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**The Conceptual Mismatch:  
Transportation Stressors and Experiences for Low-Income Adults**

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Report Number SWUTC/15/600451-00115-1

**Study Title: Transportation and Access to Opportunity:  
Metropolitan Size, User Experience, and Employment Quality**

Performed by:

Southwest Region University Transportation Center  
Merritt C. Becker, Jr. University of New Orleans Transportation Institute

**October 2015**

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## Executive Summary

Physical access to jobs has long been identified as a barrier to employment and earnings, with prior work identifying the “spatial mismatch” between suburban entry-level jobs and low-income workers. However, existing transportation research on physical access (typically described in terms of travel time) fails to adequately account for the complex role that transportation needs, stressors, benefits, and costs play in low-income households. Recently, researchers have pointed to a modal, not merely spatial, mismatch for low-income individuals to reach jobs, indicating that access to a personal vehicle greatly expands the number of jobs sites reachable within a specified time window. Still, these studies treat accessibility as something primarily determined by mode availability and travel time, but not tied to workplace scheduling demands or the life circumstances of low-income population.

This research explores how such transportation studies revolving around low-income households have suffered a conceptual mismatch. Travel time-based models overlook an ultimate end of transportation—human wellbeing. By considering wellbeing as an end (beyond social exclusion or job access), researchers and policy makers can adopt a more holistic look into transportation as experienced and refocus transportation policy and study to the ultimate aim of supporting wellbeing of people, not simply their physical access to activities like employment.

Through qualitative analysis, this study examines the role of transportation in the lives of low-income adults in two medium-sized metropolitan areas and how their actual, lived transportation experiences function as stressors with potentially compounding impacts. The stresses caused by unreliable transportation, excessive time spent commuting or traveling to other destinations, and strained social relationships can have a serious impact on wellbeing. This study adopts a broad concept of wellbeing drawn from health literature and incorporates the importance of physical health, capacities, and agency.

In order to examine how transportation functions as a stressor and can incur unaccounted for impacts on wellbeing, we collected data through structured interviews (n=52) with low-income adults in the Baton Rouge and Lafayette metro areas. The survey instrument included both closed and open-ended questions. The interviews were audio recorded and transcribed modified verbatim. To analyze the transcripts, we used Nvivo, a qualitative data analysis software program.

Across the interviews, we observe several ways that transportation can affect the wellbeing of low-income individuals, beyond simply accessibility. Key findings include the following:

- Transit unreliability is a stressor that can have workplace implications. Respondents reported adaptations to work and transit schedules through devoting substantial time to the journey to work or time buffers around it.
- We label this condition a regressive transportation time tax, which accounts not only for travel time but for the time required to make transportation fit a schedule. This research found that this could amount to up to over four hours of transportation time tax daily for respondents.
- Vehicle ownership is associated with many benefits, e.g., independence and job access, but also with stressors, both financial (i.e., maintenance, operability, insurance, and legal status) and social (e.g. costs associated with giving and receiving rides). Car ownership, this research found, did not guarantee that respondents could actually fully use their cars due to costs.
- A major stressor and issue of concern for many interviewees was reliability and schedule gaps in bus transit service, in particular difficulty with transferring bus lines, and lack of late night and/or weekend service.
- Respondents also reported frustration about schedule deviations and the unavailability of information. Internet access is needed in order to understand the system and gain access to information.
- The spatial mismatch between where low-income individuals live and where good paying jobs are often places low-income individuals without personal transportation in a dependent role because the bus systems do not connect people to jobs.
- Lack of transportation restricts job opportunities in multiple ways, and across various employment sectors. Workers are limited by the time it takes to get to work and home via public transportation and/or by the cost of travel, even among those participants willing to travel anywhere to work if the compensation justifies it.
- For the homeless, losing their bed at a shelter is an additional stressor associated with prolonged journey time: in addition to lack of transportation, housing also limits job opportunities for some participants.

- Employer attitudes toward transportation issues varied greatly among and within industries. Although employers were typically depicted as understanding when transportation made workers late (provided that participants called ahead to let their work place know they would be late due to the bus, and that it was not a daily occurrence), some participants still had their hours, and consequently their pay, docked because they were late.

These findings suggest that job accessibility models that only account for travel time and location may not reflect the transportation time tax associated with accessing employment. Based on the interview data, we propose a reconceptualized transportation time tax and assert the importance of the stressors related to vulnerable car use and transit reliability, the social tensions around ride-sharing, and the need to study transportation in lived context, and argue that qualitative examination of interacting factors and placing transportation within the life experience of low-income households is critical for understanding when and how transportation supports or stresses wellbeing.

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## Introduction

Research on the travel needs of low-income groups has often focused on job accessibility and modeled travel times. Such studies have responded to the supposed spatial mismatch between urban low-income workers and suburban entry-level jobs. More recently, several researchers have identified an automobile-ownership/modal mismatch for reaching jobs. Meanwhile, policy-makers and researchers looking at the affordable housing and transportation nexus have typically considered access to opportunity, relying on quantitative measures and secondary data.

Awash in the metrics made possible through Big Data and building on narrowly focused models of travel time, transportation research on equitable access could fail to uncover the complex role that transportation needs, stressors, benefits, and costs play in low-income households. Transportation is often described as a derived demand—the demand for travel typically derives from a traveler seeking an activity at the destination. Transportation may be even further derived—the activity a user seeks to participate in has a larger end goal of supporting the wellbeing of the traveler.

Whether utilizing Big Data or temporal models of access within specified travel time windows, existing studies of accessibility may suffer at least a partial conceptual mismatch. Instead of considering access to opportunity sites—be they employment, education, or healthy food stores—as the goal of transportation, we conceive of transportation as playing a role in overall wellbeing, drawing on the nascent literature on wellbeing and transportation. With this broader notion of how transportation fits into health and wellbeing, we examine the actual, lived experiences of adults in two medium-sized metropolitan areas to understand how transportation can function as a stressor with potentially compounding impacts. We find a dynamic role for automobiles as stressors and enablers, that transportation can affect social relationships, and multiple ways low-income travelers may face time costs far beyond what is modeled. In conclusion, we argue that qualitative examination of interacting factors and placing transportation within the life experience of low-income households is critical for understanding when and how transportation supports or stresses wellbeing.

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## **Literature Review: Moving beyond the Spatial Mismatch to Wellbeing**

Much of the knowledge about low-income individuals and transportation has focused on access to employment. Decades ago, Kain (1968) coined the term spatial mismatch to describe the distance between the central city residential locations of black urbanities and the growing number of entry-level suburban jobs. Contemporary studies typically consider not simply linear distance, but estimated travel times between concentrations of low-income populations and entry-level employment (e.g., Hess, 2005). Transportation agencies, in fact, sometimes model the number of jobs accessible, via automobile or mass transit, using regional travel models (e.g., CTPS, 2009; MTC, 2009). Interactive mapping tools (e.g., EPA's Smart Location Database) now provide ordinary web users access to similar job access data. Recently, researchers have pointed to a modal, not merely spatial, mismatch for low-income individuals to reach jobs. Studies show that access to a personal vehicle, typically more than location within a metropolitan area, greatly expands the number of jobs sites reachable within a specified time window (Grengs, 2010; Kawabata & Shen, 2007). Still, these studies treat accessibility as something primarily determined by mode availability and travel time, but not tied to workplace scheduling demands or the life circumstances of low-income populations.

Studies of spatial or modal mismatches—considering access to opportunity in spatial and transportation terms—help identify potential general patterns but have a narrow scope of abstracted modeled travel. Models fail to show coupling constraints, work schedule requirements, and personal and family obligations. They indicate one abstracted travel cost—time—under ideal conditions without uncovering the other costs and stressors experienced by low-income individuals who may face challenges along multiple dimensions—in housing, employment, public safety, physical health, built environment, social engagement, and economic self-sufficiency. However, a few disaggregated models of individualized potential path areas do demonstrate that given individual constraints, accessibility as lived is more complex than travel-time-based counts of potential jobs (Kwan & Weber, 2008; Weber & Kwan, 2002).

While transportation's relationship to employment or other activities access remains an important subject of study, a body of nascent literature places transportation in a larger context by examining the role of transportation and transportation disadvantage in the broader concept of wellbeing. Wellbeing can be measured in subjective terms and as self-reported life satisfaction (Currie & Delbosc, 2010). It can also refer to a set of objectively defined criteria that are

presumed to support the experience of being well such as “income, health, education, housing, and community and those items deemed necessary for basic human needs to be met” (Reardon & Abdallah, 2013, p. 636). Another approach to wellbeing considers those capabilities or capacities needed to achieve life satisfaction. In short, wellbeing can refer to a wide range of concepts across the disciplines (See Nordbakke & Schwanen 2014 for a comprehensive review of wellbeing in relation to transportation). We adopt a broad concept drawing from health literature and incorporating the importance of physical health, capacities, and agency:

Health status is relevant to physical and mental states of disordered functioning and impairment. Wellbeing on the other hand, occupies a broader set of conditions related to one’s sense of dignity, security, and mastery in particular settings... It is an approach that incorporates the elements of valued functionings, required resources, and opportunities in the exercise of agency (Earls & Carlson, 2001, 144).

In a wellbeing framework, transportation could affect individuals’ wellbeing and health directly and indirectly. For example, as a mode of exercise or a stressor there are direct health impacts. From a capabilities approach, transportation can directly affect a sense of agency. Indirectly, transportation shapes health and wellbeing by enabling employment, recreation, and health care activities. These activities in turn support the criteria underlying wellbeing such as income, social inclusion, and health (see Lucas, 2012 for a discussion of the current research on transport and social exclusion). Drawing on the wellbeing literature, we argue for transportation studies that more broadly consider how transportation functions to support or hinder overall wellbeing and via what mechanisms. This reconceptualization puts transportation goals back in social terms. In sum, we argue many of the transportation studies revolving around low-income households have suffered a conceptual mismatch of disconnect from lived experiences and an ultimate end of transportation—human wellbeing.

To understand this interrelationship, we consider when and how the lived circumstances of low-income adults can function as a notable stressor. The focus on transportation as an experienced stressor is not contingent on selection of a particular wellbeing definition; stressors are important due to their negative impacts on subjective or experienced wellbeing, sense of agency, and physical health, of which the last has impacts on wellbeing regardless of conceptual definition. For instance, health literature has established links between stress and a wide-range of

health conditions, and some have identified the allostatic load concept of how the multiple stressors experienced can combine to cause cumulative wear and tear on individuals. The wellbeing and transportation studies published to date consider large datasets without qualitative, experiential findings and are primarily located outside the US context. Thus, we use qualitative analysis to uncover how stressors function in relationship to transportation and thereby provide insight into a more complex, nuanced role—beyond simply precluding or enabling access—that transportation plays in the lives of low-income adults.

Transportation as a stressor merits research across groups but is especially important for low-income individuals. First, low-income populations may be subject to health disparities and especially vulnerable to the compounding effects of health conditions. As a result, they may face heightened allostatic loads with resulting health problems.<sup>1</sup> Second, low-income households may have more constraints when coping with transportation uncertainties and challenges and thereby, have a reduced sense of agency, given fewer material resources. Fixing a broken car or taking a taxi after missing the bus represent more onerous financial choices for those with fewer material resources. In sum, we adopt a qualitative approach to open up conversation about the broader role of transportation in the lives of low-income individuals.

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<sup>1</sup> “Allostasis “refers to the body’s ability to adapt to transient stressors and exposure. Over time, chronic psychological stress and maladaptive behaviors...may impair the body’s ability to maintain allostatis, producing wear and tear on bodily systems, compromised immune function, and enhanced general susceptibility” (Clougherty& Kubzansky, p.1351). McEwen explains, “adaptation to adversity has a price, and we have come to define the cost of adaptation as *allostatic load*... [which is] the wear and tear on the body and brain resulting from chronic overactivity or inactivity of physiological systems that are normally involved in adaptation to environmental challenge” (McEwen, 1998, p. 37, emphasis in original).

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## Research Design and Methods

To examine how transportation functions as a stressor and can incur unaccounted for impacts on wellbeing, we collected data through structured interviews (n=52) with low-income adults. Initially, five pilot interviews were conducted to test the survey instrument, with only slight changes following. The survey instrument included both closed and open-ended questions. Interviews were structured, but the process was not standardized. This enabled the research team to ask follow up questions that emerged during the interview.

To be eligible, participants had to be over 18, live in one of the two selected metros, and have an annual income under \$25,000 (approximately 50% of area median household income). We selected two metropolitan areas between 250,000 and 1 million residents (Lafayette and Baton Rouge, both Louisiana) to examine experiences outside of the largest metropolitan areas where many studies have occurred (See Table 1 for metropolitan and city profiles). Applicants were selected on a first come, first serve basis, and each participant received a \$25 cash stipend. We contacted community development organizations, food banks, mass transit systems, affordable housing organizations, homeless shelters, and community centers in both metros and asked them to post a flyer containing information about the study. In Lafayette, the interviews were conducted in a conference room at the main bus terminal, which also houses an office for the Department of Transportation and a post-office branch. Of the 25 post-pilot interviews in Lafayette, three were scheduled, one of which from craigslist.com, and the rest were walk-ins. The team arranged to conduct interviews in a library, a community center, and a homeless one-stop service center in Baton Rouge. Many of the 22 post-pilot Baton Rouge interviews were scheduled in advance, but four walk-ins occurred at the Eden Park Library Branch, and eight interviews were conducted at the one-stop homeless shelter.

Participants were evenly split between male and female respondents. We had a high share of very low-income and minority respondents (see Tables 2 and 3), as well as individuals residing in households with no available vehicle (58%). However, given our target group of low-income individuals, we had a moderately representative sample and some diversity within the interviewee pool. The interviews were audio recorded and transcribed modified verbatim. To analyze the transcripts, we used Nvivo, a qualitative data analysis software program. In the following sections, interview codes are indicated, as the codes reflect the metropolitan area (“L” indicating a Lafayette metropolitan area respondent and “B” indicating a Baton Rouge area

respondent). The authors read through the transcripts and created an initial code list. After the authors coded the same three interviews and compared for consistency and for emergent codes, the coding was divided between the first two authors.

**Table 1: Selected Demographic and commuting characteristics (2013 ACS 1-yr estimates)**

	Baton Rouge, LA	Lafayette, LA	BR MSA	Lafayette MSA
Population	229,405	124,282	820,159	479,116
Black (not Latino)	55.3%	32.0%	35.6%	24.8%
White (not Latino)	35.7%	59.2%	57.4%	68.4%
Asian (not Latino)	4.7%	3.3%	2.2%	1.6%
Latino (any race)	2.7%	4.5%	3.6%	3.5%
Poverty (individuals)	28.0%	17.7%	18.7%	16.4%
Under 18	37.0%	24.4%	24.4%	22.3%
Total workers	99,043	62,061	369,367	217,364
Drove alone	77.3%	81.7%	84.5%	83.7%
Carpooled	10.8%	8.8%	9.4%	9.6%
Public transportation	3.8%	0.8%	1.2%	0.4%
Walked	3.0%	2.3%	1.3%	1.8%
Other means	1.8%	3.3%	1.0%	2.2%
Households	88,748	48,569	301,385	178,778
No vehicles	10,015	4,417	19,845	14,708
Percent no vehicles	11%	9%	7%	8%

**Table 2: Participants by race**

Race	Count
Unidentified	1
African-American/black	36
Biracial	2
Latino	3
White	10

**Table 3: Participants by income**

Income	Count
Under \$4,999	13
\$5,000-\$9,999	12
\$10,000-\$15,000	9
\$15,000-\$19,999	5
\$20,000-\$25,000	3
More than \$35,000	1

## Findings

This section outlines qualitative findings from the interviews among a number of key themes: stress and uncertainty when using transit, time costs of adapting to transit schedules, availability, and reliability, the stresses and benefits associated with car ownership, impact of transportation issues on social relationships, and participant perceptions of how transportation constraints and employer attitudes impact job access and opportunity.

### Stress and Uncertainty when Using Transit

A major stressor and issue of concern for many interviewees was reliability and schedule gaps in bus transit service. Interviewees expressed concerns about depending on buses, given concerns about unreliability. More specifically, relying on the bus can mean that it is difficult for workers to be on time to punch in. One interviewee from Lafayette explained, “So I can’t really say I’m going to be to work at a certain time, because the buses run- crazy” (26LP). When explaining how transportation had made him late for work, another Lafayette respondent commented, “The bus...Being late and not reliable... And also living so far away, I couldn’t walk.” (22LP). Still another participant summarizes the issue: “they’re never on time really. Either too late or too early” (70LK). When identifying desirable improvements for transportation in the city, one Baton Rouge interviewee asserted, “Just make sure they’re [buses] on time. Get the time factor now, get their time factor now...Because we people need to get to work on time. They need to make sure they are home for when their kids get out of school. That’s about it” (59BK).

Being late for work can have disciplinary or other implications, causing problems in the lives of low-earners. For example, this worker was taken off the schedule after being late:

So far, I only been late one time. And actually, they had signed me out from work for the day; I wasn’t going to be working that day and I showed up, and he said “Well I already took your name off the list, you not supposed be working today.” So... Somewhere in there, there is some kind of ramifications. You can either forget that day of work, or get called in the office. (13BP)

Relying on public transit can mean riders are subject to schedule deviations and uncertainties, and with low frequency, the stress of needing to catch a bus to travel is heightened,

especially in Lafayette, “Hour on the hour. You better not miss that one. You sit there for a long time” (75LK). In Baton Rouge, several interviewees noted frustration about schedule deviations and the unavailability of information:

You can hope for the best. They [buses] have gotten better than they were, but still, sometimes they have a bus and it don't never show up. And you call them and ask them what happened to the bus "Well, we're not showing the bus on our GPS." I say, “Man, what am I supposed to do!?” (13BP)

You won't know when the bus didn't broke down, nobody come to tell you, you call to the terminal, they can't tell you none, and they just track in the GPS system on ... That ain't no crap, with you standing out there in the rain. (15BP)

Bus break down - that mostly be what the problem is ...uh it all depends on the - the longest it's ever been was an hour ... however long they bring another bus out. (53BK)

Another stressor can come from the need to transfer bus lines in order to get to a final destination. One of the study sites—Baton Rouge—had recently changed its system to be less focused on the CBD in a hub and spoke pattern. While the increased frequency that came along with these changes was noted as a positive shift, the changes in bus service required more coordination, transfers, and ability to navigate the new system. The bus system changes in Baton Rouge combined with an unreliable schedule created a situation 15BP described as “aggravating”. Participants illuminated the need for the way the system is set up to be reliable:

They done made some changes, made it a little better; but they still got a ways to go. Because you can't- used to be you could go to the main terminal and catch pretty much any bus; but now, you have to catch these certain buses at certain places...it's always the same thing: trying to catch the bus that you need to catch. And as soon as you pull up, the bus that you need to catch done pulled off. (13BP)

They changed the route so it runs a little bit more than it used to... the new system, you have to study it. The old system was a little more understandable. Now you need a study guide to understand the new bus system. They run more frequently, I think they're down to 30 minutes in between bus. (17BP)

Since they took there, all the buses away from the bus terminal that's aggravating, because you want to paying more ... Two transfers all to just leave the one...so that's a little aggravating, in a way, you got to learn how to maneuver around, catch the bus that's going to your area where you need to go. (15BP)

I have to get on the internet to find out what time the bus gonna come what time it's going to be at this place so I know what time I need to be at the bus stop and this that cause sometimes the internet just takes so long and that just irks my nerves. (50BK)

The challenge of serving workers who do not follow a typical 9 to 5 schedule has been noted, but less is known about the adaptations that workers make. One of the stressors for entry-level service workers becomes how to get home. Participants described how they would be able to get to work using public transit, but would be unable to get home because the buses had stopped running by the time they would get off work. Getting home can require either a social coordination cost for getting a ride or the monetary cost of purchasing a ride home in a taxi.

I was working out there at Wendy's at night and it got to a point where I had to quit because I couldn't afford paying for a cab at night to get home. I would get there in the daytime, afternoon, but then at night it's just ... (18BP)

Because of the way the bus routes - they only pass by my house at 7:30 in the morning and then you have to catch the last bus going home at 5:30 so it's hard to people work around that schedule. (70LK)

Likewise, covering bus fare could be seen as a stressor and a burden for some.

Two or three things that'd make it easier for people to go around that don't have a lot of money is maybe dropping the prices of the bus tickets during the week. It's \$4.00 to get around which I think is a little bit over what they could do, you know? I don't know if the taxes are getting mishandled in this state or not or whatever. I'm not going to get into all of that. At the same time, everybody don't have \$4.00 a day to ride the bus. That's just \$2.00 away from a cab and a cab will tear you out the frame, especially if your living conditions.” (60BK)

Transporting goods via bus was mentioned by several participants as a limitation and struggle. Clifton (2004) notes that there are coordination costs to the adaptations that many low-income households make for grocery shopping—such as utilizing rides home. Whether relying on rides or transporting via bus, stress can result from carless grocery shopping.

Depending on the load of the grocery size. We don't have a car either. We have to get rides with my mom to get the big loads...I'll take the bus her too, to help with carrying the groceries home. There's only so much you can carry home. (17BP).

I've tried doing groceries on the bus. That's a headache. (18BP)

I call on a friend with a car. Groceries got a lot of bags. I don't want to catch the bus with a lot of bags. (66LK)

### **Time Costs of Adaptations**

The interviewees gave insight into how bus and work scheduling affects the feasibility of job opportunities and overall stress. In Lafayette, where bus service is relatively minimal, interviewees reported excessive amounts of travel time or time spent waiting for a work shift to begin.

Well, it depends. On no problems it takes an hour [to get to work]. They got a problem it takes longer, about 2 hours 3 hours. (53BK)

I'd be home. I'd catch the 5 o'clock bus be home if I got off at 4 sometimes I'd be home at 5. If I missed the bus I had to wait so catch the 5 o'clock bus and be home by 6. (68LK)

I used to have to get up at 3:30 in the morning, to walk for an hour and then catch the bus for [at] 5:15, it would have me to my job for 6 o'clock. (13BP)

One interviewee explained how his travel time and mode depended on his variable schedule. When scheduled to start at a fast-food job at 11 am, one part-time worker would leave at 9 am, take the bus, and arrive at work about an hour early—all this to ensure he was on time for his shift. When expected to start work at 7 am instead, he had to walk for nearly an hour to catch the early bus to arrive at work on time or a minute or two late. The participant quit this job, because he was not being given enough hours. Here he explains his routine when scheduled for a 7 am start:

I would usually leave my house early in the morning and walk and get to downtown right here and catch the bus to work...I'd leave my house at 5 o'clock in the morning...it took me about 45 minutes. [Walking] I'd be there [main bus terminal] between almost 6 o'clock...and the bus leaves here [main bus terminal] at 6:30 and I'd be there before 7 or a minute after 7. (68LK)

Because transit may not always be reliable, many participants arrive at work 30 to 60 minutes early to ensure they can clock in on time without feeling rushed.

Because there are two buses I can catch. The five [5 am] one I get there and I have a little time to relax before I clock in. The other one I'm pushing it just to get there within ten minutes to clock in. (18BP)

Getting off work late can make one miss a bus and have to wait around an hour for the next bus. Not only are taxis expensive, they often have an associated wait and onerous travel time, especially in Lafayette.

I just recently got a job offered...all the way across the city from me; and last week I missed my orientation because I didn't have an on-time ride to get there, and by the grace of God [they called] me for tomorrow, so I have to get on the bus an hour earlier to get there. But that's going to be a hard thing to do, getting back-and-forth, to go back and forth all the way to ... I would be leaving around three [to get to work for 6 or 7 pm]... Because it takes me forever to get there. ...I'll probably arrive about 30 minutes before work.... [I'll get off] anywhere between 11 and midnight... [To get home] I'll probably be taking a taxi, which will make me arrive around one or two [in the morning]. (22LP)

### **The Complex Experience of Car Ownership**

Owning a car both provided benefits and could be a significant source of stress. Respondents were fairly direct in explaining the benefits of having a car; perhaps this reflects that the benefits of mobility seem obvious in the US context. For example, interviewees explained when asked about the benefits of owning a car:

Enable you to go anywhere you want when you want. (27LP)

You can move around like you want. (30LP)

It allows you to get from point a to point b at an easier time or at a better time.  
(56BK)

Freedom. Go where you want, when you want, and how you want. (93BC)

You be able to get to places that you really need to get to because the bus only goes like so far then you have to walk so the benefit of having a car means you can get exactly to the direct point of the destination... on time because a lot of times the bus are not on time and you're late. (50BK)

Not surprisingly, especially in these medium-sized metropolitan areas, interviewees noted the access to jobs improved with car ownership: "I know it's good [owning a car]. 'Cause you can get around like you want... you can get up, jump in your *own* vehicle, go look for a job like you want... There's a lot of benefits to having a vehicle." (11BP)

Some noted the interpersonal independence possible through car use and ownership:

You don't have to depend on nobody, especially with the baby... I don't have to depend on nobody else, I can just go ahead on. (26LP)

You don't have to wait on nobody or beg nobody to take you anywhere. (50LP)

Don't have to wait on a ride. (72LK)

It's much better to have a vehicle than not have one. Independence and freedom and all that good stuff. (57BK)

While these benefits are substantial, car ownership did not guarantee that respondents could actually fully use their cars due to gas prices, concerns that the car is vulnerable to break downs, or problems keeping registration and insurance up to date.

I've been in situations where it was too far to where it wasn't worth it to drive there, to spend the gas money... Gas really constricts things a lot... I know a lot of people—that can't go very far because of that—that actually have cars. (58BK)

A lot of times my car, like right now, I'm having a little problem with my car so therefore I may catch the bus instead of driving my car, until I'm able to get the car maintenance. (50BK)

[I] really want to go to Lady of Lourdes [for employment], but my transportation that I got [car], I know eventually going way such a distance, it's going to clunk out somewhere down the line, and I know it is... I'm trying to stay closer to home in case I have to walk. (81LC)

It's [car] not exactly road legal, so it doesn't leave the house too much. (57BK)

Ensuring that cars are “on the road” can be a large stressor, with substantial financial costs for maintenance, insurance, and registration.

You got to have a good job [to own a car]...because how else you going to pay the insurance. (14BP)

My insurance was due on a Thursday. I got paid on a Friday. Twice that happened to me. They put a flag on my license. The first one was \$150. When it happened again, I got paid the following Friday. Had to reinstate the insurance, but they still put another flag. That's \$250 again...I'm telling you, it makes you don't want a vehicle because you're struggling to pay the insurance. Then you pay the insurance a day late before 12:00 midnight, you've got to reinstate the insurance again. It makes you don't even want to be bothered with a vehicle. (81LC)

Another interviewee explained the hardship of car ownership and how some cars were thus not operated:

Well, keeping up with the insurance when you not working; when you're in between jobs, you have to keep gas in it, you have to keep it running... A lot of

times, you know, people have got cars and can't even afford to drive them.  
(13BP)

It's [car] not running though...I got to put a transmission in it...I'm trying to save enough money to get it. (53BK)

Interviewees noted that automobile conditions could make them slow down or be late for work.

My car runs hot because my block is cracked...So sometimes they [hair styling customers] have to be waiting on me...I have to stop for a little while and let my car cool off, then try to be there. (26LP)

I wouldn't say engine failure but ya know sometimes it just misbehaving and causing you know delay actually starting up your car, so that's what caused me sometimes to be ya know longer taking me longer to get to work than it normally would. (55BK)

Car broke down, called a friend...I called in [as being late] but they [employers] didn't like it. (31LP)

Low-income workers with automobile access must still balance the burdens of car ownership against the challenges of less expensive public transportation. One participant observed that he would have preferred to take transit, but had given up due to its unreliability:

There was a time that I rode the bus in Baton Rouge. It was not reliable, so I would say a more reliable bus system would probably help people a lot. ...I don't know what the deal was, but a lot of times, it just didn't show up. I would just be waiting, and then I would be late to my destination or not make it to my destination. I would end up just driving, basically. ...When I lived in Baton Rouge and took the bus, if I knew I was going to get to work or class on time, I would have taken it every day, because it was very cheap,

better for everybody. After four or five times of being late for where I needed, getting in situations where I would miss class or be late for work and get written up or in trouble, I just quit. If I couldn't bank on it, I didn't want to do it. (58BK)

Another stressor from car ownership could be managing social relationships—balancing a desire to help others with the costs associated with giving rides and apprehension about being taken advantage of. This tension is explored in the following section.

### **Social Relationship Stressors**

Social relationships are stressed by transportation needs, according to many participants. Transportation creates several tensions between car owners and carless individuals. One tension reported was the desire to help family, friends, and co-workers without people taking advantage of the ride-giver.

I love to do things for people, but it also comes to a point where it's offensive. ... 'Cuz people get to the point where they take advantage of you. ... So it's not really good all the time. ... It still creates animosities. ... You might be receiving what you be receiving, but you even get to the point where, "I don't want you riding with me no more. You can keep your money. Go ahead on with your business. Just stay out of my ride." (11BP)

The way in which individuals cycle in and out of car ownership may influence how rides are exchanged. Some participants reported stable car ownership and others consistently were carless, but many reported frequent changes in cars owned, usability, or ownership status. Participants, who had experienced being carless, credited their personal experiences as motivating their desire to help.

Well, when I was driving... [Participant would give rides] all the time, because I knew how it was; to be without a car, I wasn't always without one, so I knew how that was. Pretty much for the most part, I would always give a ride because I knew how that was. (13BP)

I've given rides to family and friends and ya know it's not a money thing it's because I know the idea of when you don't have transportation how hard it is to get to where you need to go. Now some of them do offer me ya know a few dollars for gas but it's like a lot of times I don't even request gas money because I know it's hard. It's real hard to get to where they need to like doctor's appointments and all that all the time. (50BK)

Providing rides was also seen as a means of securing help in the future.

For the most part, when I was driving, I was working at Dow Chemical plant; I didn't really need the gas money, I was okay. I was just happy to be doing someone a favor sometimes; you never know when you might need help. And it just so happened, I lost my car; and my job; I'm stuck at the bus stop, and I need some people to come pick me up and give me a ride, you know? (13BP)

Rides were sometimes given as a part of an informal bartering system. Many participants stated they didn't ask for gas money when they gave their friends or family rides, unless they were traveling long distances (i.e. 30-40 miles) to take a relative to work.

Nothing. It wasn't an arrangement. I just decided I wanted to help a friend. A friend of mine was moving, and he needed somebody to help him move, so he asked me, and I assisted him in moving. And my daughter she needed a ride to work, so I assisted her in getting her to work. (50BK)

The majority of it [giving rides] was doing it out of the goodness of my heart, but some of them did offer me gas money. (22LP)

Like my best friend, I live on one side of town and she lives all the way on the other side but she calls me sometimes because I'm there to take her to and from the work and to school and stuff. ... We have the kind of relationship to where I

don't ask her to put gas in my car, but like she just randomly does stuff for me without me having to ask and vice versa. If she needs me, I'm there. If I need her, she's there. (54BK)

Yes. I usually wouldn't ask for anything, but people would offer a couple bucks for gas or "I'll do this for you later" or "I really need to go here, I'll buy you lunch", stuff like that. (57BK)

When giving a ride to a co-worker or neighborhood acquaintance, interviewees were more likely to ask for gas money or some other form of compensation than when giving rides to intimates. Sometimes interviewees set limitations on providing rides, such as only during emergencies or only if the ride isn't out of the way.

I very seldom do it [give rides], because I let people know that if they need the car it's for emergencies only. ...Because otherwise they take advantage. ...Every little bit that they need they would do that [take advantage of ride giver] ...“Oh, can you bring me to go get some chicken?” (20LP)

Yes, they give me gas money. Sometimes, some of them even buy me groceries, like if they have food stamps, because I don't get food stamps. They'll buy me some groceries, but that helps me, especially the way I'm struggling, you know? (81LC)

This interviewee explained about one co-worker who she felt was taking her help for granted.

Now one girl, she done got it to be a habit now. A coworker. She want me bring her home every day, every day, and she stopped giving gas. I don't want to be ugly and tell her, "You've got to help on the gas." I'd say every week, I'm giving her a ride. ...Now if she riding with me, I don't get home till something to 4, when she riding with me because I've got to drop her on the other end of town. I'd

say Monday, God forgive me, and I asked God to forgive me. When she get ready to jump in my vehicle, I'm not going to ask her for no gas. All I'm going to say, "You must be coming my way," because, see, I would bring her across the track off of my Cameron, and she'd walk home and catch the track, go down Walmart, but I'm not being ugly. I can't be going out my way for somebody else... when you see a person start taking your kindness for weakness... She don't even say thank you. (81LC)

Ride-giving then can be a benefit and a stressor of car ownership. In the following exchange, the participant classifies observes the dual aspects of giving rides.

Interviewer: What are the benefits to having a car?

Participant: Well, you can leave whenever you want to. You need some ice cream; you can go to the store. You can help people out if they need help. Personally, I'm fine without a car, but it'd be cool to have one, I guess.

Interviewer: Are there any stresses or downsides to having a car?

Participant: Gas prices. Other than that not really besides the fact people always calling you for rides. (69LK)

Depending on others for rides causes stress. Riders noted tension between needing transportation assistance and the desire to be independent. The spatial mismatch between where low-income individuals live and where good paying jobs are can place low-income individuals without personal transportation in a dependent role because the bus systems do not connect people to jobs.

[The bus improvements needed are] further lines and earlier times, especially on Sundays. Some of them [bus routes] don't start till after 8:00, some close to 9:00. Thank God I have a co-worker, she picks me up from the gas station around from my house. (18BP)

So if you ain't got dat, or you not in bus route to work at these jobsites, then you have to depend on other people that have a ride, to take you there. You might get lucky every now and then, that these people going to take you on the job in their vehicle, and then because pay them so much money for them to take you there. (25LP)

Rides were not always reliable. Those needing rides had to wait for it to be convenient for the ride giver's schedule. There can be serious consequences for carless individuals if a ride does not come through, including missed job opportunities or being late to work, "Well, this person say they will come pick me up. We had a job interview, and he never showed up. I lost that job" (61BK).

### **Participant Perceptions of Job Access Constraints**

Lack of transportation restricts job opportunities in multiple ways, and across various employment sectors. Workers are limited by the time it takes to get to work and home via public transportation and/or by the cost of travel. For some jobs, mobility while working, in addition to needing to get to and from work, is an issue. As participant 59BK explains, she is limited not only in where she can accept home-healthcare patients but also by patient needs. While experiencing these limitations, she acknowledged the helpfulness of her employer who only assigns her to patients that live on the bus line and do not need a home-healthcare nurse to help run errands or go to appointments:

I was feeling restriction because some of the patients [need] to go places like to the doctor, grocery shopping, wherever they may need to go but I don't have transportation. If I can get to, okay, like the patient I have, ... they're not bedridden but they can't leave home. ... You don't need to go anywhere. If I can get a patient that's like that and that's hard to come by with my company, those are restriction, I just don't have transportation. If she [boss] got to find ... If there ... anyways possible, she'll going to get me a patient, another patient. That's on the bus line, that's ... I don't need to go anywhere. (59BK)

While some participants state that their lack of transportation requires them to find employment close to home, other participants show willingness to travel anywhere to work provided the money is right. When asked how far away from home one was willing to work, participant 65LK responded, “it didn’t matter how far it was. It was just trying to get there on time.” This illustrates that transit reliability can restrict job opportunities for employees that depend on public transportation. For participants who are homeless, there is an additional constraint: that they don’t lose their bed at the shelter due to the time required to commute to work. This shows that in addition to lack of transportation, housing also limits job opportunities for some participants.

See, I’m like, aggressive. And if you put me in the spot of giving you the helping hand of what I need, and I can get my foot in the door, and I got a way there and a way back, without losing my bed at St. Vincent’s- I’ll go to work. I don’t care where it’s at. I’m willing to go hundred miles to get to work, as long as I can get back on time. (11BP)

If I could be close to a job, and get (*inaudible*) with housing, and be able to walk or ride a bike to that job, I would get my family and my grandkids together with me, I would love to do that...! (12BP)

As far as it takes in a reasonable manner. I won't drive to Monroe, but if I'm offered enough money I wouldn't mind at least until ... I wouldn't mind a daily commute to New Orleans or something if it was worth it, but anywhere in the city for sure. Once again, having your own vehicle, good gas mileage, hand me enough money and I'll drive to New Orleans every day. It's not a big deal. (57BK)

When asked if living somewhere else in the region would increase access to better jobs, participant 66LK responded, “yeah absolutely ...New Iberia area. The uptown part of New Iberia you got a lot of good jobs out there. It’s like 30 minutes away from here [Lafayette]. It’s a little town, but they got all the port jobs and stuff like that.”

Transit issues such as not running on Sundays or not running late enough also created limitations. Participants described having to turn down job offers because employers expected them to work on Sundays, a day when there is no bus service in Lafayette.

Yeah one example was I had the chance to get a job and one of the stipulations was we had to work on Sundays and no buses don't run on Sundays so I couldn't get the job (66LK).

I applied, I got the job, but then I couldn't get back-and-forth...Because the buses, the buses don't run on Sundays. ...And you would have to work on Sundays. (24LP)

The irregular hours of jobs can pose additional challenges for employees. One described passing on a good paying job opportunity because it was an overnight job, requiring him to be at work for 11 pm. With a bus system that stops running at 10 pm, he had no way to get to work:

Yeah they still short of routes. ... and they need all night because if you work from 11 to 7 you can not get to work. I had a job offer at night but I turned it down. (53BK)

### **Impact of Employer Attitudes on Job Access and Travel Planning**

Several participants stated that they had been late to work because of public transportation – namely the unreliability of the bus system. Employers were typically depicted as understanding when transportation made workers late, provided that participants called ahead to let their work place know they would be late due to the bus and that it was not a daily occurrence. However, some participants still had their hours, and consequently their pay, docked because they were late.

I got ya know boss said like what happened. They been waiting on me and I was like I was late because of the bus and he said well try to get here earlier next time. 'Cause ya know that was a busy day. Matter of fact that was one of them holidays it was real busy, so they depending on me that day. (66LK)

As long as I call and let them know what the problem is they don't really... (53BK)

They don't ever say anything when I'm late. (27LP)

Will usually if I'm running late, I call and let them know the reason that I'm going to be late, but if they know that it's because of the bus situation; they'll know to let the others know that I am coming, I'm just running late. ... They just don't want it to be a habit, an everyday thing... As long as you call in and let them know what is going on, they'd rather you call in and let them know, instead of just walking in and not letting them know. (19LP)

She's been very lenient about it because she knows the bus system isn't really where it should be and not up to par. ...It gets to the point I know it's working on her nerves. ...I've already put in for another place to work, so I won't have to worry about that. (18BP)

Well... Other than they'll dock you for it. I mean, I haven't ran across that, thank the Lord, yet. They know what the transportation situation is, so they know it can make me late for work, so I try to make sure I'm not early, I'm on time. (13BP)

The experiences of other participants revealed that employer attitudes varied greatly among industries as well as within industries. Some participants explained how employers would not hire them for good paying construction jobs because they did not have reliable transportation, specifically their own vehicle.

As far as best job, there is a really lot of good jobs, but unless you have basic transportation to get there, they won't even look at you. They won't even give you a chance, because they figure you can't get to work. ...I had a guy tell me one time, I had an electrical marine, at the marine facility, he wouldn't even give me the chance. I said, "Man, at least give me the chance to until I mess up," because I have an electrical

background. My dad was a journeyman electrician. I said, "At least give me the chance, and if I don't make it, then do it." He said, "It ain't worth sending you." ...Because I didn't have a vehicle. Your opportunities are just cut off, because ... You might be skilled, and you might do a good job, but you can't even do it, because you can't even get a chance. (75LK)

Well... I've applied for a job and I had to meet him for it, and... The street that was... Kierney? I can't get the name of the street, forgive me; but way out up there on Highland, I was in Baton Rouge around Highland, and the guy told me to meet him down there; [inaudible] and I was on my bike and I know I got up like 3 o'clock, 4 o'clock, but the bus is what made me late for my destination. And so when I got there, he talked to me a little bit and all this stuff; and he told me "Well, you showed me something today: that you couldn't make it on time like I told you to." So, I couldn't get the job. And, I spent all that time... ...And I really felt bad, because I was really looking forward to it because I wanted to get off the streets. And when I got there... ...So, the man said to me "Well, you just proved to me that you late, you couldn't even make the 5 o'clock day, I asked you to be here for five." And I said, "But it's not my fault, they don't come; they don't even start till 5 o'clock." And the people was a little late, that made me a little late. And I got up at four, Sir..." (28LP)

And then the people require that we have to have transportation to receive jobs. And then applications on jobsite require [inaudible] reliable transportation ... My transportation! I don't have the transportation! Sometime that's not on the bus route. And sometime, the application require that you have reliable transportation to apply for the job. So it is a handicap in a way, because some doors is closed to us; some doors is open, but many doors is closed. ... The best jobs in this area is construction, outdoor work. But if you don't have reliable transportation, you can't depend on nobody else but yourself; so that cut you out...(25LP)

Other participants also illuminate that having a car does not prevent transportation-related lateness.

There have been times where I've had to meet my wife to transfer my son, and traffic is really, really bad. I get stuck, and then I'm 15 or 20 minutes late. I'd say that happens probably five or six times a year. ... Thankfully, I haven't been consistently late, so I don't know. When I worked here before, I was always on time. I mean, when I worked here full-time years ago. (58BK)

I ran out of gas. (27LP)

One participant described the extraordinary lengths he took to get to work and the unexpected response of his employer when he finally admitted his difficulty getting to work every day.

I would have to leave real early in the morning. Now my boss... He... I've done gone ahead and admitted my situation to him, and he and he told me "I don't mind, I don't mind; I'll come and pick you up"; but mainly because when he picks me up, we're on our way out of town; so we just got back from Dallas last night, so... My (that's my) new routine, I would be doing right now what I had been doing; getting up at three, leaving for 3:30, walking for an hour and a half, and catching the bus to be there. (13BP)

... Yeah, yeah... Actually I have kids here, and my boss is very understanding; when he drops me off, he said I can talk to him; he said "Look, if you have any problems or if you can't make it at this time" all I have to do is "call me, and I'll work with you, you know with the scheduling thing because I need you to work for me; I don't want to lose you, so if you need me to help you in any kind of way with scheduling as far as that goes, you just let me know, bro'." (13BP)

Another participant found employer attitudes regarding being late to work depended on if an employee used public transportation or had a personal vehicle.

If, you know, you don't have transportation, they won't say nothing. But if you got your own vehicle ... They might fire you. (31LP)

Participants also revealed that some employers, particularly temp agencies, take steps to meet the needs of their employer clients who live outside of the range of public transportation by arranging carpooling for employees.

Carpool. I have worked on some jobs that are far out, but because I went through a temp service, the guy who drove the car, I carpoled with him. Had to pay him six bucks, but it's all right. That's how we get to the jobs. ... The person that goes to the job with me, he drives his car. We ride with him. That's how the temp service usually ... They ask him to let us ride with him. Like four or five of us ride with him. That's basically the only way.

(75LK)

## Discussion

Across the interviews, we observe several ways that transportation can affect the wellbeing of low-income individuals, beyond simply accessibility. Based on the interview data, we propose a reconceptualized transportation time tax and assert the importance of the stressors related to vulnerable car use and transit reliability, the social tensions around ride-sharing, and the need to study transportation in lived context.

Compounding life factors, such as mismatched transit schedules and workplace schedules, can create a regressive transportation time tax. We propose this as an alternative to the travel time tax identified by the data firm Inrix and based on congestion-related delay. Rather, for low-income respondents, travel time and time required to make transportation fit a schedule—waiting at work before or after a shift—combine to levy a sometimes substantial time burden. Interviewees reported excessive amounts of time travelling to work and other locations. Connecting to the main hub for first buses of the morning also could mean very early, long walks. Given the infrequent levels of transit service—especially in Lafayette—interviewees spent significant amounts of time traveling and arriving early for (or waiting after) work. Some avoided being late by arriving an hour early, a method of mitigating transit service reliability issues and infrequency. As a result, transportation and waits could account for four hours of transportation time tax daily; sometimes part-time workers are only scheduled for four hour shifts. This time tax means hours are lost that could be spent earning income, building community, caring for family members, or in other activities.

Respondents reported favorably the experience of car ownership but also identified important stressors. Maintaining a car “on the road” with sufficient operability and legal status came with financial and insurance stressors. Ownership, thus, did not always mean full usability. Interviewees still had to weigh car reliability when making job choices; even some car owners limited their job searches to nearby areas. At times, some car owners had to slow down due to car malfunction. In sum, car ownership did not always come with full, reliable mobility but did often come with additional financial obligations. Giving and receiving rides—an important mobility adaptation—came with social stressors. Interviewees noted the appeal of independence from car ownership. Owning a car could also create the need to delicately manage giving rides—balancing a desire to help with self-protection. Those receiving rides also suffered when ride givers had scheduling constraints or proved to be unreliable.

Uncertainty of transportation, excessive time demands, and strained social relationships can negatively affect stress levels and wellbeing. Resulting stress has physiological health dimensions, and adequate health underlies most conceptualizations of wellbeing. Other wellbeing concepts—such as the capabilities framework—suggest the importance of agency for an individual’s wellbeing. However, under existing transportation conditions, respondents often reported transportation uncertainty and sometimes a lack of agency and choice. Due to all these factors, and given the limits and constraints beyond modeled travel time, we argue for caution when using travel time accessibility studies. Such studies divorce travelers from their life circumstances and work schedules, with time and wellbeing implications. Instead, we argue for more study of how transportation is experienced by low-income individuals. Across income groups, life changes can bring hardship, but for low-asset households, such changes can bring transportation limitations.

And I got laid off, then I got divorced, and my wife got the car, and I wound up letting her stay in the house, so the only jobs I could get were jobs that were close to the bus line. And it just so happened that this Lofton company got me a job, and the concrete company is on the bus line, sort of, but to get there on time, I have to walk so far because they just changed the bus route; it doesn’t start- it used to start at the bus terminal; not anymore, now it starts way out at the mall. And you have to make your way, get there and be there for 5:15. (13BP)

## Conclusion and Future Directions

Better understanding of transportation stressors will allow for more comparative work. For effective policy intervention, the stressors related to transportation need more attention. Conceptualizing transportation as a support or challenge to wellbeing allows researchers to use a multi-dimensional analysis of transportation as one factor that often compounds the vulnerabilities that low-income adults are likely to experience. By considering wellbeing as an end—beyond social exclusion or job access—researchers and policy makers can adopt a more holistic look into transportation as experienced and refocus transportation policy and study to the ultimate aim of supporting wellbeing of people, not simply their physical access to activities like employment.

Through qualitative analysis, we identified critical ways that transportation functions as a wellbeing stressor in two medium-sized metropolitan areas. Transit reliability was a stressor that could have workplace implications, and respondents reported adaptations to work and transit schedules through devoting substantial time to the journey to work or time buffers around it. We label this a regressive transportation time tax paid often by low-income travelers with limited resources.

Car ownership afforded respondents benefits and independence, but it came with its own stressors. Marginal incomes, car repairs, insurance, and registration can mean that car ownership does not come with unfettered use. Furthermore, both givers and receivers of rides reported tensions—givers wanted to help but expressed the need to be self-protective, and riders did not want to be dependent on others or risk the unreliability of rides.

While exploratory, these findings suggest that job accessibility models that only account for travel time and location may not reflect the transportation time tax associated with accessing employment. More understanding of the unaccounted for costs—from stressed social relationships to excessive time demands—and the subsequent health and general wellbeing effects is warranted. We expect that there is some variance by metropolitan size and transit service quality but suggest this is an area for further exploration. We also heard that intransience of car ownership, as well as restrictions on use even when owned, mean that more understanding of car ownership for those in vulnerable financial situations is needed. Another line of research would better delve into the shared rides economy and social costs—both have important implications for transportation policy interventions.

Findings also suggest a potential mismatch between how policy makers abstract transportation accessibility and what getting around can feel like—including interwoven social, health, and wellbeing factors. Reconceiving transportation in context can also mean critical review of spatial indicators of accessibility to understand whether they capture meaningful differences that can vary more by individual than place.

## References

- Clifton, K. J. (2004). Mobility strategies and food shopping for low-income families. *Journal of Planning Education and Research*, 23(4), 402 -413.
- Clougherty, J. E., & Kubzansky, L. D. (2009). A framework for examining social stress and susceptibility to air pollution in respiratory health. *Environmental Health Perspectives*, 117(9), 1351–1358. doi:10.1289/ehp.0900612
- Central Transportation Planning Staff (CTPS). (2009). Chapter 14: Environmental justice assessment In *Journey to 2030-Amendment: Transportation Plan of the Boston Region Metropolitan Planning Organization*. Boston Region Metropolitan Planning Organization.
- Currie, G., & Delbosc, A. (2010). Modelling the social and psychological impacts of transport disadvantage. *Transportation*, 37(6), 953–966. doi:10.1007/s11116-010-9280-2
- Earls, F., & Carlson, M. (2001). The social ecology of child health and well-being. *Annual Review of Public Health*, 22(1), 143.
- Grengs, J. (2010). Job accessibility and the modal mismatch in Detroit. *Journal of Transport Geography*. 18, 42-54.
- Hess, D. B. (2005). Access to employment for adults in poverty in the Buffalo-Niagara region. *Urban Studies*, 42(7), 1177-1200.
- Kain, J. F. (1968). Housing segregation, negro employment, and metropolitan decentralization. *The Quarterly Journal of Economics*, 82(2), 175 -197.
- Kawabata, M., and Shen, Q.. (2007). Commuting inequality between cars and public transit: The case of the San Francisco Bay area, 1990-2000. *Urban Studies*, 44, 1759-1780
- Kwan, M.-P., & Weber, J. (2008). Scale and accessibility: Implications for the analysis of land use-travel interaction. *Applied Geography*, 28, 110-123.

- López-Valcárcel, B. G., & Ortún, V. (2010). Putting health in all welfare policies: Is it warranted? A Southern European perspective. *Journal of Epidemiology and Community Health (1979- )*, 64(6), 497–499.
- McEwen, B. S. (1998). Stress, adaptation, and disease: Allostasis and allostatic load. *Annals of the New York Academy of Sciences*, 840(1), 33–44. doi:10.1111/j.1749-6632.1998.tb09546.x
- Metropolitan Transportation Commission. (2009). *Equity Analysis Report: Transportation 2035 Plan for the San Francisco Bay Area, Final*. Metropolitan Transportation Commission. Available at [http://www.mtc.ca.gov/planning/2035\\_plan/Supplementary/equity/FinalEquityAnalysisReportWeb.pdf](http://www.mtc.ca.gov/planning/2035_plan/Supplementary/equity/FinalEquityAnalysisReportWeb.pdf)
- Nordbakke, S. & Schwanen, T. (2014). Well-being and mobility: A theoretical framework and literature review focusing on older people. *Mobilities*, 9(1), 104-129.
- Reardon, L., & Abdallah, S. (2013). Well-being and transport: Taking stock and looking forward. *Transport Reviews*, 33(6), 634–657. doi:10.1080/01441647.2013.837117
- Weber, J., & Kwan, M.-P. (2002). Bringing time back in: A study on the influence of travel time variations and facility opening hours on individual accessibility. *Professional Geographer*, 54(2), 226-240.

## Appendix A: Participant Consent Form



THE UNIVERSITY *of*  
NEW ORLEANS

**Department of Planning and Urban Studies**  
**Center for Urban and Public Affairs**  
**College of Liberal Arts**

Dear participant:

I am a professor in the Department of Planning and Urban Studies at the University of New Orleans. I am conducting a research study to better understand how people get around in Louisiana.

I am requesting your participation, which will involve a confidential interview. A research assistant or I will ask you questions about where you work and how you get there, what things you do in your neighborhood, how you get to places and where good jobs are. The interview should take about an hour. Your participation in this study is voluntary. We'd like to record our interview, so that we can type up what you say. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The results of the research study may be published, but your name will not be used.

For your time, you will receive a \$25 stipend. You will not receive a direct benefit from the study. From the study more generally, the possible benefit of your participation is improved information for policymakers regarding how low-income individuals get around.



## Appendix B: Survey Instrument

### Qualitative interviews

[Review consent form with purpose of the study]. Today, we'll talk about how you get around, your neighborhood and your job if you're currently working.

I'd like to start by learning a little bit about the **household that you live in**.

1. How many people live in your household?
  
2. How many are fewer than 18?
  
3. How many are under 5?
  
4. How many cars are owned by people in your household?

I'd like to learn a little bit about **any cars** any you or your household has owned in the last five years.

You said you [have\_\_\_] car(s) now.

5. What type of car is it? (make, model, year)?
  - a. How long have you had it?
  - b. Did you pay in cash or get a loan?
  
6. [If less than 5 years of ownership,] Did you have a car before this?
  - c. [If yes], Tell me about your last car.
  - d. When did you get it [previous car]?
  - e. Did you pay in cash or get a loan?
  - f. When and why did you get rid of this car? [REPEAT 13 until 5 year period covered]

Car history info sheet

Car make model and <b>year</b> [write careless and time period for interludes without car]	Month/year – month/year [how long for current car]	Cash/loan	Why got rid of it?

FOR ANY RESPONDENT WHO HAS HAD A CAR IN THE LAST FIVE YEARS

7. What are the benefits to having a car?
  
  
  
  
  
  
  
  
  
  
8. Are there any stresses or downsides to having a car?
  
  
  
  
  
  
  
  
  
  
9. Have you ever give rides to friends, neighbors, co-workers or family for money, gas money or favors?

If yes, tell me about how that works (how often etc.)/Last two times

Now, let's talk about your **neighborhood**.

10. What is your address or the nearest intersection? [make everything 000—enter by block]
  - i. Blurred Number
  - ii. [Data entry: look up walk score]
  - iii. [distance to job cluster].
  
  
  
  
  
  
  
  
  
  
11. How long have you lived here?
  
  
  
  
  
  
  
  
  
  
12. [If less than five years, where did you live before that? For how long? Repeat until reach 5 years]

13. What is the neighborhood called that you live in? (have them **define**?)
14. Would you tell me a little bit about what is in your neighborhood, like stores, parks, schools...
15. Are there places to purchase: (skip if already specified yes in their response to 9)
- g. -groceries
  - h. -clothes
  - i. -other things for the house
16. In your neighborhood, Are there
- a. -day cares
  - b. Doctor offices or health clinics?
  - c. parks and other places to exercise/play/meet up with neighbors
  - d. bus lines in your neighborhood or nearby? [many?] [Frequent?]
  - e. Many of your friends and family nearby?

Let's talk more generally about **job opportunities in the area or region**.

17. Have you ever wanted to apply for a job, but didn't think you'd be able to get there for work? [probing questions following up]
18. What are the best jobs in the area?

19. How far away from home are you willing to work?
20. How do you learn about job opportunities?
21. Are there jobs you'd like to have but need some additional training for? Where are they? What training would you need? Why would you want this job?
22. Would living somewhere else in the region make it easier to get more jobs or a better job?
23. What transportation would make it easier to get jobs or a better job?

Now, let's talk about **your job if you're working**.

24. Are you currently working? [IF NO, SKIP TO Q#39]
- i. Where do you work? – location
25. What type of work do you do there? [housing keeping, social service, manufacturing]?
26. How long have you been working there?

27. Are there opportunities for learning new skills and getting promotions and/or raises?

28. How many hours a week do you work?

29. Does your schedule change week by week?

30. Can you ask to have a schedule that meets your family or other obligations?

Now, I'd like to learn more about **getting to your job**.

31. What time do you most often start work?

32. How many times/week?

33. What time do you usually leave for work?

34. Do you usually [at least half the time] stop on the way? Where?

35. What time do you arrive?

36. When does work most frequently end?

37. When do you get home?

38. Do you usually (at least half the time) stop on the way? Where? Is it a problem if you are ten minutes late to work?

39. -Have transportation problems ever made you late?

a. -If yes, what happened?

I'd like to learn about how **you get around to different places**. I'd also like to learn how difficult or stressful it is.

40. Repeat for each activity in list

b. How do you go to \_\_\_\_\_ activity. [If needed, specify the activity site she most frequently goes to/mode she most frequently uses]?

c. How long does it take to get there via\_\_\_\_\_ [insert mode used most frequent, walk, drive, ride, etc.]?

d. On a scale of 1 to 5, with 1 meaning is very easy to get there and 5 meaning it's very hard or stressful is it to get to \_\_\_\_\_[activity]? A three would mean it's neither very hard nor very easy....a two would be fairly easy

Activity	Mode	Time (minutes)	Ease (1-5)_
vote/city hall?			
childcare site [if applicable]			
grocery shopping			
other shopping			
things to do for fun (movies,			
see friends and			

family			
exercise or be outside			
doctor/health clinic			
work [skip questions a. and b, just rate ease/stress (part c)]			
Is there any other important place you go that we missed? Specify_____			

41. For you, what would most improve getting around to where you need and want to go?

e. -If respondent says “car”, besides getting a car, what would most improve getting around?

42. There are many ideas about what might improve getting around, but we want to understand what you think would work best **for people you know that don’t earn a lot of money**. What two or three things would make it easier for them to get around? [ask probing questions--How would that work?] Why would that be an important improvement?

We’ll finish with just a **few more questions about you**.

43. What is your age?

44. How do you describe your race or ethnicity?

45. What is your gender?

46. What is your highest level of education?

47. Housing

- f. Do you own or rent your home?
- g. What is your monthly [rent/mortgage payment]?
- h. Does any program help you with your rent?/Help you buy/maintain?

48.

- i. What is your hourly wage?
- j. About how much did you earn last year?

Under \$4,999	\$5,000- \$9,999	\$10,000- \$15,000	\$15,000- \$19,999	\$20,000- \$25,000	\$25,000- \$35,000	More than \$35,000
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Thank you for your time and participation. We hope this study will help researchers and decision makers understand housing, transportation and quality jobs better. The consent form that I gave you has contact information if you have any questions.