Northeastern University Dukakis Center *for* Urban & Regional Policy

THE TOLL OF TRANSPORTATION Final Report



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NEIGHBOR TO NEIGHBOR MASSACHUSETTS



Northeastern University

School of Public Policy ど Urban Affairs Dukakis Center for Urban ど Regional Policy



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Kitty and Michael Dukakis Center for Urban and Regional Policy

The Kitty and Michael Dukakis Center for Urban and Regional Policy conducts interdisciplinary research, in collaboration with civic leaders and scholars both within and beyond Northeastern University, to identify and implement real solutions to the critical challenges facing urban areas throughout Greater Boston, the Commonwealth of Massachusetts, and the nation. Founded in 1999 as a "think and do" tank, the Dukakis Center's collaborative research and problem-solving model applies powerful data analysis, a bevy of multidisciplinary research and evaluation techniques, and a policy-driven perspective to address a wide range of issues facing cities and towns. These include affordable housing, local economic development, workforce development, transportation, public finance, and environmental sustainability. The staff of the Dukakis Center works to catalyze broad-based efforts to solve urban problems, acting as both a convener and a trusted and committed partner to local, state, and national agencies and organizations. The Center is housed within Northeastern University's innovative School of Public Policy and Urban Affairs.

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EXECUTIVE SUMMARY



Good transportation is critical for everyone, but is particularly vital for low-income and working families struggling to manage and improve their daily lives. Getting around — to jobs and to classes, to buy groceries or to see a doctor—has been shown to be a challenge for low-income households and people of color. Yet, surprisingly little is known about how these families navigate transportation challenges on a daily basis. Large national datasets, state surveys, and transportation models frequently fail to provide enough information on localized transportation issues or on the travel needs and behaviors of smaller demographic groups within the general population.

To better understand this important issue, Neighbor to Neighbor Massachusetts (N2N-MA) and the Kitty and Michael Dukakis Center for Urban and Regional Policy at Northeastern University collaborated on a mixed-methods data collection project with the intent of developing policy solutions to address the transportation needs of low-income and working Latino families in Massachusetts. The project focused on four Massachusetts cities with large Latino populations that represent a range of transportation environments: East Boston, Lynn, Springfield, and Worcester. We conducted door-to-door surveys with more than 350 residents in targeted neighborhoods and held focus groups in each city to collect information on how residents get around, where they go using different transportation modes, what obstacles and issues they contend with, and solutions for overcoming transit-related problems. This Executive Summary briefly reviews what we have learned and offers policy recommendations to increase equitable access to affordable and high-quality transportation. This analysis will guide and support N2N-MA's advocacy on behalf of lowincome communities of color, and educate policymakers and transportation planners about the real impacts of transportation on people's daily lives.

Key Findings and Conclusions

Transportation takes a heavy toll on the time, budget, and stress level of low-income Latino Massachusetts residents as they manage getting to work or class and meeting their basic needs. We found that:

- Low-income Latino residents lack good transportation options and must often choose between expensive dependence on automobiles and inadequate, time-consuming public transit;
- Transportation challenges adversely affect people's access to basic needs, broader opportunities, and overall quality of life;
- Low-income Latino residents of Massachusetts cities need better and more affordable transportation options, including more frequent public transit service that gets them to jobs and other important destinations in a reasonable amount of time and every day of the week.

No Good Choices

For many low-income Latino residents of Massachusetts, high-quality and reliable transportation options simply do not exist. Public transportation options leave much to be desired, yet the cost of vehicle ownership and upkeep is financially burdensome.

While not necessarily a preferred option, travel by car is the primary means of transportation for the majority of survey respondents. *While only 46% of the sample owned a car, 57%*

identified automobiles as their "primary" mode of transportation—a finding explained by the high but often invisible practice of regular reliance on someone else's car. Nearly one in six respondents in Lynn and Worcester, and nearly one in four in Springfield identified "someone else's car" as their primary means of transportation. Many respondents relied on cars, particularly for access to grocery shopping and visiting family and friends, even though they did not own a car or even in many cases (42% of respondents) have a driver's license. These figures reflect a high level of automobile dependence by a population that is neither enthusiastic about nor financially equipped for car ownership. Those who primarily travel by car cite the cost of car ownership and maintenance as a greater burden than traffic congestion or parking. Automobile ownership is seen as a solution to the inadequacies of the local public transit service, but one that is imperfect, with 83% of respondents reporting that gasoline prices are too high.

Overall, four in ten residents sampled lacked any access to a car and over one third of respondents (35%) relied on public transportation as their primary mode of transportation. Only 3% identified walking as their primary transportation mode and none identified bicycling as their primary transportation mode (only 9% of respondents even reported that they own a bicycle). In East Boston, however, with its more extensive Massachusetts Bay Transportation Authority (MBTA) Blue Line and bus service, 70% of respondents used public transportation as their primary mode, compared to less than one third of respondents in Lynn, Worcester, and Springfield.

While automobile reliance is both expensive and problematic for those who do not own a car or have a driver's license, cars were chosen as the primary means of transportation by a majority of respondents because of concerns about the quality and convenience of public transportation. Three out of four of survey respondents agreed with the statement, "If public transportation was better, I would drive and/or be driven less." While low-income Latino residents in the Greater Boston region report less dissatisfaction with public transportation service, residents living outside of the MBTA service area face significant disadvantages. Especially Worcester, Lynn, and Springfield, public transportation frequently fails to meet the needs of low-income Latino families. Although car ownership is financially burdensome, many low-income Latino families in Massachusetts are automobile-dependent out of necessity.

C When I came here 18 years ago, I spent three years taking the bus and walking. I had to buy a car because transportation here is so poor. **Out of all the places I've gone, I think Massachusetts is the place with the most transportation problems. 23**

- SPRINGFIELD FOCUS GROUP PARTICIPANT

The Toll of Transportation

These transportation challenges and disadvantages seriously and adversely affect the quality of life and access to opportunity for low-income Latino families in Massachusetts cities. Transportation takes a heavy toll on the lives of low-income Latino Massachusetts residents in many different ways including high costs, limited access to employment and other opportunities, wasted time, and added stress.

One major toll imposed by the current transportation system on low-income families is its cost. Inadequate access to reliable and convenient transportation in daily life is a drain on the limited amount of disposable or discretionary income available to low-income Latino families. While taking public transportation can sometimes be seen as a cost-saving measure, 42% of transit users reported that the cost of transit was a financial problem for them. In Massachusetts, the costs of transportation are high and potentially burdensome—regardless of mode: nearly 40% of survey respondents said that, at some point, they were forced to sacrifice a basic necessity in order to afford transportation.

The current transportation system also limits access to good jobs. We found that the varying levels of transit access in the four communities surveyed roughly paralleled trends in employment. East Boston residents have the second-best reported level of public transit access, and a substantially lower unemployment rate than the other project cities. Focus group participants described how poor access to transit and poor frequency of service resulted in difficulties finding or keeping a job, particularly second-shift jobs and jobs located in nearby locations not served by public transportation. Several focus group respondents recalled job openings they were unable to apply to because their local regional transit authority (RTA) does not offer weekend or late-night bus service. Limited access to transportation often limits access to opportunities other than employment. Although our survey respondents primarily live in neighborhoods with the highest proportions of zero-vehicle households within each city, 63% of survey respondents reported that they cannot access 'everyday' destinations like the grocery store, pharmacy, or post office on foot and are forced to travel outside of their neighborhoods to complete routine activities. When accounting for time waiting for the original and return-trip buses, time spent on buses, and time traveling to and from bus stops is factored in, accessing routine destinations via public transit service (especially in Worcester and Springfield) can take hours or even all day. One focus group participant reported that a family member was forced to withdraw from the local college because of conflicts with the transit schedule.

Finally, inadequate transportation options cost low-income Latino residents not only money and opportunity but also valuable time. Survey and focus group participants tend to spend a great deal of time traveling between destinations, only to arrive late at medical appointments, work, or school because of transportation-related issues. Roughly one-quarter of survey respondents reported that transportationrelated issues caused repeated lateness to work; 30% were repeatedly late to health care appointments; and 32% said they were repeatedly late to school. These figures may well understate the problem of time lost to transportation because residents have learned to respond to the system's unreliability by allowing more time to get to their destinations: Some focus group participants described their strategy of arriving at the bus stop one full hour in advance of the bus's scheduled arrival time in order to combat "no-shows."

Creating Better Options

Based on these findings, we conclude that low-income Latino residents of Massachusetts cities need better and more affordable transportation options in order to ensure access to basic needs and greater opportunity. While the survey and focus groups only included four sites across the state, we are confident that our conclusions are applicable to communities across the Commonwealth; the issues and concerns raised are likely to be similar in places from Lowell and Lawrence to New Bedford and Fall River, and from Fitchburg to Pittsfield and North Adams. The Commonwealth's low-income residents and working families need better transportation choices, including reliable transit that allows them to get to jobs, school, and all the other places they need and want to go.



Although some transportation improvements and policy changes may require a long time to implement, others could be made in a year or less and would have immediate positive effects on the daily lives of low-income Latino residents of Massachusetts cities. Neighbor to Neighbor and The Dukakis Center therefore call on the Commonwealth, transportation, transit and regional planners, and municipal officials to work with community groups and affected residents of cities throughout Massachusetts to:

- Improve and expand transit options: Funding for the regional transit authorities must be increased in order to allow transit providers to increase service frequency, extend hours of service, expand weekend service and establish new routes to better connect low-income residents and neighborhoods with low automobile ownership to employment and other frequent destinations such as grocery stores and medical centers. At the same time, the MBTA needs to reassess its bus routes outside core Boston neighborhoods to achieve the same access goals.
- Improve the affordability of transportation: Public transportation must remain affordable even as its reach is expanded. Planned increases in gasoline taxes, tolls and transit fares under the recent transportation finance leg-islation need to be accompanied by measures to mitigate the impact of higher costs on low-income residents.
- Increase walking and biking: Economic development and land-use planning should focus on bringing more necessities within walking distance of low-income households with limited automobile and transit access and on improving walkability in their neighborhoods. Bike sharing might be an important addition to these neighborhoods and consideration should be given to expanding the current Hubway system and creating bike sharing or other biking options outside of the Hubway geography, in order to reach more low-income Latino neighborhoods
- Connect policy and planning: Transit shapes access to job



training, school and health care, and so transit planning must focus on improving access to these destinations. As regional transit authorities create the comprehensive regional transit plans required by the recent transportation finance legislation, the agencies need to better understand the social, demographic, and geographic realities of their customers and the key destinations for transit passengers and to involve those customers and communitybased organizations in the planning process. At the same time, state and municipal officials need to consider transit linkages in all relevant programs and policy decisions on issues ranging from workforce training to housing affordability to access to healthy food.

• Plan and invest for the long term: While the first priority must be improving and expanding existing services within cities, new bus and possibly rail service should be evaluated and implemented to improve connections between those cities and both the Boston core and nearby employment centers in order to better serve the many low-income Latino communities across the state that lack accessible and affordable transportation to jobs and other opportunities.

These changes in transportation policy and investments need to be implemented as quickly as possible in order to reduce the tolls of transportation and increase the prosperity not only of low-income Latinos but of low-income and working families throughout the Commonwealth.

INTRODUCTION



Good transportation is critical for everyone, but is particularly vital for low-income and working families struggling to manage and improve their daily lives. Getting to jobs and classes, to buy groceries or to see a doctor is often a challenge for underprivileged households and people of color. However, surprisingly little is known about how these challenges are navigated on a daily basis. Large national datasets, state surveys, and transportation models frequently fail to provide information relevant to local transportation issues or about the travel needs and behaviors of specific groups of people.

Previous research indicates that for the typical American household, transportation costs are the second-largest expense after housing costs. In fact, the costs associated with owning a vehicle prohibit many households from doing so. In policy circles, households in which no members own their own cars are known as 'zero-vehicle households'; in Boston, over 223,000 households—or about three percent of households overall—were zero-vehicle in the year 2010. Because of the high costs of car ownership, low-income households are more likely to be zero-vehicle and less likely to own or have access to a car. Subsequently, low-income and immigrant households have higher rates of riding public transportation and engaging in alternative forms of transit such as biking, walking, and carpooling. Low-income, zero-vehicle, immigrant, and minority populations constitute the majority of those considered 'core transit riders.'

It is clear that members of these population groups are limited in terms of affordable, available, and accessible transportation options. Restricted transportation access often directly translates into a lack of reliable access to employment, education, retail, and healthcare destinations. While there are strategies that transit-marginalized populations have developed to mitigate their transitrelated burdens, many of these solutions include selfimposing limits on the frequency or distance of trips.

To better understand the needs, challenges, and solutions related to transportation in low-income and Latino Massachusetts communities, Neighbor 2 Neighbor Massachusetts (N2N-MA) and the Kitty and Michael Dukakis Center for Urban and Regional Policy at Northeastern University collaborated on a mixed-methods data collection project between the fall of 2012 and the spring of 2013. The project focused on four Massachusetts cities that represent a range of transportation environments: East Boston, Lynn, Springfield, and Worcester. We conducted door-to-door surveys with more than 350 residents in targeted neighborhoods and held focus groups in each city to collect information on how residents get around, where they go using different transportation modes, obstacles and issues they often contend with, and solutions for overcoming transit-related problems.

Specifically, our project goals included:

- Describing how low-income and Latino residents of Massachusetts use transportation to access employment, school, health care, religious, and other destinations;
- Identifying transportation-related barriers that keep these populations from securing jobs and accessing basic necessities;

C I could go to a city that has better employment options, but I cannot work there due to transportation issues. It takes a lot of work to travel.
 WORCESTER FOCUS GROUP PARTICIPANT

- Educating policy makers and others on how one of the state's most vulnerable population depends on our transportation infrastructure;
- Informing policy decisions on funding for transportation and transit service planning; and
- Assisting N2N- MA in their advocacy for the transportation needs of low-income and Latino households.

This report documents our project's findings about the transportation issues that impact the lives and livelihoods of primarily low-income, Latino residents in four Massachusetts cities. This community is often dependent on public transportation service, and members often struggle to afford the costs of car ownership. The quality of transportation, the issues associated with the cost and reliability of transportation, and the lack of car ownership shapes quality of life and limits access to jobs, health care services, and other destinations.

Our findings focus on three aspects of transportation in the communities we surveyed: transportation options, affordability, and accessibility. With regard to mode use, we found a significant number of residents relying on private automobiles despite the presence of public transit service in their communities. Strikingly, we spoke to a high number of people who did not have drivers licenses or cars of their own, but relied almost exclusively on automobiles to get around. We also found that the cost of transportation was a significant burden for many households in our study. This was common between both public transit riders living in Boston, and car drivers living in Springfield. Finally, we found that even when residents feel connected to the transit network itself, they are limited in terms of the destinations they are subsequently able to access. Our research indicates that transportation takes a heavy toll on the time, budget, and stress level of low-income Latinos in Massachusetts as they manage getting to work, class, or simply meeting their basic needs. We found that:

- Low-income Latino residents lack adequate transportation options and must often choose between expensive dependence on automobiles or inadequate, time-consuming public transportation;
- Transportation challenges affect overall quality of life and access to basic needs and opportunities; and that
- Low-income Latinos in Massachusetts cities need better and more affordable transportation options, including more frequent public transit service that gets residents to jobs and other important destinations in a reasonable amount of time and every day of the week.

This report is organized into six sections. Following a brief review of our methodology and the descriptive statistics of our door-to-door interview sample, we present the project's overall findings. We next review results by city, providing details and context to the transportation data gleaned from each survey site. Our analysis concludes with a discussion of our findings and two major take-aways of this project: low-income Latinos in Massachusetts simply have no good choices when it comes to transportation in and across the state, and the transportation challenges facing low-income Latinos in the state seriously and adversely affect quality of life and access to opportunity. We end the report with policy recommendations intended to improve the transportation scenarios that marginalized populations face state-wide.

It is our hope that this analysis will both bolster N2N-MA's advocacy on behalf of low-income communities of color and educate policy makers and transportation planners about the real impacts of transportation on residents' daily lives.

METHODS



This project's design is largely qualitative and relies heavily on in-person interviews that were collected by going doorto-door in select communities and focus groups held following the initial interviews. Interview participants were randomly selected based on address lists generated by the Dukakis Center and N2N-MA, and were invited to participate in the focus groups that were held one month following the completion of interviews. Focus group attendance and participation was supplemented with N2N-MA members who had not been contacted to complete an interview. The surveys were conducted between November 2012 and January 2013; the focus groups were held on four different evenings in March 2013.

In the first phase of the project—the interview phase project researchers selected specific cities and neighborhoods to target for completion of the door-to-door interviews. In consultation with the Dukakis Center, N2N-MA developed a specific set of criteria for selecting the communities in which to collect data. These criteria took into account:

• The number or share of low-income, Latino residents in the area;

- The presence of an N2N-MA field office and/or an affiliate (i.e. Neighbors United for a Better East Boston (NUBE)); and
- The range of transportation options available within the area.

Based on these criteria, East Boston, Lynn, Springfield, and Worcester were selected as the study's research sites.

- East Boston is located within the core Massachusetts Bay Transportation Authority (MBTA) service area;
- Lynn is located in the more peripheral MBTA service region, and is served by one MBTA commuter rail stop and nine MBTA bus lines;
- Worcester and Springfield are cities in the Central and Western regions of the state, and are primarily served by local buses operated by Regional Transit Authorities (RTAs). While the MBTA does offer commuter rail service to Boston and the Greater Boston region from Worcester, interstate public transit access is more limited to and from Springfield.

After the four target cities were selected and neighborhoods with high concentrations of low-income Latinos and N2N-MA members were identified, we obtained precinct lists based on each city's annual census and compiled anonymous address lists via a random stratified sampling technique. We took care to ensure included addresses were located both sides of each street, included households with varied access to public transit, and included households located throughout the identified research areas. N2N-MA and NUBE members were recruited and trained as interviewers in surveying techniques and human subjects training. Interviewers were sent out in bilingual teams of two (at least one interviewer per pair was required to speak Spanish). Interviewers were instructed to interview any person who met the selection criteria (respondents must be over 18 and give consent) and provide residents with a flyer explaining the project.

The survey was developed jointly by N2N-MA and the Dukakis Center and was based on information gathered from N2N-MA organizers and members. The survey was initially developed in English and later translated into Spanish. All interview protocols, surveys, training and outreach materials were approved by the Northeastern University Institutional Review Board (IRB). Completed surveys were randomly checked for accuracy, entered into a Microsoft[®] Access database, coded, and analyzed by Dukakis Center staff. Results are reported for the overall sample and for each city. Most of the statistical analysis is based on information collected in the surveys and consists of descriptive statistics and selected cross tabulations. Additionally, completed surveys were geocoded to produce the maps included in this report.

In the second phase of the project, we conducted four focus groups (one in each city we targeted for in-person interviews). Focus groups were held at the local N2N-MA office and were facilitated by an N2N-MA member with extensive experience in focus group moderation. Participants in the focus groups were recruited from among those interviewed in the door-to-door surveys and through direct outreach by N2N-MA chapters. Participants received a \$25 gift card to Target following the focus group.

Like the interview questions, N2N-MA and Dukakis Center staff jointly developed the focus group questions. Focus group questions were based upon the project's research goals, feedback from N2N-MA community meetings, and the results of the survey interviews. All but one focus group was conducted entirely in Spanish. Focus groups were recorded, transcribed, and translated into English.



DETAILED SAMPLING METHODOLOGY

To conduct the door-to-door survey, we used a cluster sampling methodology to select participants. After cities were selected, project staff identified neighborhoods for surveying and a list of 18 'groups of addresses' were identified. Each group contained 20 addresses that were centered on individual blocks. A starting point for each group was randomly selected in each city. Canvassers were directed to start at the first address in each group to survey, knock three times to get access to a resident, and then interview the first eligible resident willing to be surveyed at that address; interviewers would then move on to the next address. Each individual address group was to be surveyed for up to two hours, and then surveyors were directed to move on to the next group of addresses.

Two adjustments in the statistical analysis were used to accommodate the cluster sampling methodology and the differences in the chance of being selected for a survey between different cities. Survey cluster commands were used to reflect the cluster sampling frame and the sample was weighted to reflect the odds that an individual would be interviewed and the relative numbers of Latinos in each of the four cities participating in the study. These adjustments were necessary in order to ensure accurate point estimates of effect and appropriate confidence intervals to provide information on statistical significance. We used chi square and difference of mean tests to assess whether between group differences were statistically significant.

INTERVIEW SAMPLE DEMOGRAPHICS

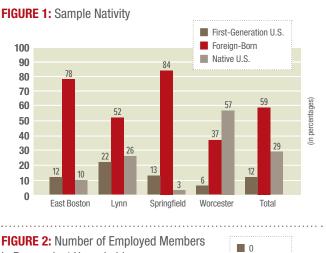
Overall, 352 people were interviewed via door-to-door surveys across the four survey sites. As we had projected based on our methodology, our sample consists primarily of women (70%) and people of Hispanic origin (80%), as seen in Table 1. 36% of the sample is between the ages of 18 and 35, and 35% of respondents are between 36 and 50 years old.

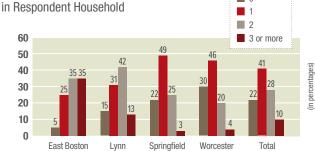
Given that our research focus is on low-income households, our metrics for 'low' and 'high' incomes are relative and contextual. We consider households with reported incomes of under \$20,000 as 'low income' and households with reported incomes of over \$40,000 as 'high income'. Based on these definitions, our survey respondents tend to be very low-income. 75% of respondents report their total household incomes as below \$20,000, and less than 6% of respondents report household incomes greater than \$40,000 (see Table 1).

59% of interview participants in our sample are foreignborn, and another 12% are what we consider first-generation, meaning at least one of their parents was born outside of the United States. A minority of our sample—just 29% are native United States citizens, meaning that both they and their parents were born here (see Figure 1). 54% of

	East Boston	Lynn	Springfield	Worcester	Total
Total Respondents	61	50	99	142	352
RACE					
Multi-racial	10%	4%	2%	3%	4%
Other	7%	50%	93%	61%	57%
No answer	57%	0%	1%	4%	9%
White	25%	24%	2%	20%	18%
Black	0%	12%	2%	12%	9%
Asian	2%	10%	0%	1%	3%
SEX					
Female	55%	69%	69%	72%	70%
Male	45%	31%	31%	25%	30%
LATINO ORIGIN					
Latino	87%	54%	96%	73%	75%
Not Latino	13%	46%	4%	27%	25%
AGE					
18-35	50%	40%	27%	33%	36%
36-50	33%	32%	46%	33%	35%
51-65	13%	22%	18%	23%	21%
66+	3%	6%	9%	11%	8%
INCOME					
Less than \$20,000	57%	75%	81%	79%	76%
\$20-40,000	36%	17%	19%	13%	17%
\$40-60,000	5%	8%	0%	6%	5%
\$60-80,000	2%	0%	0%	1%	1%
\$80,000+	0%	0%	0%	1%	1%
EMPLOYMENT					
Unemployed	18%	45%	72%	61%	54%

TABLE 1: Sample Demographics





interview respondents are unemployed (see Table 1), and 22% of respondents live in a household where no household members are employed (see Figure 2).

Given the characteristics of our interview sample, the data and results presented in this report reflect a population that is mostly young, female, poor, Latino, immigrant, and underemployed. In other words, this is a population particularly vulnerable to discrimination, hardship, and poverty, and likely to be dependent on public transportation services to get around. The information we gathered about the travel patterns and trends of low-income Latinos in Massachusetts is rich and substantive. It is clear that transportation is a significant concern for many we spoke with during both door-to-door interviews and focus groups. While there are many strategies that households and residents rely on to alleviate their transportation problems, there is a collective feeling that people are being left behind by the existing transportation system.

Our findings focus on three aspects of transportation in the communities we surveyed: mode use, cost, and accessibility. With regard to mode use, we found a significant number of residents relying on private automobiles despite the presence of public transit service in their communities. Strikingly, we spoke to a high number of people who did not have drivers licenses or cars of their own, but relied almost exclusively on automobiles to get around. We found that the cost of transportation was a significant burden for many households in our study. This was common between both public transit riders living in Boston, and car drivers living in Springfield. Finally, we found that even when residents feel connected to the transit network itself, they are limited in terms of the destinations they are subsequently able to access.

FINDINGS: TRANSPORTATION OPTIONS



Based on our findings, it appears that while low-income Latinos in Massachusetts are open to the idea of public transportation, they are not necessarily willing to ride it. Especially in cities like Worcester and Springfield that are outside of the MBTA primary service shed, residents are hesitant to commit to riding public transit because of negative perceptions about its quality and convenience. The limitations of public transit service compel many to rely on cars and private vehicles to get around.

C I've come to expect up to two hours, waiting for the bus. **99** – Springfield FOCUS GROUP PARTICIPANT

Primary Mode of Transportation

Survey respondents were asked about their transportation behaviors, and specifically about their primary mode of transportation. The response options that were offered distinguished between reliance on a car that the respondent owned themselves and reliance on a car owned by someone else. As seen in Figures 3 and 4, 42% of all respondents reported that an automobile the respondent personally owned was their primary means of transportation, and 59% of all workers said that they primarily commuted to work in a car. However, rates of car usage varied across the four communities: only 21% of respondents from East Boston the survey site with the 'best' transit access—identified their own car as their primary mode of transportation. Car ownership rates in the other three communities ranged from 44% to 56%.

C I have to ask for a ride to work because the only bus that would get me there on time stops near my house at 6:40, but my shift doesn't start until 9:00. **)** – WORCESTER FOCUS GROUP PARTICIPANT

The next most frequently-identified primary mode of transportation was public transit, cited by 34.5% of respondents. As predicted, subjects living in East Boston were the most likely to use public transit as their primary means of transportation (70.5%). Served by independent regional transit authorities (RTA's), the communities of Springfield (32.3%) and Worcester (28.1%) have lower percentages of primarily transit users. Although Lynn is served by the MBTA, the city is located outside of the primary service shed and is not served by any other RTA operating north of Boston. In fact, Lynn has both the highest rate of car ownership (56%) and the lowest rate of public transit usage (28.0%) of all four survey sites.

C I work in Peabody. I drive my own car to avoid what they are saying.**99** – LYNN FOCUS GROUP PARTICIPANT

One of the most striking findings of the interview surveys is that 15.6% of all respondents reported another person's car as their primary means of transportation. In fact, 43% of survey respondents do not even have a driver's license (see Figure 5). This suggests that despite large numbers of carless and driverless households, a significant proportion of low-income Latino households we surveyed are dependent on automobiles for transportation. Given that 76% of survey respondents agreed with the statement "If public transportation was better, I would drive and/or be driven less," this dependency on others' cars appears to be related more to the inadequacy of the transit system than to personal preference (see Figure 6). One focus group participant in Lynn remarked that if she could not find someone to give her a ride, she finds it difficult to get places. Her mobility is limited not by choice, but by the perceived unfeasibility of using public transportation.

In focus groups, participants described how non-car owners had to barter services, trade goods, or come up with money in order to convince neighbors, relatives, and friends to drive them places. This is a volatile and often problematic means of getting around, as these alternative rides are often expensive and unreliable. Most participants said they were uncomfortable depending on others for transportation, especially with respect to long-term transportation needs like going to work or visiting friends.

C Even though I'm busy, sometimes I give my neighbor a ride. He is a senior citizen and he is sick and not any better off than I am; sometimes he offers me money, but I tell him not to worry. I help wherever I can. **??** - LYNN FOCUS GROUP PARTICIPANT

Across the survey sites, respondents in high-income households are more likely to use their own car as their primary means of transportation (84%) than those in low income households (35%); in fact, there is a marked and significant difference in mode use by income as private vehicle usage increases as income rises. Simultaneously, public transit usage is the primary means of transportation for most low-income households in our sample, but public transit usage decreases as income rises (as does reliance on someone else's car) (see Figure 7).

C Most bikes that exist in the city of Lynn belong to children. The city is not built so that bikes are safe. **)** - LYNN FOCUS GROUP PARTICIPANT

Use of other transportation modes (bicycle and taxicab, specifically) are very limited. Only two interview survey respondents reported using bicycles as their primary means of transit, and only 27 respondents in the entire sample (9%) reported owning a bike at all. Given the strikingly low ownership and use of bikes, we asked focus group participants why bicycle use was so low in their communities. Focus group participants felt that owning a bike was expensive, riding a bike could be unsafe, and storing and securing a bicycle seemed overly cumbersome.

G It is dangerous to ride a bicycle. The sidewalks are not well formed and the road itself is not well formed... The second aspect is that if I have a bike, where do I put it, if I rent an apartment. Most people here are not homeowners. **99** – LYNN FOCUS GROUP PARTICIPANT

Cars as an Option

As previously discussed, our survey results show a high percentage of subjects who are not car owners, who do not have access to a car, and who do not have a driver's license (see Figures 3, 8, and 9). 39% of survey respondents also live in 'zero-vehicle' households. Unsurprisingly, the rate of living in zero-vehicle households was highest in East Boston (67.2%). As an additional means of gauging automobile access, we also asked about access to a vehicle whether or not the respondent owned a car themselves. 59% of respondents have access to a car regardless of ownership; this rate is highest in Worcester (65%) and lowest in East Boston (33%) (see Figure 9).

C On one occasion, the neighbor from upstairs, their car broke down, so my dad did them the favor of letting them borrow the car for like a month. You know, if she did not have the option of nice neighbors with letting the borrow the car for like a month or two... I don't know what she would have done. My dad had just bought the car. **??** - WORCESTER FOCUS GROUP PARTICIPANT

Because some have recommended that a solution to low automobile ownership rates among low-income populations is improved access to car ownership, we asked survey respondents whether or not they possessed a driver's license; 42.6% of all subjects reported that they did not. In transit-rich East Boston, 58.6% of respondents are unlicensed, again reflecting high access to a major public transportation system and low automobile dependence. The share of respondents without drivers' licenses is smaller at the other survey sites, with 30% of Lynn respondents, 48% of Springfield respondents, and 42% of Worcester respondents reporting not having driver's licenses (see Figure 5). This suggests that substantial shares of low-income Latinos in Massachusetts are unlicensed, and simply providing automobile access will not adequately address the transportation needs of this population.

Public Transportation as an Option

76.8% of all respondents across the survey sites reported that it was "easy or convenient" to walk to a public transportation stop from their home. As would be expected, East Boston respondents reported very high levels of convenient access to public transit (79%), and these figures were moderate in Lynn (66%) and Springfield (59%). We were surprised to discover that 88% of respondents in Worcester reported they had convenient access to WRTA bus service in their home neighborhoods. However, as will be reviewed later in this report, close proximity to service does not necessarily translate into reliable access to destinations (see Figure 10).

Access to public transit service is insignificant if the service that is provided does not adequately meet the needs of its users. To assess the quality of the public transit service that is provided, we asked users about aspects of the service that

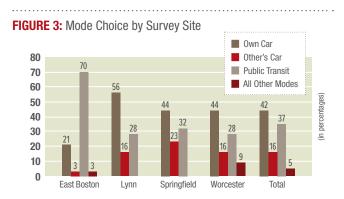
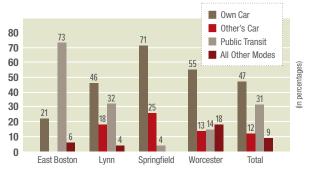


FIGURE 4: Commute Mode Choice of Employed Respondents



CC Last week I waited two hours for the bus. Where I live on Huntington Street, many people walk because the bus comes once an hour. Before, the bus came every halfhour, and people took it more. But then they changed it to every hour, and people had to resort to walking. **??** – WORCESTER FOCUS GROUP PARTICIPANT

may be troublesome, specifically the cost, convenience, operational hours, frequency, and reach of public transit service. East Boston and Lynn transit users in our sample said that the convenience of the service was a problem (77% and 75%, respectively) to a greater degree than respondents in Springfield (61%) or Worcester (34%). However, Springfield and Worcester respondents who are local RTA users expressed the most concern over service frequency and service hours of operation: 45% of Worcester transit users and 50% of Springfield transit users in the survey said that hours of operation was consistently problematic, and 55% of Worcester transit users said that service frequency was consistently problematic.



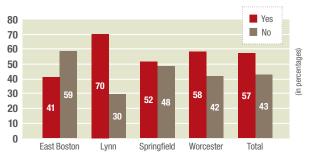


FIGURE 6: Percent of Respondents who Agree, "If public transportation was better, I would drive and/or be driven less."

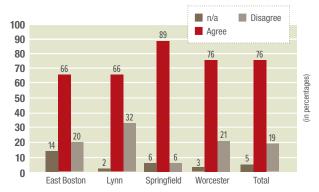
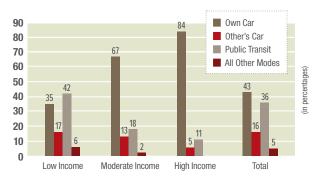


FIGURE 7: Mode Choice by Income



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FIGURE 8: "How many cars are owned by people living in your household?"

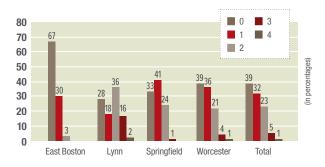
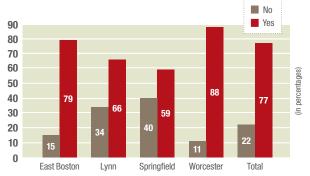






FIGURE 10: "Is it easy or convenient to walk from your house to a bus stop, train, or subway station?"



FINDINGS: COST ISSUES



Our survey results confirmed that low-income Latinos in Massachusetts feel financially burdened by the costs associated with transportation. Across all survey sites, 38.1% of respondents reported that at some point, they had gone without purchasing basic necessities because they had to meet the costs of transportation to get somewhere (see Figure 11).

GC What I see in my own life is that I get used to things as they are. Sometimes I want to take a cab but I have many other needs, and I just think, 'Well. Here's the thing...", and I end up walking two miles. I have a car but I have to pay to park the car on my credit card. I'm paying for a car that I really can't afford, but I can't get from my house to [work] every day in the winter without it. In the Spring I could take a bike or something, but it isn't safe to bike anymore. You have to be more creative about what you need. I have a job but it's hard for me to afford basic things, and I cannot really pay for transportation. **29** – LYNN FOCUS GROUP PARTICIPANT

Some focus group participants described how a sometimes frequent occurrence—when bus driver neglects to give proper change—can sometimes result in a customer not having enough money for a return fare.

Would-be riders have little choice but to walk for miles. 53% of respondents stated that the cost of public transit service was too high, while 46% felt that fare prices were appropriate (see Figure 12). By survey site, perceptions about affordability reflect reported levels of service access and quality: while 73% of respondents in Springfield felt that PVRTA rates (\$1.25) were too high, 66% of Worcester respondents felt that WMATA rates (\$1.80) were appropriate. As we expected, there was an overwhelming sense across survey sites that gas prices are too high, also (see Figure 13).

Based on their primary mode of transportation, survey respondents were asked to rank the troubling aspects of each transit mode. The most frequently cited problem among car users (both owners who drive their own car and passengers in other people's cars) was its cost. When asked to rank troublesome aspects of car use on a scale of 1 to 5 (with 1 indicating that the aspect was not at all troublesome and 5 indicating the aspect was consistently troublesome), car users overwhelmingly ranked 'expense' as the most troublesome aspect of ownership (i.e., respondents ranked expense as a '4' or a '5' on our 'troublesome aspects' scale). Among car users, 66% of respondents across the survey sites reported that the cost of automobile transportation was a major problem. Interestingly, the variation across cities was complex: 97% of Springfield drivers, 60% of East Boston drivers, 59% of Worcester drivers, and 59% of Lynn drivers said cost was a major issue for them (see Figure 14). Regardless of the relative significance of an automobile's cost burden, the majority of respondents at each survey site identified the cost of ownership as its most significant burden (see Figure 15).

C The interesting thing is that sometimes when we damage the car, we have to wait a few months, to collect the money to fix the car. Then, during that time we have to suffer by using public transportation. **??** – SPRINGFIELD FOCUS GROUP PARTICIPANT

The cost of public transportation service was also cited as one of its most troublesome aspects. Overall, 43% of transit users said that the cost of transit was a major problem. Respondents living in the MBTA-served communities of East Boston (57%) and Lynn (55%) reported that the cost of public transportation was more of a problem than public transit respondents in Springfield (45%) or Worcester (27%) (see Figure 16). Like car owners, public transit riders ranked its cost as one of the most negative aspects of the service (see Figure 17).

FIGURE 11: Respondents who have Sacrificed a Basic Necessity for Transportation

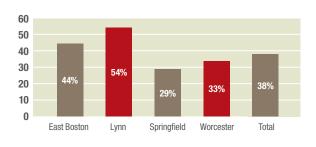


FIGURE 12: "In your opinion, do you find the cost of public transportation to be too high, too low, or appropriate?"

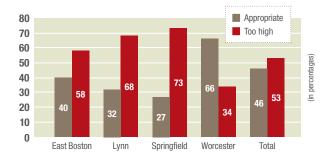


FIGURE 13: "In your opinion, do you find the cost of gas to be too high, too low, or appropriate?"

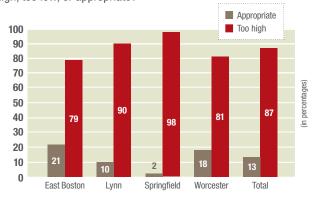


FIGURE 14: Cost as a Troublesome Aspect of Car Usage

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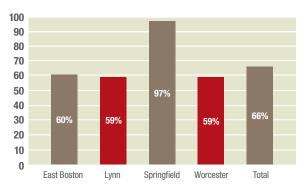


FIGURE 15: Troublesome Aspects of Car Ownership Average Score



FIGURE 16: Troublesome Aspects of Public Transit Ridership Average Score

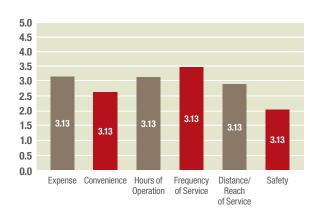
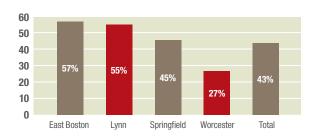


FIGURE 17: Transit Riders Ranking Cost as 4 or 5



FINDINGS: ACCESSIBILITY



The accessibility of a transportation network refers to the range and universe of places that households can travel to within the system. Even if residents have high-quality access to rapid transit service, if the transit service does not travel to places residents need to go, the service is functionally useless. We found that in Massachusetts, the reach of public transit service and the cost of travel within the transportation system can limit the number of destinations that low-income Latino households can reasonably travel to.

C There is also the problem of the buses only running down certain streets, and where the bus routes go. They only extend so far, and not beyond to certain areas. It can be hard to get out of the city of Springfield. **)** - SPRINGFIELD FOCUS GROUP PARTICIPANT

Access to Employment

Obviously, transportation is an important element of employment, as (most) workers must travel to get to their jobs. Especially for low income and minority populations, public transportation plays an especially important role in employment outcomes because these groups are more dependent on public transit service in general. Our survey results show a substantial difference in employment rates between survey sites that roughly parallel each site's reported level of access to public transportation services (see Figure 10 and Table 1). While there might be other factors that explain this association between transit access and employment (housing costs, differences in labor markets, etc.), it may be the case that access to reliable transportation service makes it easier for low-income people to access jobs. One focus group participant related that she routinely left for work two hours early because she could not depend on a bus schedule for getting her to work on time.

66 When I was working and had no car or it broke down on me, I had to travel on buses. But to use this mode of transportation means to spend 45 or 50 minutes getting to work, and sometimes when the bus is late, you end up not being able to make it and you can lose your job. **29** – SPRINGFIELD FOCUS GROUP PARTICIPANT

78% of employed survey respondents across survey sites reported getting to work in about 30 minutes or less. 15.4% of all respondents reported commute times of between 30 and 60 minutes, and 6% of all respondents commuted for over one hour each way. Again, there are significant differences in reported commute times by survey site. East Boston respondents who are employed reported the highest share of hour-plus commutes at 11%; meanwhile, 64% of employed Worcester respondents spend less than half an hour getting to work one-way. Only 12% and 13% of employed respondents in Springfield and Worcester spend longer than 30 minutes getting to work (see Figure 18). These differences in commute times may reflect an uneven geographic distribution of employment centers and job sites, disproportionate access to reliable transportation services, or both.

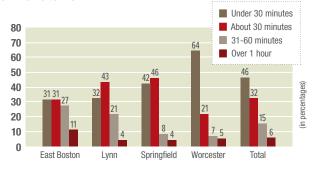
Access to Other Destinations

58% of survey respondents we spoke with need to travel outside of their immediate neighborhoods to access everyday destinations like grocery stores, pharmacies, banks, retail centers, and health care facilities (see Figure 19). Data gleaned from the surveys and anecdotal evidence collected in the focus groups indicates that many participants in our sample do not have reliable access to grocery stores or other retail destinations. 14% of survey respondents said they had been late to work, 33% had been late to medical/dental appointments, and 9% had been late to school or class because of transportation-related issues (see Figure 20). In Worcester, one young female focus group participant without a car of her own described how she was unable to obtain a ride to the grocery store in advance of a blizzard, and went without food for several days because of the storm.

C Once, it took me an entire morning to get to college on public transportation.
WORCESTER FOCUS GROUP PARTICIPANT



FIGURE 18: "On a typical day, how long does it take you to get from home to work?"



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FIGURE 19: "Are the everyday things you need to access in your immediate residential neighborhood?"

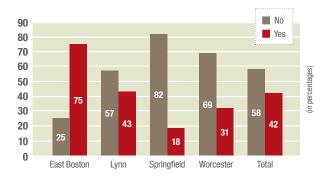
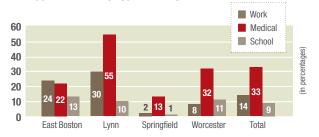


FIGURE 20: Percent of Respondents Consistently Late to Appointments, by Type and City



THE TOLL OF TRANSPORTATION – CITY PROFILE

EAST BOSTON

While we found consistent themes echoed at each survey site, we also learned about the unique transportation scenarios found in cities throughout the state. The next section of this report presents city-specific findings that provide context to the travel behaviors we identified at each survey site.

TABLE 2: East Boston Transportation Profile

Regional Transit Authority	Massachusetts Bay Transportation Authority (MBTA)	 Heavy rail service provided on the Blue Line Direct connections to downtown Boston At least 12 bus routes traverse the neighborhood
Commercial Bus Service	Greyhound, Peter Pan	Daily service from South Station
Commercial Train Service	Amtrak	Daily service from North & South Stations

TABLE 3: East Boston Demographics (ACS)

	East Boston	Survey Cities	MA
Total Population	40,508	464,025	6,512,227
Total Hispanic Population	21,419	140,771	606,922
% Hispanic	52.88%	30.34%	9.32%
% of Hispanics that are low-income	n/a	n/a	29.86%
% Workers in Zero-	32.4%	6.2% ¹	5.6%

Vehicle Households

¹ Excluding East Boston, whose rates of zero-vehicle household is an outlier.

Our research in East Boston reveals that close access to rapid transit service does not necessarily translate into a high level of access to destinations. Given its urban location and the density of its population, East Boston is perhaps the most transit-accessible site in our study. Predictably, East Boston participants reported the highest rate of public transit usage and the lowest rates of vehicle ownership and use of all participants in our sample. East Boston is located within the core MBTA service area, and resident have access to subway, bus, commuter rail, and ferry service. East Boston residents are more likely to be able to walk or bike to work than participants from any other city in our sample.

Although located within Boston proper, East Boston is isolated from the rest of Boston by the Charles River and is

automobile-accessible only via the Sumner and Callahan tunnels (Route 1A). There are three subway stops in the neighborhood, but to travel beyond downtown passengers must transfer to another subway line or transit mode.

G One of my biggest problems is the lack of direct access from the Blue Line to the Red Line. I have to take the Green Line, but it's a very bad line—always damaged, always having problems. I only have to take it one stop to switch to the Red Line, but over the summer I walk to avoid the transfer. **22**

- EAST BOSTON FOCUS GROUP PARTICIPANT

By and large, East Boston residents are not automobiledependent. However, although East Boston residents benefit from direct access to MBTA service, focus group participants maintain that public transit service could be improved to make their lives easier. Specific suggestions include increasing the number of rapid transit stops, extending the reach of bus routes and location of stops, and extending service hours.

Focus group participants pointed out that the hub-andspoke design of the MBTA system is designed to take people into and out of the downtown area, which forces riders from East Boston to switch lines or modes of service in order to travel anywhere outside the downtown core. This adds time to any trips that are taken; as most residents work outside of East Boston, these additions to overall travel time can be substantial. In fact, although East Boston residents report the highest levels of access to public transit service, the commute times of East Boston workers are the highest of workers in any of our project cities: 38% of East Boston workers spend over 30 minutes commuting to and from work each day, compared to 25% of workers in Lynn, 12% of workers in Springfield, and 13% of workers in Worcester (see Figure 18).

C It takes longer on the Green Line, but I don't like to use the Orange Line to connect to the Red Line. I don't like to walk down that long corridor because it is... well.... ugly, dark, and I don't feel safe. **)** – EAST BOSTON FOCUS GROUP PARTICIPANT The lack of direct service to many employment, retail, and service locations that are outside of the downtown core is an opportunity cost shouldered by East Boston residents, and drains the time, money, and energy of those who live here.

C Everyone has a problem with the service because we are on the Blue Line. There is no direct access to places we need to go. To go to South Station is a dilemma. Imagine carrying all that luggage! – EAST BOSTON FOCUS GROUP PARTICIPANT

While East Boston residents are more transportationadvantaged than other survey participants because of t heir proximity to heavy rail and commuter rail service via the MBTA, this does not mean that their 'transportation situation' is high-quality. As Figure 22 indicates, while many East Boston residents primarily get to work via public transit, less than half use public transit to access other retail destinations or health care services, and only one in seven access grocery stores via the MBTA. Although transit service may be more accessible to East Boston residents, the service is not seen as efficiently transporting people to some vital destinations in a convenient way. As a result, residents turn to alternative forms of travel, which can be costly: the most common way for East Boston respondents (32%) to access the grocery store is by taxicab (see Figure 23). FIGURE 21: East Boston Survey Site (by Zero-Vehicle Households)

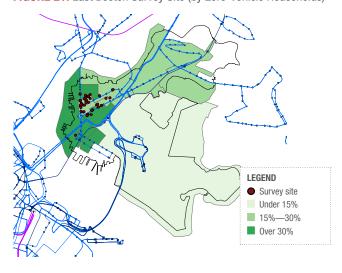
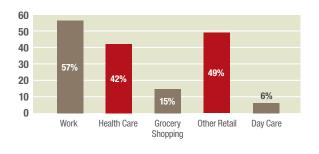
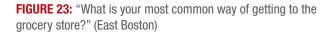
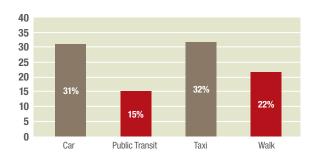


FIGURE 22: Percent of East Boston Respondents using Public Transit as Primary Mode of Access To Specific Destinations







THE TOLL OF TRANSPORTATION – CITY PROFILE

LYNN

TABLE 4: Lynn Transportation Profile

Regional Transit Authority	Massachusetts Bay Transportation Authority (MBTA)	 2 commuter rail stations provide daily service to/from Lynn (Central Square & GE plant) 12 bus routes traverse
		Lynn and connect to the surrounding communitiesCommuter ferry has been proposed and approved in the legislature

TABLE 5: Lynn Demographics (ACS)

	Lynn	Survey Cities	MA
Total Population	90,006	464,025	6,512,227
Total Hispanic Population	27,170	140,771	606,922
% Hispanic	30.19%	30.34%	9.32%
% of Hispanics that are low-income	30.03%	n/a	29.86%
% Workers in Zero- Vehicle Households	6.5%	6.2% ²	5.6%

¹ Excluding East Boston, whose rates of zero-vehicle households is an outlier.

Lynn, located just over 10 miles northeast of Boston, sits within the MBTA service region. However, because Lynn is outside of the core service area, the frequency of service is limited as the MBTA maintains just twelve bus routes that traverse the city. There are also two commuter rail stations that provide service between downtown Lynn, the city's General Electric manufacturing facility (during rush hour), and downtown Boston.

C The system does not meet the expectations of this given population.
LYNN FOCUS GROUP PARTICIPANT

Lynn's transportation situation is unique: the city sits within a major public transportation service shed, but is located just far enough outside the city that its benefit to residents is limited. While service is provided, only a handful of bus routes provide a direct connection to rapid transit subway service, and commuter rail trains run infrequently. Many residents live in Lynn because of the lower cost of housing; unfortunately, their transportation burden is significantly affected. **CC** It's very uncomfortable, transportation within the area, here in Lynn. Super, super uncomfortable. **))** – LYNN FOCUS GROUP PARTICIPANT

66% of survey respondents in Lynn found public transit service to be accessible from their homes (See Figure 10). Perhaps because there is currently a moderate level of MBTA service accessibility that directly connects residents to downtown Boston and beyond, Lynn survey respondents are not particularly optimistic about the potential that public transit service improvements might carry for them. Nearly 1/3 of employed survey respondents in Lynn currently commute to work via public transit (see Figure 25); however, the already limited bus service can be infrequent during off-peak hours, which may lead some to automobile dependency or to find alternative means of transportation, which can be costly.

C To get to school, my daughter must walk, take the city bus, or take a cab. Most morning, she takes a cab because it gets too late to take the public bus. It takes one hour to walk, but she has no other means of transportation. **29** – LYNN FOCUS GROUP PARTICIPANT

According to survey data, more than 50% of Lynn residents surveyed needed to travel outside of their neighborhood in order to access basic goods and services (see Figure 19). For Lynn residents, travel itself is an unavoidable necessity that significantly impacts the availability of both time and money in many households.

G So, there are areas where public transportation is not as accessible. Especially, the area where my daughter's school is, over there, no public transportation ever passes. **27** – LYNN FOCUS GROUP PARTICIPANT

Illustrating this point, nearly 54% of Lynn survey respondents said that they had to sacrifice a basic necessity at some point in the past in order to afford transportation to get somewhere—more respondents than in any other city we targeted (see Figure 11). Residents are either foregoing goods or services they use on a daily basis in order to get somewhere, or are simply not traveling places they may need to go in order to cover other discretionary costs.

C It costs me \$2.50, one way, to get to Chelsea. It costs me \$1.50 to put each of my six kids on the bus to get to school—\$1.50 for each one. **??** - LYNN FOCUS GROUP PARTICIPANT

Lynn residents and workers are able to access downtown Boston via the MBTA's commuter rail, which provides direct service to Boston's North Station. However, the one-way \$6.00 fare or \$189 monthly pass may be financially burdensome for many households, considering that 75% of Lynn survey respondents earned \$20,000 or less per year. 50% of Lynn public transit commuters surveyed indicated that the cost of transit fares was a consistently troublesome problem for them. FIGURE 24: Lynn Survey Site (by Zero-Vehicle Households)

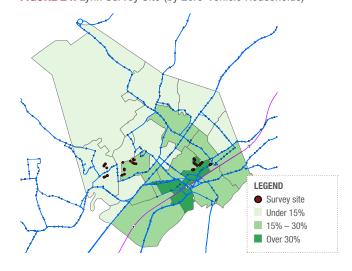
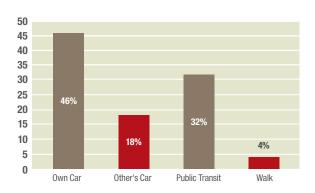


FIGURE 25: "How do you typically get to work?" (Lynn)



THE TOLL OF TRANSPORTATION – CITY PROFILE

SPRINGFIELD

TABLE 6: Springfield Transportation Profile

Commercial Bus Service	Greyhound, Peter Pan	 Heavy rail service provided on the Blue Line Direct connections to downtown Boston At least 12 bus routes traverse the neighborhood
Commercial Rail Service	Amtrak New Haven- Hartford-Springfield Line (proposed)	 Limited service to Boston, Hartford Direct commuter rail service from Springfield to southern CT
Regional Transit Authority	Pioneer Valley Transit Authority (PVTA)	 Serves six areas in Western MA: Springfield, Holyoke/ Westfield, Chicopee, Northampton, Amherst/ UMASS, Belchertown/Ware/ Palmer 45 routes

TABLE 7: Springfield Demographics (ACS)

	Springfield	Survey Cities	MA
Total Population	152,992	464,025	6,512,227
Total Hispanic Population	57,291	140,771	606,922
% Hispanic	37.45%	30.34%	9.32%
% of Hispanics that are low-income	43.03%	n/a	29.86%
% Workers in Zero-	7%	6.2% ³	5.6%

Vehicle Households

³ Excluding East Boston, whose rates of zero-vehicle household is an outlier.

Springfield is located in the less-dense eastern half of Massachusetts, and is the survey site located furthest from Boston. Although it is the third-largest city in the state in terms of population, Springfield is only one-third as dense as Boston. A large land area and low population density means that Springfield is spread out over several acres, and can be difficult to traverse on foot or bike.

66 We suffer a lot with public transportation. Last time I went to a medical appointment, it took a full day. A full day. **99** – springfield focus group participant

Springfield survey participants are the most automobiledependent in our sample: 68% of Springfield respondents indicated their primary means of transportation was a car—either one the respondent owned themselves or a car that was owned by someone else (see Figure 3). But Springfield survey respondents were also the most optimistic about the potential that improved public transit service might have for them and their automobile dependency: 89% of survey respondents indicated that if public transit service was better, they would drive less (see Figure 6).

C I was on the side of town where the Wal-Mart is. A bus came in the other direction, and the driver told me that there would be no more buses coming in the direction I was headed. I had to cross two busy streets to catch a bus that would eventually get me home. **27** - SPRINGFIELD FOCUS GROUP PARTICIPANT

Public transportation service in Springfield is primarily bus service provided by the Pioneer Valley Regional Transit Authority (PVRTA), and is the primary form of transportation for 32% of Springfield survey respondents (see Figure 3). Most PVTA service operates between 8:30 am and 6:00 pm. These abbreviated hours of operation limit ridership because many residents cannot use the service to commute to work, which can fall outside of the PVTA service hours; 86% of Springfield survey respondents who commute via public transportation rated the PVTA's hours of operation as troublesome. Given the distance that PVTA service routes must traverse in order to link residents with employment and retail centers, it often takes time for a bus to travel from origin to destination points. However, lengthy service routes can discourage use: 71% of employed Springfield transit riders said that the amount of time spent on public transit when getting to and from work was troublesome, and 100% said that the frequency of bus service was a problem (see Figure 27).

C On Saturday, at 8:20pm, there is no transportation. And on Sunday, there is virtually no transportation because sometimes the buses run once an hour or every two hours. What are people to do on Sundays? If they want to go to church or go shopping, they cannot because there is no transportation. **9**

- SPRINGFIELD FOCUS GROUP PARTICIPANT

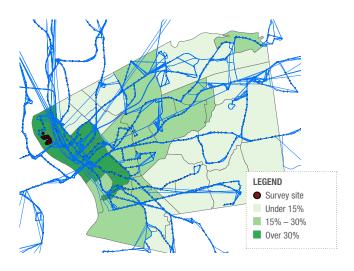
Perceptions of public transit service and its utility have led many Springfield respondents to be automobile-reliant. However, this mode choice is not without its share of complications. Our survey respondents are primarily low-income—100% of Springfield respondents earn \$40,000 or less per year—and 97% of car commuters in the Springfield sample indicated that the cost or expense of automobile commuting was 'consistently troublesome' (see Figure 28). The costs of car ownership and upkeep are financially unsustainable for many low-income Latinos that we spoke with, especially in Springfield and Worcester.

72% of Springfield survey respondents are unemployed – more than in any other city we conducted interviews (see Table 1). Although we cannot assert a direct connection between the two, it is interesting to note that Springfield survey respondents also report the lowest levels of access to public transportation service (59%) and second-lowest levels of access to a vehicle (57%) of respondents in any city we targeted (see Figures 10 & 9).

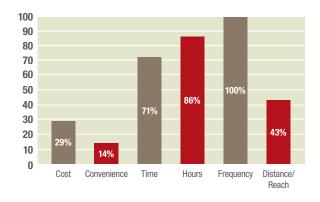
C I was working for three years, going from here to other sites—Chicopee, Ludlow and back, working. And I patiently waited an hour here for the bus downtown, and when I got to my destination and had to change to another bus, I had to wait half an hour. When I left the bus, I walked four blocks to get to where I worked. And coming back, I had to run because if I was not early, the bus would leave me. **23**

- SPRINGFIELD FOCUS GROUP PARTICIPANT

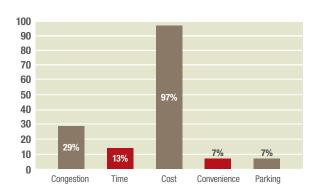
Springfield focus group participants described how the limited hours of operation and reach of public transit service leave many feeling stranded, especially on the weekends when service is reduced. One woman was especially unhappy that her grandchildren, who work the third shift at their jobs, are forced to walk home because they have no other way to get there. Many feel the need to own a car, but do not have the resources to do so, forcing them to rely on family and friends for help with gasoline, maintenance, and upkeep. FIGURE 26: Springfield Survey Site (by Zero-Vehicle Households)











THE TOLL OF TRANSPORTATION – CITY PROFILE

WORCESTER

TABLE 8: Worcester Transportation Profile

Regional Transit Authority	Worcester Regional Transit Authority (WRTA)	• 26 routes that traverse Worcester with stops in Shrewsbury, Webster, Oxford, Leicester, and beyond
Commuter Rail Service	Massachusetts Bay Transportation Authority (MBTA)	Daily service to Framingham and Worcester
Commercial Bus Service	Greyhound, Peter Pan	Daily service from Union Station
Commercial Train Service	Amtrak	• Daily service from Union Station

TABLE 9: Worcester Demographics (ACS)

	Worcester	Survey Cities	MA
Total Population	180,519	464,025	6,512,227
Total Hispanic Population	34,891	140,771	606,922
% Hispanic	19.33%	30.34%	9.32%
% of Hispanics that are low-income	39.55%	n/a	29.86%
% Workers in Zero- Vehicle Households	5.2%	6.2% ⁴	5.6%

⁴ Excluding East Boston, whose rates of zero-vehicle households is an outlier.

CC Once, I wanted to go to the supermarket because there was a storm coming. But that day, there was no bus... I had no food that day. **??** - WORCESTER FOCUS GROUP PARTICIPANT

Worcester is the second-largest city in the state, but like Springfield is less dense than Boston or its suburbs. Unlike the Springfield region with its vast stretches of rural farmland, the metropolitan area made up by Worcester and its suburbs is mainly suburban and urban in character. Worcester's centralized location in the state deems the region highly-trafficked, as it is the site of several major highway interchanges as well as many colleges and universities.

Worcester's location in central Massachusetts puts it outside of the main MBTA service shed, but frequent commuter rail service provides consistent and direct access to downtown Boston. The city is primarily served by the Worcester Regional Transit Authority (WRTA), which operates 26 bus routes that traverse the city and surrounding towns. The vast majority of respondents in Worcester (88%) indicated they lived within walking distance of a public transit stop (see Figure 10). Nearly 30% of Worcester residents we surveyed used public transportation as their main form of travel, but over 75% of survey respondents indicated that they would use the service more if its quality was improved (see Figures 3 & 6).

C I'll tell you, I've taken all the buses. But the only buses that are apparently effective are the 27, 7, 11, 24, 5, and 2. And the 25, which runs to Worcester State College, and the 3. The 6 too, that goes to Wal-Mart. Those are the only ones that are on time. **??** – WORCESTER FOCUS GROUP PARTICIPANT

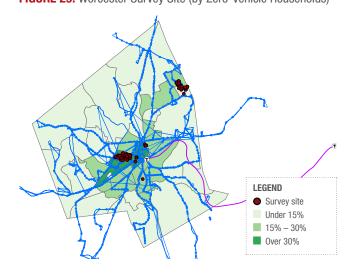
The majority of survey respondents in Worcester (69%) indicated that they needed to travel outside of their neighborhood to access vital goods and services (see Figure 19). However, focus group participants expressed frustration with infrequent bus service that does not operate during evenings or on weekends and limits its usability for many Worcester residents. The limitations of the service as it currently operates can isolate households and families without cars within their homes or neighborhoods.

C On weekends, you wait one hour for the bus. And the buses don't start running until 9:30 in the morning, and if you have somewhere to go before then, you'll miss whatever you have to do. Another problem is if you want to get a job—some buses only run from Monday to Friday. Saturday, Sunday—they do not move. **??** – WORCESTER FOCUS GROUP PARTICIPANT

Echoing the chief frustrations of Worcester transit riders around WRTA service hours and frequency (see Figure 30), focus group participants who commute via public transit described how they usually arrived at work or school hours early because taking another bus would make them late. As a solution, some focus group participants have resorted to walking or taking cabs, but because of distance or cost, others must spend their time waiting for bus. This is an opportunity cost of infrequent public transit service that impacts the daily routines of Worcester residents, especially those without vehicle access. Residents are forced to choose between spending large amounts of time waiting for the bus service and traveling to destinations or spending large amounts of money on taxicabs. Sometimes, people cannot apply for the jobs they'd like to have because they don't have reliable transportation to get there.

C It's not just an issue on weekends. What about those that work a second shift? After work, if you don't have a ride home with someone and can't afford a cab, you're out of luck. I'm talking about after 5pm, or between 6pm and 9pm. **29** – WORCESTER FOCUS GROUP PARTICIPANT

Like respondents in other cities, many of those we spoke with in Worcester (33%) had sacrificed the purchase of a basic necessity in order to travel somewhere (see Figure 11). A consistent finding of this research is that transportation costs are significant household expenditures for many low-income Latino families across Massachusetts. Although public transit fares are considered affordable by focus group participants and survey respondents, concerns over service frequency lead many to ultimately be automobiledependent. Although perceived as more convenient, automobile ownership can be expensive. 59% of Worcester survey respondents feel that the costs associated with car ownership are often or consistently troublesome (meaning they were given a score of 4 or 5 on 5-point scale measuring inconvenience; see Figure 31). FIGURE 29: Worcester Survey Site (by Zero-Vehicle Households)





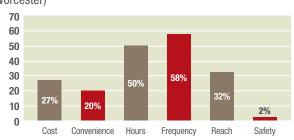
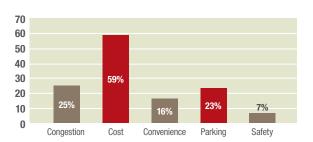


FIGURE 31: 'Troublesome' Aspects of Car Ownership (Worcester)



CONCLUSIONS AND RECOMMENDATIONS

Results gleaned from both door-to-door surveys and through the focus groups indicate that transportation takes a heavy toll on the time, budget, and stress level of lowincome Latino Massachusetts residents as they manage getting to work or class and meeting their basic needs. We found that low-income Latinos in Massachusetts simply have no good choices when it comes to transportation in and across the state, and the transportation challenges facing low-income Latinos in the state seriously and adversely affect quality of life and access to opportunity. We begin the conclusion of this report with a detailed discussion of these findings.

No Good Choices

Although not necessarily a preferred option, travel by car is the primary means of transportation for the majority of respondents across all four survey sites. While only 46% of the sample owned a car, 58% identified automobiles as their "primary" mode of transportation—a finding explained by the high but often invisible practice of regular reliance on someone else's car. As shown in Figure 3, nearly one in six respondents in Lynn and Worcester, and nearly one in four in Springfield identified "someone else's car" as their primary means of transportation. Many respondents rely on cars, even though many neither own a car (53%) nor possess a driver's license (43%). Our results show that of our respondents,

- 52% rely on cars to access health care,
- 62% rely on cars for grocery shopping,
- 63% rely on cars for other retail access, and
- 60% rely on cars to access family and friends.

Further, 18.7% of subjects who relied on cars to grocery shop did not own a car themselves and 7.9% of subjects who said they relied on cars to grocery shop said that no one in their household had a car, either. These figures reflect a high level of automobile dependence by a population that is neither enthusiastic about nor financially equipped for car ownership. Those who primarily travel by car cite the cost of car ownership and maintenance as a greater burden than traffic congestion or parking. Automobile ownership is seen as a solution to the inadequacies of the local public transit service, but one that is imperfect, with 83% of respondents reporting that gasoline prices are too high.

During the focus groups, participants described the burdens caused by the high cost of car ownership, including the expense of purchasing a car and auto insurance, keeping up with maintenance, and the rising price of gasoline. However, they noted that while their neighborhoods were often highly walkable, it is also very difficult-and sometimes impossible-to access particular destinations without a car. While automobile reliance is both expensive and problematic for those who do not own a car or have a driver's license, cars were chosen as the primary means of transportation by a majority of respondents because of concerns about the quality and convenience of public transportation. This is especially true of respondents living outside of the Boston metro area, who by necessity are less dependent on public transportation as their primary means of travel, but seem willing and eager to use public transit service should the frequency and quality of the service improve.

77% of survey respondents indicate that they live within walking distance of a public transit stop. While we expected service access to be high in East Boston and Lynn (as target neighborhoods in these cities are served by the MBTA), we were surprised to find that 88% of survey respondents in Worcester also claimed walkable access to WRTA service. But while access to public transit may seem high, survey questions and focus group discussions suggest that having walkable access to transit does not necessarily translate into access to the places one may want or need to go-especially outside of Greater Boston. The biggest obstacle facing public transit riders within our survey sites is, by far, the frequency and service area of the local regional transit authorities. The frequency of service was reported to be the most troublesome aspect of public transit service among public transit riders, and many subjects also reported problems with the reach or distance of public transit routes as being too limited.

One focus group participant in Lynn talked about how her daughter gets to school every day. Her school is far—about an hour's walk away. The most affordable option is for her to take the public bus, but if the bus runs too far behind schedule, she will be late and must pay for a cab. When she doesn't have the money or no cabs are available, she must walk.

Another woman's children also take public transportation to get to school. It passes by her house no more than two times in the morning, but the second bus is always late so they must take the earlier one. Her children play sports, and being late to school jeopardizes their spot on the team. Because it is a 30 minute walk, she is often forced to drive them herself.

Respondents reported that they had frequently been left 'stranded' by public transit service, and were forced to call a cab or rely on friends and neighbors for rides. In Springfield, one participant recounted, "I went to the movies last night. I had to walk 45 minutes from the theater to my house...I came on the last bus leaving the PVTA, to the movies. But I left at 9:30 pm. And at that time you have a choice: I could have called a taxi and spent \$15.00, but I can't afford to pay a \$15.00 fee for a cab. The only other option would be to walk."

Many of the focus group participants hold jobs that are currently inaccessible by public transit, either because the local RTA's hours of operation are limited, or because there is no bus stop within a walkable distance. Participants also expressed frustration with their experiences on public transit when getting children to school, bringing groceries home from the store, and accessing health care services, which have all contributed to their dependency on private vehicles to reliably get around. A Springfield focus group participant noted "On Sundays, because I don't have a car, I have to walk down at 9:00 am to catch the bus that leaves at 10:00 am to make it on time for church at 11:00 am. And sometimes if I'm late for the 10:00am bus. I have to wait until noon to catch the next one. That's every Sunday. I did this for three months and it was such a problem, I broke down and cried. It's terrible, it's just terrible. This is why I had to buy a car. It's lousy."

Within the community we surveyed, car ownership was not a luxury but a necessity. For many, there is simply no other way of getting to and from work, as the reach and hours of transit service are increasingly limited as the service area expands away from the central city.

The Toll of Transportation

The transportation challenges and disadvantages discussed in this report have serious and substantive consequences on the quality of life and access to opportunity for lowincome Latino families in Massachusetts cities. Transportation takes a heavy toll on the lives of low-income Latino Massachusetts residents in many different ways: high costs, limited access to employment and other opportunities, wasted time, and added stress created by the combined effect of these difficulties.

The lack of access to frequent transportation can have unintended but serious consequences. One focus group participant in Worcester recalled a story about needing to go to the grocery store before a snowstorm because there was no food in the house. But the bus was not running on that day, and she was unable to get a ride from a friend.

One major toll imposed by the current transportation system on low-income families is its cost. Inadequate access to reliable and convenient transportation in daily life is a drain on the limited amount of disposable or discretionary income available to low-income Latino families. While taking public transportation can sometimes be seen as a cost-saving measure, 42% of transit users reported that the cost of transit was a financial problem for them. In Massachusetts, the costs of transportation are high and potentially burdensome—regardless of mode: nearly 40% of survey respondents said that, at some point, they were forced to sacrifice a basic necessity in order to afford or manage transportation.

One Worcester member who works as a primary care assistant (PCA) uses WRTA bus service to travel to patients and clients, whom she must often take to doctor's appointments. But when the bus is late, she is late, too—and as a result, so is her clients' medical care.

The current transportation system also limits access to good jobs. We found that the varying levels of transit access in the four communities surveyed roughly paralleled trends in employment. East Boston residents have the second-best reported level of public transit access, and a substantially lower unemployment rate than the other project cities. Focus group participants described how poor access to transit and poor frequency of service resulted in difficulties finding or keeping a job, including second-shift jobs and jobs located in nearby locations not served by public transportation. Several focus group respondents recalled job openings they were unable to apply to because their local RTA (regional transit authority) does not offer weekend or late-night bus service.

These trends suggest a reciprocal relationship between transit access, cars, and employment. Not having a car and not having access to public transit means that employment opportunities are heavily constrained, and that residents of low-income Latino communities are less likely to find work. Residents are limited as to where they might even search for work because of service routes and stops. But not having a job means that residents are less likely to have a car or driver's license, which increases dependency on public transit systems. The lack of a job reduces household income and may trap low-income persons in unemployment; the lack of transit access and the high cost of car ownership or public transit service results in insecurity for those who are employed. Employed persons in the focus groups reported stress from being late to work, problems at their worksite related to transit delays, insufficient wages to meet the costs of car ownership and transit fares.

Limited access to transportation often limits access to opportunities other than employment. Although our survey respondents primarily live in neighborhoods with the highest proportions of zero-vehicle households within each city, 58% of survey respondents reported that they cannot access 'everyday' destinations like the grocery store, pharmacy, or post office on foot, and are forced to travel outside of their neighborhoods to complete routine activities. When accounting for time waiting for the original and return-trip buses, time spent on bus routes, and time traveling to and from bus stops is factored in, accessing routine destinations via public transit service (especially in Worcester and Springfield) can take hours or even all day. One participant responded that a family member was forced to withdraw from the local college because of conflicts with the transit schedule.

People who don't own cars often depend on others for travel to basic destinations such as the grocery store, doctor's office, church, and school. Focus group participants described the complicated negotiation process that those without cars must engage in to be able to secure a ride somewhere. Sometimes this means trading and bartering activities like child care; other times, people are forced to 'go without'. Some focus group participants spoke of how they had difficulty getting to their children's schools or day care facilities, or how they were forced to walk for several miles if the bus didn't come (a somewhat frequent occurrence).

Trips that might take a car owner twenty minutes can end up taking several times that when traveling by public transit. Residents know to add time onto the length of the trip on account of waiting for the bus past its scheduled arrival time. One Lynn focus group participant remarked, "I have come to expect the bus to be late. I travel by public transportation and in this area it runs less frequently and the ride takes longer. Sometimes if you have a forty minute ride, the whole trip takes an hour and a half."

Finally, inadequate transportation options cost low-income Latino residents not only money and opportunity but also valuable time. Survey and focus group participants tend to spend a great deal of time traveling between destinations, only to arrive late at medical appointments, work, or school because of transportation-related issues. Roughly onequarter of survey respondents reported that transportationrelated issues caused repeated lateness to work; 30% were repeatedly late to health care appointments; and 32% said they were repeatedly late to school (see Figure 20). These figures may well understate the problem of time lost to transportation because residents have learned to respond to the system's unreliability by allowing more time to get to their destinations: some focus group participants described their strategy of arriving at the bus stop one full hour in advance of the bus's scheduled arrival time in order to combat "no-shows."

The lack of regular bus service in some cities, especially in the evenings and on weekends, contributes to negative opinions and perceptions about it, which can deter residents from using bus service altogether in favor of alternative means of transport. According to one East Boston focus group participant, "There is a big problem with the buses, and that's their frequency. It's a problem that at 6:00 pm, the bus does not stop very much. It only stops every hour, or every half hour at most. The last time I caught the bus at Orient Heights, I had to wait half an hour. On the way back, I had to call my husband to pick me up because I don't want to spend the time. Why does the bus run once an hour after 6:00pm? They need to circulate on a normal schedule."

It is clear that transportation has become a source of stress and concern in many low-income Latino households across Massachusetts. Costs are higher while service quality and congestion continue to get worse. In order to provide a moderate level of transportation access and mobility to all populations in the state, planners and policymakers must focus on improving and expanding the options that are made available to residents.

Recommendations: Creating Better Options

Based on these findings, we conclude that low-income Latino residents of Massachusetts cities need better and more affordable transportation options in order to ensure access to basic needs and greater opportunity. While the survey and focus groups only included four sites across the state, we are confident that our conclusions are applicable to communities across the Commonwealth; the issues and concerns raised are likely to be similar in places from Lowell and Lawrence to New Bedford and Fall River, and from Fitchburg to Pittsfield and North Adams. The Commonwealth's low-income residents and working families need better transportation choices, including reliable transit that allows them to get to jobs, school, and all the other places they need and want to go.

Although some transportation improvements and policy changes may require a long time to implement, others could be made in a year or less and would have immediate positive effects on the daily lives of low-income Latino residents of Massachusetts cities.

Neighbor to Neighbor and The Dukakis Center therefore call on the Commonwealth, transportation, transit and regional planners, and municipal officials to work with community groups and affected residents of cities throughout Massachusetts to:

- Improve and expand transit options: Funding for the regional transit authorities must be increased in order to allow transit providers to increase service frequency, extend hours of service, expand weekend service and establish new routes to better connect low-income residents and neighborhoods with low automobile ownership to employment and other frequent destinations such as grocery stores and medical centers. At the same time, the MBTA needs to reassess its bus routes outside core Boston neighborhoods to achieve the same access goals.
- Improve the affordability of transportation: Public transportation must remain affordable even as its reach is expanded. Planned increases in gasoline taxes, tolls and transit fares under the recent transportation finance legislation need to be accompanied by measures to mitigate the impact of higher costs on low-income residents.
- Increase walking and biking: Economic development and land-use planning should focus on bringing more necessities within walking distance of low-income households with limited automobile and transit access and on improving walkability in their neighborhoods. Bike sharing might be an important addition to these



neighborhoods and consideration should be given to expanding the current Hubway system and creating bike sharing or other biking options outside of the Hubway geography, in order to reach more low-income Latino neighborhoods.

- Connect policy and planning: Transit shapes access to job training, school and health care, and so transit planning must focus on improving access to these destinations. As regional transit authorities create the comprehensive regional transit plans required by the recent transportation finance legislation, the agencies need to better understand the social, demographic, and geographic realities of their customers and the key destinations for transit passengers and to involve those customers and communitybased organizations in the planning process. At the same time, state and municipal officials need to consider transit linkages in all relevant programs and policy decisions on issues ranging from workforce training to housing affordability to access to healthy food.
- Plan and invest for the long term: While the first priority must be improving and expanding existing services within cities, new bus and possibly rail service should be evaluated and implemented to improve connections between those cities and both the Boston core and nearby employment centers in order to better serve the many low-income Latino communities across the state that lack accessible and affordable transportation to jobs and other opportunities.

These changes in transportation policy and investments need to be implemented as quickly as possible in order to reduce the tolls of transportation and increase the prosperity not only of low-income Latinos but of low-income and working families throughout the Commonwealth.



For more information visit www.northeastern.edu/dukakiscenter/ transportation/





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