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Driving Mobility: The Role of Automobiles and Public Transit
Evelyn Blumenberg, University of California, Los Angeles

Welcome. You're listening to the UC Davis Center for Poverty Research Conference podcast. I'm Lisa Pruitt a Center Faculty Affiliate and the organizer of our November 2014 Poverty in Place conference. This conference brought together scholars from across the social sciences to present and discuss new work, on how space and place inflect various dimensions of poverty.

In this presentation, Evelyn Blumenberg discusses her work on the role of transportation in connecting tenants in subsidized housing with job opportunities. Blumenberg is the professor and chair of Urban Planning at UCLA.

>> So, this is the cover page of the study that I was just a part of.

The work was done as part of the HUD's sustainable community research grant. My sort of co-partners in crime were Rolf Pendall from the Urban Institute and Casey Dawkins, who's at the University of Maryland and a whole host of other students and Urban Institute staff, as well. In the project, we used data from the two housing voucher experiment, so the Moving to Opportunity for Fair Housing Program that was already mentioned this morning, the MTO program.

And also data from the second experiment that's been less studied, the Welfare to Work Voucher Program. And in general, the overarching question that we were addressing as a team is, what is the relationship between transportation and outcomes for subsidized housing recipients? I'm guessing, most people in the room sort of know this, so the objectives of these housing voucher programs in general, are to first deconcentrate poverty, to facilitate moves to better neighborhood environments and then to improve a whole host of outcomes.

I would argue that a lot of those outcomes that they were looking at, certainly in the context of the MTO program, actually evolved over time with the program evaluations. But, we're looking at things like housing and housing quality, education, employment, health, and on. The role of transportation, so that's my thing.

Transportation does come up, if you know this literature. On the MTO program in particular, transportation comes up in a lot, it comes up in the purpose of the program, it certainly comes up in a lot of the qualitative work that's been done on MTO, but there's not much out there focused on transportation.

And so that's where we came in. So this is gonna be a very, very short primer on transportation and economic outcomes. I actually teach a whole course on this at UCLA. And so, we'll see how quickly I can run through this, and again, open for all kinds of questions and comments.

So just a few key facts and I could've had a whole bunch of slides on this. So first, and I'll show you some data as well, but first, there's been an increase in automobile ownership over time, even among the poor. Although there's a very large and growing literature on whether we've achieved peak car.

So that's still evolving, and a very interesting debate. Most low income households, about 80% live in households that have automobiles. So sort of the dominant literature on this, is they're all getting

around using buses for example, and that's not the case and you'll see that, but it is true that low income households are less likely to have cars than their higher income households.

And that, and this sort of fits into the research I'm gonna present today that cars are positively associated with greater access to opportunities, and higher employment rates. So quickly the data, so this just uses data from the census and the American Community Survey to look at adults in households with automobiles.

So you can see the increase, the blue line is those in poverty. So increase, and then you can see just looking at this graph. Where the debate about peak, I mean, there's a lot of data out there but where's sort of issue of peak car comes from? So a flattening out in recent years.

There's a relationship between, as you might expect, between automobile ownership and income, so this just looks at sort of the percent of poverty that's on the X axis. So among higher income households, almost all of them have cars. And probably, I'm guessing, I didn't look at this, but the 3% that don't probably live in Manhattan, maybe a few in San Francisco you know what I mean, so that's where.

So lots of car ownership but you can see at the bottom end of the distribution, still, low income individuals also live in households with cars. The one thing you can ask yourself is that, is differences between sort of the ratio of drivers and adults in the household and automobiles, and so there's variation there.

So there's still, even within a household relative access issues to the automobile. All right, so I didn't present that. And then, I just thought I would present this too, but even if you look on the left of this graph. Even among individuals who live in poor households, there's a huge gap in, this is just mean income, between those that have cars and those that don't, and I'll come back to this topic in a minute.

So one thing you should keep in mind, I come from a planning department. Most of our students are not talking about cars. They're talking about public transit, and biking, and walking. So I'm a bit of an anomaly here. But I wanna talk about why is it that so many people have, so I just showed you the data on that.

Or even if you interview welfare participants, a lot of them will say, oh, when I get my my EITC return, I'm gonna buy an automobile with that. So why do so many people want cars? So first, this is what I hear from my students, and the press, and questions.

So we hear a lot about the in general, the costs this disadvantages of automobiles. So the supply house hold expenditure burdens, the negative externalities of cars, excessive subsidies to roads and highways, congestions, sprawl, I mean, these are I'm certain very familiar to all of you here. But it is important, and those things are true and we have to address those problems.

Okay, but that's another talk. But it is important for us to sort of focus at least here on some of the benefits. We have to weigh the costs against the benefits. So in terms of some of the benefits of cars, there's the big one is reduced time cost.

So faster speeds, shorter travel times, greater access to opportunities. I'm gonna be talking about jobs, but we could be easily talking about services. We could be talking about access to full service grocery stores and the link to public health, right? So we can think about access, the car.

Gives you access to opportunities, in a reasonable travel time. Ease of trip making to multiple destinations, either on a single tour. So the trip from your home to the school, or the daycare center to the job, so a single tour. Or on any given day. And so that certainly enables people, particularly women who have still, despite some changes with the margins, still are balancing household labor, unpaid labor, with their participation in the workforce, it enables them to do that.

But even in sort of the job search literature, having a car makes a difference. Interviewing welfare participants, post welfare reform, the biggest barrier. Transportation barrier was the job search. You got to go out there, you got to apply. Apply for a lot of jobs. If you don't have a car, where do you think these folks are going to the mall?

They can hit on a lot of doors and fill out a lot of applications. If you have a car, it enables you to travel more widely for the search. Convenience is important and is associated with the car as well. You can leave when you want, door to door travel.

You can carry, you can make that trip to Costco and get gigantic packages of toilet paper or whatever. You're not carrying it on a bus. Ease of traveling with kids. Weather maybe as well as safety, this comes up certainly with women, so it's more off peak travel at night so a lot of women feel safer in an automobile rather than hanging out at a bus stop and there are other benefits as well.

Pat Montarian, who is on this campus doing work. She's talked about the role of pleasure in driving. There's lots of work on status and cars and all of that as well. Just a little data. This comes from a project I did many years ago with my colleague Paul Angh.

It focuses in Los Angeles. And the center of this map is watts and it looks at the jobs, the low wage jobs you can access in a 30 minute travel time by auto and by public transit. So the gray, the solid gray line around watts shows where you can get to in 30 minutes by public transit.

And you can see, very few jobs located in that circle. And then the big dotted gray line shows that if you have a car, you have access to a lot of jobs within a 30 minute commute. So, I present this, people say that's Los Angeles. We all know about Los Angeles.

It's sprawling. We like to call is dense sprawl. But if that's the exception, except that other scholars have some similar kinds of mapping exercises in other areas. So Tokyo, pretty dense, Boston, these are just the maps that were done for the Bay Area for example. So there's not a mapping exercise like this that I've seen that doesn't show that differential in employment access here between cars and public transit.

So, there's automobiles and there's employment, because that's what I'm focused on today. That arrow runs in both directions. So, if you have a job, or you get a job, you typically then might have the resources to purchase and automobile because automobiles are expensive, both buying them and maintaining them, and insuring them and all of that.

For sure the direction sort of runs in that way and other scholars have said that's the case. But there's a growing body of scholarship that does show that the arrow also runs in the opposite direction as well. For the economists in the room the tricky thing is trying to tease out that relationship.

But on the sort of automobile influencing employment, you can imagine that, I mean I just talked about the first of these points. Easier job search, easier commute perhaps, using an automobile. The ability to regularly arrive to work on time is important. The better managing and juggling dual responsibilities in the workplace and at home, and what not, plays a role in improving employment rates.

So I am not going to test you on this. There is a growing body of scholarships. Scholars from all kinds of fields that have weighed in on this relationship between cars and employment outcome. So employment outcome is measured in all kinds of ways. Employment rates and earnings and wages and what not.

And the studies are pretty compelling. I don't know how many we need before people say, yes, maybe there is something there, right? But there is a large and growing literature that shows this relationship. So, what about public transit? I'll tell you right now. I believe in public transit.

I use public transit. And I think we need public transit. But, there's certainly issues that are associated with transit, so just a little bit on ridership so you can see ridership has gone up a little bit, this is both total riders and ridership per capita, but the key thing here is to still note that, and this is just data from the American Community Survey on commute mode where transit does the best.

So this is the best case scenario for transit. This looks at individuals below the poverty line and above the poverty line, and you can see that public transit among those below the poverty line is eight percent of mode share. Okay? And then, of course, even lower among those above poverty.

So, despite all of that, public transit is just a little piece of this. Not gonna dwell on this, most of what we have out there is certainly for poor people. You'll see on my next slide. Is bus and then next heavy rails so that's just public transit is not public transit.

That comes up in a lot of the equity discussions about how we make our transit investments so this again just draws on the census data to show that this is a relationship between sort of income and type of transits. So low income individuals, and this is commuters with these data, but it's been replicated using other data, are more likely to be getting around using bus.

And you can see quite a bit less likely to be getting around using rail, among the different transit modes. We can come back to that in the question and answer if your interested in talking about it. So public transit works best in dense urban areas where origins and destinations are a approximate because then travel times are relatively low.

Right, so that makes sense. We know from research that low income families without cars tend to move to transit rich neighborhoods. Where they can more easily rely on public transit if they don't have an automobile. And that unfortunately, despite all kinds of efforts to test this out, there really is quite limited evidence that transit is associated with measurable, sort of positive employment outcomes So, let me turn to the actual paper and my piece of this broader study.

So I was focused on the role of transportation in the employment of subsidized housing recipients. My colleagues worked on other outcome measures in terms of neighborhood quality and neighborhood satisfaction, so we were looking at employment. And so the specific question that we examine is sort of how to cart ownership and public transit access affect the employment of low income adults living in subsidized housing.

And we went into this research project with three hypothesis and hopefully it's clear why we had these hypothesis for this sort of thing, extending from this brief primer on transportation and economic outcome. So the first is that cars will be positively related to employment outcome. So this comes from this broader literature that I just talked about.

The second is that cars will be particularly important to housing voucher users who move to lower poverty neighborhoods where there also tends to be less public transit. So in some of these lower poverty neighborhoods that might be located sort of farther from the central city, these dense transit networks.

And then finally with respect to public transit, that we would find that public transit does contribute to the employment among households who don't have a car. So if they have to- if they're riding around on public transit, then it should make more of a difference and they should be locating in places where it can make a difference in terms of their employment outcomes.

So that's what we started with. So in terms of data for this piece, we looked at baseline and interim survey data, as I mentioned, from the MTO. Although we replicated a lot of these findings in another paper using data from that welfare to work voucher program, as well.

Just maybe a review for some of you and maybe some of you for the first time so this was an experiment, so there were three groups, there was a treatment group that was given the section 8 housing voucher, they had to use that voucher in neighborhoods where poverty rights were less than 10% in 1990.

So that was the specification. There was a section 8 group so they received that identical section 8 voucher. But they didn't face any geographic restrictions. They could use it wherever they could find a suitable rental. And then there was a control group that remained in project based public housing.

These metro areas were all fairly sizable. Okay, so these are areas where there is transit. So again, sort of thinking about this as the best case sort of scenario. It's not the small micro-politan, so these are the fairly sizable metro areas, Baltimore, Boston, Chicago, Los Angeles, and New York.

The Welfare to Work voucher program earns smaller sized metro areas. And then to these data we added associated data on neighborhoods, so. Transit access actually from the Brookings Institution, so they've done a lot of work on that. And then we calculated a measure of job access creatively drawing on data from Google.

Google drive times to create that measure. So, and I'm gonna present you with some descriptive data on employment and automobile access, and transit access at two time points. We did a regression analysis to predict the likelihood of making an employment transition, controlling for a bunch of other factors.

And I'll show you quickly what those are. Keep in mind that the wonderful thing, it's not perfect, but the wonderful thing about the data is that these data are longitudinal so same families over time and the assumption and it is a big assumption, I'll come back to that, is that having a car in both surveys means that the car came before the employment transition.

So remember that arrow that I just. Now to be honest, both the car and the employment is somewhat fluid. And we know that about the behavior of low income families. So it's not a perfect assumption. But that's what other people have used it but that's what we had.

Okay, so a little bit on the results before I turn to sort of implications and policies. So in terms of, this is the employment, on the employment transition side between the baseline and the interim survey, only 15% of all participants were employed at baseline. 56% of participants remained unemployed through the two survey periods.

And almost 30% of participants transitioned to employment. And through this, we tested it with part-time and full-time, this is full-time employment. The results were pretty much the same. Shockingly, or maybe not, the automobile transition data looks really similar, so. Only 16% of all participants had access to an automobile at the time of baseline.

28% gained a car between the two periods. 56% of participants remained without an automobile in both survey periods. So these are the data on the percent of participants who moved to transit richer neighborhoods. And here again, going back to my sort of hypothesis. We looked at all adults and adults in households without automobiles.

And we assumed that there would be a difference here. So you see that there is, as we might expect, some variation by metropolitan area in the percent that moved to transit richer neighborhoods. You'd expect those without cars to be more likely to do this, and we saw very little difference.

So on the modelling side of things, we were sort of predicting these employment transitions of the base that we were comparing to was probably shouldn't be never employed. But it was not employed in both the baseline and the interim survey. We had a few variables of intra, so move to neighborhood with better transit.

The survey also asked us a question about their access to bus within 15 minutes from their home. So that's self reported from the surveys. So we included that. And then we looked at whether they gained a car, lost a car, kept a car. We controlled for some of the individual characteristics of individuals, their household characteristics, some of the neighborhood characteristics, that I already talked about and then we controlled for their program status as well and metropolitan area.

So what did we find? I'm only just going to, I'm going to highlight things. So this basically, NS, not significant. This basically shows we did not find any program effects at all. And it shouldn't be that surprising, because if you go back, if some of you have looked through the evaluations of the MTO program.

The findings in terms of the interim and the final survey data show no employment effects. Okay, so this is pretty much consistent with a broader evaluation of the program. We can come back and talk about that as well. On the transportation side of things we did have findings.

So you can see that improved transit was associated with being employed at both time periods. And that having a car at both time periods and gaining a car was associated with employment and employment transitions. So major findings. So no or weak relationships related to program status, neighborhood characteristics, and access to public transit.

On the positive side, we saw that cars increase the probability of finding a job by a factor of two. There were certainly some metropolitan area differences that need a lot more exploration and then, as we might expect, some of the human capital variables are significant as well. So, a little informed speculation and here I'm gonna draw on some other research that we did on the data as well.

So in terms of our variables of interest, that's what I'm gonna focus on here, on the program status side it could be that residential location has little to do with employment outcomes. So I mean, that's one way to interpret the results. It could be that the findings were really based on a number of programmatic deficiencies in the MTO program.

So, and I'll show you some data on this, we have another paper on it, looking at residents in lower poverty neighborhoods. On average through this experiment we're pretty short, families were only required to stay in those initial neighborhoods for a year, and then they were free to move where they wanted.

And it could be also that there was insufficient help locating rentals in suitable job rich, low poverty neighborhoods. And so that could be part of the story as well. I don't have the time to dwell on this, but this looks at time weighted mean poverty rates, measures. By program status and the metropolitan areas.

So, the good news here is that the mean poverty rate is lowest for families in the experimental group. So that's good for those who have planned the MTO, that's what they wanted. The bad news is that the mean, this sort of time waited poverty rate is 29% which is much higher than the targeted less than 10%.

Okay, so that can play a role in the findings. So here the story I don't know gets better or worse anyway, you know, however you want to look at it that families in the experimental group had trouble leasing up, so finding suitable rentals. And their lease up rates, actually, were lower than the section eight group.

But we do see among those that are able to find units in these lower poverty neighborhoods that they're that time-weighted mean poverty rate is lowest among those families, so, 19%. But still glass is half empty, half full. Still higher than the 10%, which is what was the hope for the program.

The public transit. It could be that there's just not enough public transit to make a difference even in some of these transit rich or transit richer metropolitan areas where MTO was implemented. And so here, this is again, draws on some of the Brookings' data. There's good transit coverage in the MTO, metropolitan areas.

So those are the blue bars. But there are issues associated with job access to employment. And so, those are the green bars, so maybe there is some threshold of fact that we ought to be looking at with respect to transit service or levels of transit service. And then finally, cars are associated with employment rates sort of consistent with this growing body of literature, and we found that cars are important for low

income families including the families living in public housing in the central cities so not only in the Section 8 and the experimental group.

And it's, I just underscore that the findings are suggestive but not conclusive that the direction runs from cars to employment. So this graph is just to show after, beginning my talk talking about how so many low income families have cars. There's still a lot of families that do not have access to automobiles, and so that's where the findings of this study are of interest.

So I only have a few minutes, so I'm gonna zip through these last slides pretty quickly just on the implications for policy and research. So this first point should not come as a surprise given everything that I've said before. So we need to think sort of creatively about increasing.

And I've chosen my words carefully here. We've got to think about increasing car access among low-income households. So there's a difference between access and ownership. So keep that in mind. There are a lot of strategies by which we can do this. Some of them have already been implemented.

Various places so we can come back and talk about these. But, one thing is to lift the vehicle asset limitation associated with some public benefit programs. So, some of you might have seen this. So the green bars are the percentage of states in those categories along the x-axis.

So about 50% of states have lifted the vehicle asset limitation entirely or for one vehicle but a lot of the larger states California included in that list where caseloads are very, very large have not, they still have a very low vehicle asset limitation. So whatever that color is, purple, blue that shows you the caseload, so I´ve sort of merged that with the caseload data so it presents a different picture.

We can think about automobile ownership, and automobile sharing programs so that certainly can be a piece of the picture. We can think about programs and policies to reduce the cost associated with driving. So one of the ones that I'd like to talk about is Pay Per Mile auto insurance.

So low income drivers tend to travel shorter distances than higher income drivers. That's not the way auto insurance functions, so that's a huge burden on low income households who are insured this data, also from Brookings, looking at pay as you drive insurance, and the benefits of that by household income.

And it's huge gains for those at the bottom end of the income distribution. And then we can think about better integration of low income housing, and automobile programs. I'm not gonna go into in too great detail. But probably the best case scenario is what they're doing in Baltimore as part of their court mandated mobility program.

So there was Llst in bullets is in general what they do. So, greater flexibility in lease up locations, long-term in-depth counseling, more generous rental subsidies, security deposit assistance. And then they do a range of things related to transportation, which is somewhat rare. So, they have connections with an existing low-income auto ownership program.

Vehicles for change. Actually, they're having a big conference as we speak to talk about transportation and low-income households in Baltimore. They got funding through the Thompson, sort of legal proceedings. And they have received funding from a foundation to help offset some of the costs for

families. And the foundation, also they found that, one of the barriers was paying for the driving school that was required.

And so the foundation offsets the costs associated with the driving school as well. There's no question that for those who can't afford automobile ownership, and there are still many low income families who can't. We have to think about public transit and issues of walkability, and what's going on with respect to transportation, much more locally in their neighborhood, so I don't wanna rule that out as well.

And then, last point is what good academic wouldn't end by talking about future research? So, we do need more research. There's a lack of research on this particular sort of topic. And, Ralph Pendel at the Urban Institute has been pushing this, and hopefully we'll eventually get funding to do it.

Someone's thumbs up in the back of the room. But we need to look more systematically at this sort of car and affordable automobile access. We've had all the housing mobility kind of randomized studies. But we can do one on cars as well. And then I mention the last point which has to do with threshold effects.

And so people talk about it. There's a lot more that needs to be done here. So, I mentioned two areas. One is is there a threshold effect in terms of the time in which families spend in lower poverty neighborhoods? I said they're not spending as long as the organizers, or the planners of the policy anticipated.

At what point in terms sort of a house of living in a lower poverty neighborhood, at what point might we expected to make a difference along some of the dimensions that were interested in? The same can be said for thinking about public transit, so at what point does public transit then sort of result in measurable differences in terms of, in my case, employment?

And then are we willing to make that kind of investment here? I'm thinking, public transit is heavily publicly subsidized. Is this a public investment that we wanna make? And that's it, thank you.
>> I'm Ann Stevens, the Director of the Center for Poverty Research at UC Davis. And I want to thank you for listening.

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