
Total Population	107,341
Minority Population	49,832
Below Poverty Population	19,689
Population (5 years and older)	101,333
LEP Population (5 years and older)	1,178
Total Households	38,093
Zero-Car Households	4,124

Positive correlations greater than 0.50 among the **Pine Bluff, AR CBSA** regional populations:
- correlation of 0.83 between below poverty populations and zero-car households
- correlation of 0.68 between minority and below poverty populations
- correlation of 0.65 between minority populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.12 between below poverty and LEP populations
- correlation of 0.02 between minority and LEP populations
- correlation of -0.01 between LEP populations and zero-car households

Region 10: St. Louis, MO-IL CBSA

Statistic	Value
Area (sq. mi.)	8,831
Census Tracts	551
Total Population	2,698,687
Minority Population	569,975
Below Poverty Population	264,721
Population (5 years and older)	2,519,595
LEP Population (5 years and older)	49,291
Total Households	1,048,279
Zero-Car Households	93,475

Positive correlations greater than 0.50 among the **St. Louis, MO-IL CBSA** regional populations:

- correlation of 0.79 between below poverty populations and zero-car households
- correlation of 0.71 between minority and below poverty populations
- correlation of 0.60 between minority populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.30 between LEP populations and zero-car households
- correlation of 0.18 between below poverty and LEP populations
- correlation of 0.10 between minority and LEP populations

Region 11: Chicago-Naperville-Joliet, IL-IN-WI CSA

Statistic	Value
Area (sq. mi.)	8,573
Census Tracts	2,105
Total Population	9,302,726
Minority Population	3,051,134
Below Poverty Population	954,168
Population (5 years and older)	8,617,563
LEP Population (5 years and older)	1,017,833
Total Households	3,355,583
Zero-Car Households	453,809

Positive correlations greater than 0.50 among the **Chicago-Naperville-Joliet, IL-IN-WI CSA** regional populations:
- correlation of 0.82 between below poverty populations and zero-car households
- correlation of 0.74 between minority and below poverty populations
- correlation of 0.70 between minority populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.08 between below poverty and LEP populations
- correlation of 0.06 between LEP populations and zero-car households
- correlation of 0.05 between minority and LEP populations

Region 12: Atlanta-Sandy Springs-Marietta, GA CBSA

Statistic	Value
Area (sq. mi.)	8,483.9
Census Tracts	690
Total CBSA Population	4,247,981
Minority Population	1,552,523
Below Poverty Population	397,037
Population (5 years and older)	4,190,991
LEP Population (5 years and older)	259,256
Total Households	1,554,154
Zero-Car Households	492,166

Positive correlations greater than 0.50 among the **Atlanta-Sandy Springs-Marietta, GA CBSA** regional populations:
- correlation of 0.90 between below poverty populations and zero-car households
- correlation of 0.63 between minority and below poverty populations
- correlation of 0.63 between minority populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.15 between minority and LEP populations
- correlation of 0.13 between below poverty and LEP populations
- correlation of 0.05 between LEP populations and zero-car households

Region 13: Albany, GA CBSA

Statistic	Value
Area (sq. mi.)	1,960
Census Tracts	46
Total Population	157,833
Minority Population	79,972
Below Poverty Population	33,002
Population (5 years and older)	145,995
LEP Population (5 years and older)	2,037
Total Households	57,403
Zero-Car Households	6,556

Positive correlations greater than 0.50 among the **Albany, GA CBSA** regional populations:
- correlation of 0.81 between minority and below poverty populations
- correlation of 0.68 between below poverty populations and zero-car households
- correlation of 0.64 between minority populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.16 between LEP populations and zero-car households
- correlation of -0.06 between minority and LEP populations
- correlation of -0.27 between below poverty and LEP populations

Region 14: Pittsburgh, PA CBSA

Statistic	Value
Area (sq. mi.)	5,336
Census Tracts	721
Total Population	2,431,087
Minority Population	248,643
Below Poverty Population	256,990
Population (5 years and older)	2,296,228
LEP Population (5 years and older)	35,276
Total Households	995,505
Zero-Car Households	127,554

Positive correlations greater than 0.50 among the **Pittsburgh, PA CBSA** regional populations:
- correlation of 0.71 between below poverty populations and zero-car households
- correlation of 0.60 between minority populations and zero-car households
- correlation of 0.52 between minority and below poverty populations

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.35 between LEP populations and zero-car households
- correlation of 0.23 between below poverty and LEP populations
- correlation of 0.21 between minority and LEP populations

Region 15: Miami-Ft. Lauderdale-Miami Beach, FL CBSA

Statistic	Value
Area (sq. mi.)	5,441
Census Tracts	891
Total Population	5,007,564
Minority Population	1,397,512
Below Poverty Population	692,014
Population (5 years and older)	4,695,898
LEP Population (5 years and older)	1,008,963
Total Households	1,905,394
Zero-Car Households	210,173

Positive correlations greater than 0.50 among the **Miami-Ft. Lauderdale-Miami Beach, FL CBSA** regional populations:
- correlation of 0.66 between minority and below poverty populations
- correlation of 0.63 between below poverty populations and zero-car households

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.50 between below poverty and LEP populations
- correlation of 0.29 between LEP populations and zero-car households
- correlation of 0.22 between minority and zero-car households
- correlation of 0.16 between minority and LEP populations

Region 16: Washington-Baltimore-Northern Virginia, DC-MD-VA-WV CSA

Statistic	Value
Area (sq. mi.)	10,120
Census Tracts	1,682
Total Population	7,572,647
Minority Population	2,813,359
Below Poverty Population	608,605
Population (5 years and older)	7,055,969
LEP Population (5 years and older)	484,644
Total Households	2,857,170

Zero-Car Households	341,145

Positive correlations greater than 0.50 among the **Washington-Baltimore-Northern Virginia, DC-MD-VA-WV CSA** regional populations:
- correlation of 0.76 between below poverty populations and zero-car households
- correlation of 0.56 between minority and below poverty populations

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.42 between minority and zero-car households
- correlation of 0.41 between minority and LEP populations
- correlation of 0.19 between below poverty and LEP populations
- correlation of 0.09 between LEP populations and zero-car households

Region 17: Philadelphia-Camden-Vineland, PA, NJ, DE-MD CSA

Statistic	Value
Area (sq. mi.)	12,164
Census Tracts	1,504
Total Population	5,883,585
Minority Population	1,610,875
Below Poverty Population	619,316
Population (5 years and older)	5,455,406
LEP Population (5 years and older)	269,492
Total House Holds	2,183,587
Zero-Car Households	336,339

Positive correlations greater than 0.50 among the **Philadelphia-Camden-Vineland, PA, NJ, DE-MD CSA** regional populations:
- correlation of 0.82 between below poverty populations and zero-car households
- correlation of 0.79 between minority and below poverty populations
- correlation of 0.70 between minority populations and zero-car households
- correlation of 0.61 between below poverty and LEP populations

Correlations between other populations that were below 0.50 are as follows:
- correlation of 0.44 between minority and LEP populations
- correlation of 0.44 between LEP populations and zero-car households

Region 18: New York-Newark-Bridgeport, NY-NJ-CT-PA CSA

Statistic	Value
Area (sq. mi.)	12,164
Census Tracts	5,194
Total Population	21,361,785
Minority Population	7,628,665
Below Poverty Population	2,697,696
Population (5 years and older)	19,913,957

LEP Population (5 years and older)	3,080,373
Total Households	7,799,409
Zero-Car Households	2,221,628

Positive correlations greater than 0.50 among the **New York-Newark-Bridgeport, NY-NJ-CT-PA CSA** regional populations:
- correlation of 0.77 between minority and below poverty populations
- correlation of 0.70 between below poverty and LEP populations
- correlation of 0.65 between below poverty and zero-car households
- correlation of 0.63 between minority and LEP populations
- correlation of 0.57 between minority populations and zero-car households
- correlation of 0.51 between LEP populations and zero-car households

Region 19: Boston-Worchester-Manchester, MA-NH CSA

Statistic	Value
Area (sq. mi.)	7,497
Census Tracts	1,210
Total Population	5,715,698
Minority Population	840,864
Below Poverty Population	464,431
Population (5 years and older)	5,350,416
LEP Population (5 years and older)	387,430
Total Housing Households	2,182,343
Zero-Car Housing Units	264,431

Positive correlations greater than 0.50 among the **Boston-Worchester-Manchester, MA-NH CSA** regional populations:
- correlation of 0.76 between minority and LEP populations
- correlation of 0.76 between below poverty and LEP populations
- correlation of 0.73 between below poverty and zero-car households
- correlation of 0.72 between minority and below poverty populations
- correlation of 0.62 between LEP populations and zero-car households
- correlation of 0.57 between minority populations and zero-car households

Region 20: San Juan-Caguas-Fajardo, PR CSA

Statistic	Value
Area (sq. mi.)	1,700
Census Tracts	540
Total CBSA Population	2,518,893
Minority Population	529,874
Below Poverty Population	1,120,365
Population (5 years and older)	2,323,928
LEP Population (5 years and older)	1,658,826
Total Households	838,664
Zero-Car Households	234,356

Positive correlations greater than 0.50 among the **San Juan-Caguas-Fajardo, PR CSA** regional populations:

- correlation of 0.70 between below poverty populations and zero-car households
- correlation of 0.68 between below poverty and LEP populations

Correlations between other populations that were below 0.50 are as follows:

- correlation of 0.49 between minority and LEP populations
- correlation of 0.42 between minority and below poverty populations
- correlation of 0.44 between LEP populations and zero-car households
- correlation of 0.41 between minority and LEP populations

Appendix B
List of Agencies Reviewed

Region	Agency	Type
Honolulu	Hawaii DOT	State DOT
	Oahu Metropolitan Planning Organization	MPO
	Oahu Transit Service	Transit provider
San Francisco	California DOT	State DOT
	Metropolitan Transportation Commission	MPO
	AC Transit	Transit provider
	Bay Area Rapid Transit	Transit provider
	San Francisco Municipal Railway	Transit provider
	San Mateo County (Sam Trans)	Transit provider
	Santa Clara Valley Transit	Transit provider
	Golden Gate Transit	Transit provider
Los Angeles	California DOT	State DOT
	Southern California Association of Governments	MPO
	Southern California Regional Rail Authority (METROLINK)	Transit provider
	Los Angeles County Metropolitan Transportation Authority (METRO)	Transit provider
Seattle	Washington State DOT	State DOT
	Puget Sound Regional Council	MPO
	King County Department of Transportation	Transit provider
	Sound Transit	Transit provider
Flagstaff	Arizona DOT	State DOT
	Flagstaff MPO	MPO
	Mountain Line Transit/ VanGO Paratransit	Transit provider
Brownsville	TXDOT	State DOT
	Brownsville MPO	MPO
	Brownsville Urban System	Transit provider
Houston	TXDOT	State DOT
	Galveston Area Council	MPO
	Metro	Transit provider
Lafayette	Louisiana DOT	State DOT
	Lafayette Transit System	Transit provider
Pine Bluff	Arkansas DOT	State DOT
	Southeast Arkansas Regional Planning Commission	MPO
	Pine Bluff Transit	Transit provider

List of Agencies Reviewed (Continued)

Region	Agency	Type
St. Louis	Missouri DOT	State DOT
	Illinois DOT	State DOT
	East West Gateway Council of Governments	MPO
	Metro (Bi-State)	Transit provider
Chicago	Illinois DOT	State DOT
	Indiana DOT	State DOT
	Wisconsin DOT	State DOT
	Southeastern Wisconsin Regional Planning Commission	MPO
	Chicago Area Transportation Study	MPO
	Chicago Transit Authority	Transit provider
	Metra	Transit provider
	City of Kenosha DOT	Transit provider
	Lake County	Transit provider
Atlanta	Georgia DOT	State DOT
	Atlanta Regional Commission	MPO
	Metropolitan Atlanta Rapid Transit Authority	Transit provider
	Georgia Regional Transit Authority	Transit provider
	Cobb Community Transit	Transit provider
	Gwinnett County Department of Transportation	Transit provider
Albany	Georgia DOT	State DOT
	City of Albany Planning and Development Services Department	MPO
	Albany Transit System	Transit provider
Pittsburgh	Pennsylvania DOT	State DOT
	Southwestern Pennsylvania Commission	MPO
	Port Authority of Allegheny County	Transit provider
Miami	Florida DOT	State DOT
	Miami Urbanized Area MPO	MPO
	Miami-Dade Transit Agency	Transit provider

List of Agencies Reviewed (Continued)

Philadelphia	Pennsylvania DOT	State DOT
	Delaware Valley Regional Planning Commission	MPO
	South Jersey Metropolitan Planning Commission	MPO
	Southeastern Pennsylvania Public Transit Authority (SEPTA)	Transit provider
	New Jersey Transit	Transit provider
	Delaware Transit Corporation	Transit provider
New York	New York State DOT	State DOT
	Connecticut DOT	State DOT
	New Jersey DOT	State DOT
	North Jersey Transportation Planning Authority	MPO
	New York Metropolitan Transportation Council	MPO
	MTA (Includes LIRR, MNR, and NYCT)	Transit provider
	New Jersey Transit	Transit provider
Boston	Massachusetts DOT	State DOT
	Boston MPO	MPO
	MBTA	Transit provider
San Juan	Departamento de transportacion y obras publicas	DOT/MPP
	METRO – San Juan	Transit provider