



# Social networks as a source of private-vehicle transportation: The practice of getting rides and borrowing vehicles among Mexican immigrants in California

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## ABSTRACT

We examine the role of social networks in enabling access to private-vehicle transportation, through getting rides and borrowing cars. Based on qualitative findings from ten focus group discussions with recent Mexican immigrants to California, half of whom have no car, we describe the extent to which participants depend on rides and borrowed cars for transportation. We highlight the unique aspects of informal access to cars, drawing on social exchange theory and related research to characterize the procurement process and likely levels of exchange. We discuss the implications of these findings for transportation services that might serve this and other community groups.

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## 1. Introduction

Social factors can influence travel behavior in a variety of ways that transportation researchers have begun to explore. One influence that researchers have examined is social factors as a motivation for travel, that is, the role of social networks in shaping travel behavior (e.g. Carrasco et al., 2006; Petersen and Vovsha, 2006) and the role of travel in maintaining spatially dispersed social networks (e.g. Burkhardt, 1999; World Health Organization, 2000; Cvitkovich and Wister, 2001; Urry, 2002; Bradbury, 2006). In this paper, we focus instead on the role of social networks in determining access to transportation itself, through informal vehicle-borrowing and getting rides (lifts) with others. Because access to this sort of transportation occurs through social exchange, existing models of auto ownership and mode choice fail to accurately characterize the process and to predict its use. Efforts to do so could provide insight on potential mobility options for particular groups, such as the elderly, youth, car-less, and others who cannot drive.

Toward that end, we present qualitative findings from ten focus group discussions with recent Mexican immigrants to California. Although these were originally conducted as a part of a broader exploratory study of the transportation needs of diverse populations in the state, the experiences of recent Mexican immigrants are useful for the study at hand because of their limited access to cars. We present evidence on participants' experiences in obtaining transportation-related resources through their social networks and suggest ways that the attributes of an individual and his social network might predict the extent to which rides and borrowed vehicles are available to him. Although our study design does not allow us to test

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particular hypotheses, the main contribution of this paper is to identify relationships that might be tested in future research, adapting existing theory about the acquisition of resources through social networks to the acquisition of vehicle transportation specifically. We examine the following three topic areas: (1) the extent of vehicle use among the Mexican immigrants participating in this study, especially their dependence on getting rides and borrowing cars; (2) the potential factors affecting the exchange of rides and borrowed cars; and (3) the implications of these findings for policy and future research.

### *1.1. Previous research on informal ridesharing and borrowing cars*

There has been little research on the process of accessing rides and cars through informal channels. Survey results indicate that this sort of travel comprises a significant share of overall travel in the US and elsewhere, but is particularly important for certain population groups (Gray et al., 2006). According to the 2001 National Household Travel Survey (NHTS), 29% of all trips in the United States were made as a passenger in a private vehicle—meaning that some sort of coordination with the driver and other passengers was required.<sup>2</sup> For about 17% of these trips (or 5% of all trips), someone from outside the subject's household was behind the wheel, making getting rides with non-household members almost three times more prevalent than using transit. Furthermore, those who own no cars relied even more extensively on informal access to cars to fulfill their transportation needs. According to the NHTS, those living in zero-vehicle households made about a third of their total trips in private vehicles, and they themselves were driving borrowed cars for 29% of these trips (in contrast, 3% of car trips made by the general population were made in borrowed cars). Children and elderly travelers are also potentially especially reliant on others for transportation. The NHTS indicates that 72% of trips made by children under age 16 were made as passengers in private vehicles, as were 58% of trips made by those 85 and over, with 20% of these with non-household members driving. While these statistics show that informal access to cars does occur, they tell little about the procurement process itself and the factors that might enable or inhibit access to this sort of transportation.

Previous research has examined the process of arranging for rides in the contexts of both children and elderly. While the needs and constraints of each of these groups differ in some ways from one another and from those of recent immigrants, several aspects of previous findings may be relevant. In an examination of how parents handle uncertainty about arrival times in picking up children from schools and daycare, Schwanen (2008) finds parents relying on a variety of social contacts to fill gaps, including not only other household members but also friends, relatives, neighbors, and teachers. He points out that in devising solutions, parents do not make choices in isolation, but rather in some social context—depending on the existence and availability of other individuals (spouse, babysitter, neighbor, friend, relative, teacher)—as well as in some technical context (depending on the existence and availability of non-human agents such as mobile phones, transport, and spatial-temporal constraints).

Schwanen (2008) also notes that arranging for rides can have an emotional or affective component. While trust emerges as an important factor for the parents in that study, studies of the experiences of elderly point to other emotions that can play a role. In focus groups with participants over age 70, Burkhardt (1999) finds that major concerns for those who relied on friends and family for rides were reluctance to inconvenience the other party and dread of having to ask for a favor. Many insisted on trying to reciprocate in some way, such as offering cash, cooking, babysitting, or other favors, and tried to arrange trips to minimally inconvenience others. Perhaps partly as a result of this effort, participants reported numerous downsides to getting rides as a form of travel, including the need to plan in advance, forgoing spontaneity and flexibility, having longer travel times and wait times, compromising on destinations and schedule, coping with unreliability, and skipping most evening, social, or recreational trips.

Burkhardt also reports that those who were able to meet their basic needs without driving either used another mode, such as walking, transit, or paying a driver; or had strong personal networks, such as spouses or significant others who drove, children in the area, or heavy involvement with a religious institution. Similarly, in a study of 174 adults over 65 in Vancouver, Cvitkovich and Wister (2001) find that those who reported tapping a larger social network for rides, including friends and neighbors rather than just family, were statistically significantly more likely to report that their transportation needs were fulfilled.

This connection between social networks and finding rides is the focus of Gray et al. (2006), who propose that “strong local social capital appears important in conferring mobility on certain social groups, especially those without access to a car” in rural parts of the UK (p. 89). As evidence, they cite extensive provision of rides in Scotland and Ireland to the young, elderly, and car-less in tight-knit rural communities where “strong intra-community ties and networks have been maintained” (p. 92). They then propose that the presence or absence of social capital in a community may be used to help explain individuals' mobility levels and travel choices. In the next section we further discuss the concept of social capital and the social exchange theory to help frame the study of access to rides and borrowed cars.

### *1.2. Social exchange theory applied to getting rides and borrowing cars*

The premise of social exchange theory is that all interactions between people can be viewed as “an exchange of goods, material and non-material” (Homans, 1958, p. 597). Although in the special case of economic exchange people trade money

<sup>2</sup> All National Household Travel Survey (NHTS) statistics are the authors' calculations using the 2001 Online Analysis Tool, available at <http://nhts.ornl.gov>.

for goods or services in the context of a formal business transaction, other exchanges might involve informal trades of things like companionship, ideas, emotional support, or favors – such as giving someone a ride. This meshes with Schwanen's notion that the sorts of favors exchanged among parents managing school pickup were “part of a larger exchange of support,” which could take on myriad forms (2008, p. 1000).

While some of the theories about economic exchange, such as rational choice and profit-maximization, may apply to social exchange more broadly (e.g. individuals engage in exchanges that maximize their returns or rewards), these sorts of informal exchange can differ from conventional business transactions in important ways. First, because resources other than money are exchanged, it is possible to extract resources without paying money for them. Second, the terms of the exchange are not generally negotiated nor contained in a single transaction; rather the value of what is exchanged is implied rather than explicit, and likely conferred over a series of repeated interactions, without necessarily expecting balanced accounting between each pair of exchange partners (Molm, 2003). So at the point when an individual is choosing whether to engage in an exchange, reciprocation may not be guaranteed. Even if reciprocation is forthcoming, it may be asymmetric (e.g. offering goodwill in exchange for a logistical favor); it may be delayed without any explicit schedule for repayment (e.g. offering emotional support to a friend, without calculating when that friend will be comparably useful to you); and it may be transferred to a different party altogether (e.g. someone helped me once, so I will help this person). All of these aspects of social exchange serve to diversify and expand the ways that the immigrants in this study might come by transportation resources—that is, getting rides or borrowing cars, without having to buy them.

The concept of capital is useful when considering who might be well positioned to accrue resources, in this case resources such as getting rides or borrowing a car. Broadly speaking, capital represents an accumulation that can be transformed into rewards in the future. Bourdieu identifies various types of capital aside from economic capital, including cultural capital (knowledge, experience, or connections that enable success), symbolic capital (access to resources on the basis of honor, prestige, or recognition), and social capital (the value of connections with others, or the value of actual or potential resources embedded in one's social networks) (1984, 1986). The various types of capital an individual accumulates can represent different routes to securing rewards. For instance, a ride might be achieved by tapping either economic capital—by paying for a taxi or buying a car—or by social capital, by asking for a favor from a friend.

The population considered here, recent immigrants, is likely to be relatively poor with respect to what Urry (2007) terms “network capital,” referring to the array of documents, means of physical mobility, and communication devices (virtual mobility) that enable individuals to access services, facilities, and opportunities. In this paper, we consider in what ways these individuals might compensate, securing rides and vehicles through their friends, co-workers, and other contacts—that is, by tapping social capital. What factors facilitate the exchange of these kinds of transportation resources?

There have been numerous studies on resource exchange in a social context, some of which may apply to the exchange of transportation resources in particular. In general, closer ties are thought to enable more supportive relationships (Wellman and Wortley, 1990; Portes, 1998; Astone et al., 1999; Wellman and Frank, 2001; Plickert et al., 2007; Schwanen, 2008), but anything that triggers a friendship heuristic may help extract a small favor (Berger et al., 2006). Wellman and Wortley (1990) find that neighbors and co-workers are more likely to provide small and large favors but less likely to provide companionship or emotional support; kin is more likely to provide emotional support, financial support, and large favors; and non-neighbor friends are more likely to provide companionship and emotional support. Magdol and Bessel (2003) suggest that the spatial distance between ties matters for certain types of resources, finding that distance inhibits the exchange of tangible favors and of companionship, but not the exchange of emotional or financial support. Because origin and destination are relevant in giving rides, it seems likely that spatial proximity would matter for the exchange of this type of favor as well, as found by Schwanen (2008). Some studies have associated female gender with giving, receiving, and reciprocating support (Plickert et al., 2007; Wellman and Frank, 2001) especially emotional support (Wellman and Wortley, 1990), although van Emmerik (2006) finds men in a group of co-workers to be just as likely to generate emotional support and more likely to produce “task-oriented resources” (p. 25). This may mean that as a task-oriented resource, giving rides and lending cars may be more likely to be provided by and to men, especially among groups in which men are more likely to drive, such as the elderly (Rosenbloom, 2001) and immigrant groups such as Mexicans (Pisarski, 1999; Stowell-Ritter et al., 2002). On the other hand, women are more likely to attend to childcare and other care-giving tasks, which at least in the general population is associated with providing rides—chauffeur children or other dependents, both within and across households (Rosenbloom, 1992; Siren and Hakamies-Blomqvist, 2005; Schwanen, 2008). This might make women more likely to provide rides.

Theoretically, the effect of aggregation would mean that larger social networks would offer more potential sources of support (Wellman and Frank, 2001 and others). However, other aspects of the network may also make a difference. For instance, Wellman and Frank (2001) find that having more mutual ties within a network generates more support. Others show that people are more likely to help those that are like themselves (e.g. Gibbons and Oik, 2003; Wellman and Wortley, 1990), and therefore common group membership or a homogenous network may be useful. For instance, Charles and Kline (2006) find carpooling propensity associated with those living in more racially homogenous neighborhoods. Whether because they are homogeneous or large or for other reasons, ethnic enclaves have been identified as potentially rich sources of support, and that Hispanic immigrant groups—such as in this study—tend to develop particularly supportive and loyal networks (Boyd, 1989; Menjivar, 1997; Denner et al., 2001; Janjuha-jivraj, 2003). However, benefits of enclave membership can vary depending on the extent to which the community possesses necessary resources. For instance, Portes and Zhou (1993) find that enclave membership can inhibit assimilation and ultimately thwart members' economic mobility. Granovetter's (1973, 1982) and Wellman and Wortley's (1990) emphasis on the value of weak ties and in-network

diversity, like Putnam's bridging capital (2000), may be relevant in ensuring that the network provides a desirable mix of resources.

In addition to being members of a particular ethnic group, the circumstance among the participants of this study may also differ from typical social exchanges because the participants most in need of transportation resources are unlikely to be able to reciprocate in kind. The inherent asymmetry of these exchanges may have similarities with those in caregiving/receiving roles, where "the dependent is seldom in a position to reciprocate in kind" (Kittay, 1999, p. 68), potentially implying what are often "neglected issues of power" (Fine and Glendinning, 2005, p. 612), although with some important differences. As suggested by the guilt and dread described by the elderly in Burkhardt's (1999) study, this asymmetry may impact the recipients of aid in various ways. Molm (2003) suggests that the outcomes for disadvantaged members of a network—for instance, those more reliant on aid from others—differs depending on whether an exchange is "negotiated" (with the two parties explicitly agreeing on terms for a self-contained transaction) or "reciprocal" (without explicit bargaining, potentially as part of an ongoing series of exchanges in an enduring relationship). She finds those who are disadvantaged are better off when engaging in reciprocal rather than negotiated exchange, since there is a tendency to value the reciprocity itself over the particular value of the benefits exchanged, which are glossed over in a spirit of collaboration. By contrast, negotiated exchange emphasizes the terms of the agreement. Those offering too little risk being excluded from the exchange altogether, perhaps pressuring them to overpay in order to avoid this risk. For the study at hand, this would mean that those engaging in reciprocal exchanges might have an easier time securing rides, while those engaging in negotiated exchange might feel squeezed into overpaying.

In the body of this article, we draw on findings from focus groups to characterize how participants exchange rides/vehicles in a social context and to propose a list of factors that seemed to affect the likelihood of accessing rides/vehicles in this way.

### 1.3. Source of the data

The focus group discussions referenced in this paper were conducted as a part of a grant from the California Department of Transportation to study the travel of diverse populations in California. The goal of the focus groups was exploratory research on the general transportation needs of Mexican immigrants, the largest immigrant group in the state, comprising 44% of the foreign-born population and 12% of the overall population (US Census Bureau, 2007). Mexican immigrants, especially recent immigrants, have particularly low auto-ownership rates (Casas et al., 2004; Heisz and Schellenberg, 2004; Tal and Handy, 2005), making their perspectives on the use and acquisition of cars somewhat unique. The topic for the current article emerged after data were collected, when it became clear that participants' limited access to cars was associated with extensive borrowing of cars and ridesharing.

We recruited participants from six different California cities with high numbers or concentrations of Mexican immigrants, ranging from settings that are urban with diversified economies and relatively good transit service to exurban or small urban areas with limited transit service and agriculturally oriented economies. To better tailor the conversation to the likely experiences of the participants, we held separate sessions for participants in households with a vehicle and for those in households with no vehicles, as determined by the screening question, "Do you or does someone in your household have a car?"—although the distinction between the two categories was sometimes ambiguous (see Lovejoy and Handy, 2008), with a total of five sessions of each type, including sessions in Fresno, Los Angeles, Riverside, San Jose, Stockton (car-owning only), and Sacramento (car-less only). Sessions were held on Saturdays between June and August of 2006 in centrally located, transit-accessible, formal focus group facilities (with the exception of the Stockton session; due to concerns about accessibility to the site and the recruitment of car-less participants, a session in Sacramento was added to replace the session with car-less participants in Stockton). We recruited participants over the phone in Spanish from lists of phone numbers corresponding to Hispanic last names in each area. Potential participants were offered a \$75 incentive to participate, after being screened by whether they were Mexican, immigrated in the last 10 years, were between the ages of 20 and 40 (to avoid confounding issues unique to younger and older travelers), and whether someone in their household owned a car ("yes" for five groups, "no" for five groups). While we wanted "average" people from the target population as participants, we made no effort to recruit a representative sample, since the sample size was too small for statistical significance and because the format of the study was designed as a qualitative exploration rather than quantitative investigation. In the end, there were a total of 102 focus-group participants, with 49 and 53 in the five car-owning and car-less groups, respectively. The groups ranged in size from 8 to 13 participants in each session. Most groups were evenly split with male and female participants, but three groups (two in Riverside and one in Stockton) disproportionately consisted of women. About three-quarters of both the car-owning and car-less participants had children under the age of 18. About 70% of car-owning participants and 90% of car-less participants reported household incomes lower than \$25,000. About 15% reported speaking English, a share that seemed to be evenly distributed among the car-owning and car-less groups (see Table 1).

The sessions were held in Spanish, led by a bilingual professional facilitator who followed a protocol (originally developed in English but translated into Spanish) that included questions about various transportation modes (including getting rides and borrowing cars from those outside their households), such as which they used, how often, for what purposes, and what they perceived to be good and bad about each. Audio and video recordings of the proceedings in Spanish as well as an audio recording of a live translation in English were retained for each session. We used textual transcriptions of the translations as

**Table 1**  
Participant characteristics.

Group	Percent of participants							Total
	Living in the US < 5 years (%)	Living in the US < 10 years (%)	Who are female (%)	Who have children (%)	In households earning < \$25,000 (%)	Who speak English (%)	Who know how to drive (%)	
<i>Car-owning</i>	14	85	63	79	71	18	88	49
Fresno	25	100	50	89	100	n/a	75	8
Los Angeles	n/a	n/a	46	77	69	8	100	13
Riverside	30	100	100	100	70	20	90	10
San Jose	0	89	40	60	50	30	100	10
Stockton	0	50	88	73	n/a	38	n/a	8
<i>Car-less</i>	42	98	60	62	89	13	25	53
Fresno	11	78	40	100	90	n/a	40	10
Los Angeles	63	100	67	50	100	0	0	12
Riverside	33	100	89	44	89	33	56	9
San Jose	55	100	54	57	79	31	15	13
Sacramento	50	100	n/a	n/a	n/a	n/a	n/a	9
Total	30	92	62	72	80	16	56	102

the primary content for analysis, referring to the videos as needed to clear up ambiguities. A report of the results, including a copy of the protocol used for the interviews, is available in [Lovejoy and Handy \(2007\)](#).

## 2. Findings

We consider two main questions: How much borrowing of vehicles and asking for rides occurs within this population? What factors influence individuals' likelihood of obtaining transportation through their social networks?

### 2.1. Participants' use of vehicles

Participants relied on vehicles to varying degrees. While for some participants this variation was likely related to the availability of alternative modes of transportation in their area, many participants felt they could not get by without utilizing vehicles, and chose to do so even when it was difficult. Not surprisingly, the car-owning participants described using vehicles more than the car-less participants, on average, with correspondingly more transit use and walking among the car-less participants. The car-less participants described employing a wider range of solutions in order to get around, identified more places that were "hard to get to," spent more time getting to work, and described more overall transportation challenges and foregone opportunities as a result of transportation-related limitations (see [Lovejoy and Handy, 2007](#)).

However, there was a range in participants' use of vehicles and access to rides in both the car-owning and car-less groups (see [Lovejoy and Handy, 2008](#)). As a part of this variation, reliance on getting rides and borrowing cars was extensive in all of the groups. Although systematic counts were not collected, almost every participant (both car-owning and car-less) reported getting rides at least sometimes. Only a few indicated that it was rare. Many reported getting frequent rides, such as regular arrangements for getting to school or work, and as often as daily rides to shopping, errands, church, or social outings. Those offering rides included friends, neighbors, family (cousins, siblings, parents, children, in-laws), significant others, ex-spouses, co-workers, and even strangers. Many participants expressed more reluctance to borrow cars than to get a ride, but there were still some regular borrowers in all of the groups. The most frequently cited destinations for which participants would borrow cars was to reach medical services, whether for an emergency trip or for a scheduled doctor's appointments, followed by grocery stores, far-away destinations (whether errands or recreation), taking laundry to a Laundromat, recreational outings, transporting particular passengers, and going to church. Thus even if participants' transportation needs were not always met, especially those from car-less households, a mix of getting rides and borrowing cars seemed to go a long way to fill gaps. This suggests that sometimes—but not always, and in varying degrees—social networks represent a valuable source of private-vehicle transportation.

### 2.2. Factors affecting the exchange of rides and borrowed cars

The focus groups made clear that some participants enjoyed more access to private-vehicle transportation through their social networks than others. While some were able to meet their transportation needs by tapping their social networks, others were not. What factors shaped these outcomes? In this section, we propose a list of determinants, adapting existing theories of social exchange to the exchange of transportation resources in particular based on findings from the focus groups. We start by examining factors affecting the likelihood of *offering* rides or vehicles, then at factors affecting the likelihood of *receiving* them.

### 2.2.1. Factors affecting the likelihood of offering rides or vehicles

Clearly, an important factor determining an individual's likelihood of offering resources to friends and contacts is whether he possesses them in the first place. The types of resources that proved valuable to participants in this study included knowing how to drive and having a driver's license; being able to teach someone how to drive, how to buy a car, maintain a car, or obtain a license or insurance; having the time to give rides or to teach someone how to drive; as well as owning a vehicle or multiple vehicles, and further having a vehicle that is in good working order, safe, insured, and with sufficient capacity for extra passengers or other cargo.

These resources were not taken for granted among participants in this study. The general trend was to have no vehicle (and no ability to buy a vehicle) upon arriving from Mexico. Some knew how to drive or had a Mexican driver's license, but were unlicensed and/or had never learned to drive prior to immigrating. Over time, many saved for a vehicle and learned to drive, whether or not they ever became licensed. In particular, about three-quarters of the participants from car-owning households had acquired a car within the first 3 years after immigrating (Lovejoy and Handy, 2007). However, not all the participants from even the car-owning households drove, either because they had not learned how or did not have access to the household vehicle(s). About 16% of participants from car-owning households and 75% of those from car-less households reported that they did not drive (see Lovejoy and Handy, 2008). Participants in both the car-owning and car-less groups explained that they were unable to obtain California driver's licenses due to their legal status, although some were legal and licensed and others were driving with Mexican licenses. In addition to driving without licenses, many participants reported driving without any or without good auto insurance, and that they could only afford junky cars that frequently broke down (Lovejoy and Handy, 2008).

These sorts of issues affected both willingness to do someone a favor and the quality of the transportation provided. In particular, having no license meant that drivers risked being stopped by the police and having their vehicle seized, to be recovered for a fee that was prohibitively large for many in the groups. It also meant driving without auto insurance (with no license), or with expensive limited-coverage insurance (for those with Mexican licenses). By asking for a ride, the passenger put the license-less driver at additional risk. For instance, a Fresno participant identified his greatest challenge in getting to work as the following:

The people that give me a ride don't have a license either and whenever they go and pick me up or take me back home they have to be thinking about the police, if they get stopped. So that's hard on them too. They're out watching and they're careful, you know? Because they can lose the car if they get stopped and then it's going to be a lot of money to get it out.

One explained, "I really don't like to ask for rides. . .he doesn't have a license and he's risking getting stopped" and another advised, "Never borrow a car, because if it breaks down, then you are the one that's responsible."

In this way, license, insurance, and maintenance issues amplified the cost to would-be donors, perhaps making members of this community less likely to give rides and lend cars than they otherwise might be. Thus anyone who was actually licensed, insured, and with a more reliable vehicle might be more likely to offer rides. Because these things tend to come with time spent in the United States, those who have been here longer might be more likely to have resources to offer to those in need. In addition, because women participants seemed somewhat more likely than men to not know how to drive, or to have taken more time to learn how to drive after immigrating, males also might be more likely to have resources to offer those in need. As tentative support for this theory, participants seemed to reference male relatives (such as cousins, brothers, and in-laws) more often as sources of rides and as car-owners. (However, participants also indicated that women would acquire a license and/or learn to drive when possible or needed. A Stockton participant explained, "Usually, regularly, women learn [to drive] because we have to. . .necessity, because the husbands work all day.")

### 2.2.2. Factors affecting the likelihood of receiving rides or cars

A first set of factors affects the likelihood of receiving rides or cars by affecting the size of the favor demanded of the other party. In particular, a participant who could contribute some portion of the resources—that is, who either knows how to drive or has a car on hand—was more versatile, able to either borrow a driver or borrow a car on a given occasion. By contrast, those who could not drive were relegated to using cars only as passengers, having to secure not only an available vehicle but also a willing driver for any given trip. For instance, one participant described wanting to go the hospital with a sick child, and having access to a car but no driver, and finally going to a neighbor for help: "I asked her, 'Please take me.' She said, 'I know how to drive, but I don't have a car.' I said, 'I have keys and let's go!'"

Another consideration affecting the size of the favor relates to the fact that giving rides and lending cars is embedded geographically, spatially, and temporally in the two parties' lives, as noted in Schwanen's (2008) study of parents arranging for their children's pickup from school and daycare. It is easier to complete the exchange if the two parties are spatially and temporally compatible. In particular, when getting rides, it is more convenient when there is spatial overlap between the driver's and passenger's origin and/or destination, when their schedules are concordant, and when the driver has to forego fewer activities on the passenger's behalf. For instance, participants indicated that it was easier to find rides if they knew drivers who were going to the same place they were going at the same time, or who were coming from the same place they were coming from, or both. A Sacramento participant explained, "I go with my girlfriends because they live over where I live and we work at the same place and we live in the same neighborhood." In contrast, a Fresno man's ride to work was more difficult to secure, "because the guy that I'm working with lives [farther away]. . .so sometimes it's inconvenient. He has to go and get me and then double back in the mornings. . .I don't feel comfortable."

Similarly, when borrowing cars, it is more convenient if the owner's and borrower's scheduling needs are non-overlapping, if the owner has alternative means of transportation, and if there is spatial overlap at the origin. Among participants, these considerations seemed relevant both for borrowing cars from outsiders and for sharing cars with household members. For instance, a Riverside woman explained that because her husband had a good back-up plan, she enjoyed more access to the family car. In contrast, another Riverside woman described resorting to using a taxi to get to a doctor's appointment since using the family car would have required her husband to miss an entire day of work.

A second set of factors relates to some of the intangible considerations unique to social exchange. In particular, participants' experiences supported the theory that friendly relationships enable small favors without explicit compensation. For instance, being friendly with co-workers helped a Riverside participant find rides: "If you get along with a person, she'll take you or bring you." Another described being in a hospital waiting room at 2 AM and chatting up some of the other patients in order to find a ride home; after approaching about 20 different people, she listened to a woman gripe about her spouse for longer than she would have wanted to in order to get a ride with her later: "She would talk and talk and talk about how the husband drank and smoked. And I would say, 'Yes, ma'am... Take care of him.' And that's the way we got a ride all the way from [that part of town]." Similarly, women seeking companionship from one another offered their friends rides to shopping:

I have a neighbor, a good friend, and sometimes she will call me and say, 'I'm going to Wal-Mart. Would you like to go?' 'Yeah, okay, I do need something. Let's go...'

I also have a very good neighbor that she takes me all over, Costco, Albertsons. She loves to go out, and she invites me: 'Let's go [name].' 'Where are you going?' 'Let's go to Albertsons...'

Participants' experiences also supported to some extent the theory that closer ties foster more supportive relationships, consisting of higher-value or repeated exchanges. Favors considered to be large, such as borrowing a car, could only come from close friends or relatives. One participant explained, "I don't try to borrow a car from just anyone, only if it's my brother or a good friend." Another attested, "My father and my brothers and I get along really well. We have a very good relationship and I don't mind borrowing a car from them or vice versa." However, for some participants neither friendship nor kinship guaranteed access to a ride or a car. Sometimes this reflected the magnitude of the favors, such as for these participants:

My brother loaned me his car a few years ago and I almost had an accident. The car wasn't mine so I got frightened. So I decided to solve my problem by other means.

When I recently got here, I would get off work, the restaurant would close about 2 in the morning and we'd stay, washing the pots...and we wouldn't get out until 3 in the morning. So then my brother had to go pick me up and he was very sleepy...he said everything would be dandy, but afterwards it wasn't.

Aside from friendship and closeness, the results also point to several other circumstances that might help a recipient receive rides or vehicles, presumably as a result of other intangible social rewards shared in the exchange. In particular, the results are not inconsistent with the theory that participants in this study as members of an ethnic community would enjoy easier exchange of resources through that network. However, we have no explicit evidence to support it, since the topic was not discussed in any of the sessions, and because all of our participants were from the same group. The only common-group effect that participants referenced explicitly was women being more likely to help other women, as one attested, "Sometimes they don't even know me, but since they're women they'll say, 'Yes, where are you going?'" This may alternatively be interpreted as a gender effect, with women more likely to give and/or receive support. The discussions also offered some support for the theory that charity is offered when the recipient is especially needy. This was made clear when participants described sharing resources in emergency situations, such as, "a coworker of mine, his wife was going into labor and I needed to lend my vehicle and he needed a vehicle so I lent him my vehicle to take his wife to the emergency room," or even in just emergency-like situations, such as getting a ride after missing the bus or when it's raining.

A third set of factors relates to the recipients' ability to offer somewhat explicit reciprocity, either with money or other instrumental favors. As with Burkhardt's (1999) seniors, participants in this study made clear that explicit compensation was a common and necessary practice. For instance, a Riverside participant explained, "Every day I would ask her [for a ride] and she would get annoyed... [but] then when you would give her \$5 or \$20, then she was happy...she was not as annoyed at having to give a ride." Participants mentioned giving cash, buying gas, and offering other types of favors in exchange for rides and cars. They described offering both in-kind favors—such as having a car to offer as a trade when borrowing someone else's or offering to alternate who drives a carpool—and un-related favors, such as babysitting and lending a television. Several participants reported submitting regular financial contributions for a work carpool; one had his contribution deducted from each paycheck, since his boss provided the ride. Some participants even reported that they had bought a car because it ended up costing less than what was required to compensate someone who had lent a car. In general, however, it seems that if a recipient is able to offer explicit compensation that is attractive to the potential donors in his network, he is more likely to enjoy access to rides and vehicles.

A fourth factor is the general extent of a recipients' social network. Participants made several comments supporting the hypothesis that larger social networks offer more potential sources of support and therefore a higher level of overall support. For instance, the following illustrates the array of contacts that might combine to support a family's mobility needs: "My husband takes the car usually, because my sister-in-law gives [my children] a ride to school. But should I need the car, then he has a friend that works with him and he lives close by, and his friend will give him a ride." Another participant demonstrated the value of network size by explaining that he avoided having to use public transit by having "a lot of friends" and

another explained “Everybody liked me, so I always got a ride,” while another lamented rarely getting rides “because I’ve been alone, completely alone, for three years now.” However, it is difficult to establish whether the network size itself matters, or if something like an extroverted personality results in both a larger network and finding rides more easily.

A final factor that is difficult to otherwise categorize but seemed especially important in determining the level of access to rides/vehicles relates to the recipients’ attitude toward seeking help. Like Burkhardt’s (1999) elderly, many participants in this study disliked the process of requesting favors, describing feelings of embarrassment, guilt, and dread in approaching others. A Fresno participant explained, “Sometimes people make you feel like you’re bothering them, so you feel bad. Sometimes they don’t answer the phone. ‘Oh, gosh, here he comes again. He’s calling for a ride.’” Another explained, “It’s so embarrassing. . .you feel so bad and you think to yourself, ‘I’m not coming back to ask ever again,’” and “You really feel bad. So I’d rather not. I’m one of those individuals. . .I am independent. I’d rather do it on my own than ask for a ride.” By contrast, a bold or brazen orientation helped some participants secure resources. One reflected,

They’re frightened of me, because if I see someone that has a car I right away ask for a ride. . .I go with my brother and he says, ‘You’re already looking around to see who’s going to give you a ride home!’ . . .I’m very good at asking for rides. . . Sometimes when you have the need, then you have to overcome the shame of asking for a ride.

This demonstrates that what constitutes a fair social exchange is subjective, which is relevant for those who cannot (or prefer not to) offer explicit compensation but do not enjoy an easy social rapport with potential givers/lenders. Those with a higher tolerance for unilateral flows of resources, or perhaps an extroverted personality, are more likely to seek and accept favors.

It was difficult to draw general conclusions on the process of intra-household resource allocation from the focus groups. Because some women did not know how to drive, some were dependent, or had been in the past, on (often male) relatives for rides. For instance, one reported that after immigrating, “My husband had a car, but he wouldn’t lend it to me. . .until about a year later.” For those who did drive, it seemed that gender roles sometimes continued to limit vehicle access. For instance, “I give my husband priority, so usually it’s not decided by the need, but by the one that has the say-so,” and a male attested, “I’m the only one who drives the vehicle.” However, several husbands reported giving their wives priority over the car. Other families described taking care of one another’s needs such that “no one is stopped from doing something because they didn’t have a chance at the car.” For many, the allocation of vehicles was dictated by who was perceived to have the greater need, resulting in a range of solutions of how to prioritize vehicle use and juggle schedules. Thus cultural norms and household roles could be a factor, but with varying outcomes in different families.

### 3. Discussion and conclusions

In this paper we present a qualitative analysis of access to private-vehicle transportation acquired through social networks, based on focus groups with recent Mexican immigrants living in six different California communities. We highlight the extent to which participants in both car-owning and non-car-owning groups relied on rides and borrowed cars to fill mobility gaps. We find that some participants exchanged rides and cars in the context of informal favors from friends (non-negotiated), enabling unilateral conferral of transportation resources (as theorized by Molm, 2003) but also sometimes accompanied by feelings of guilt or dread, which were sometimes prohibitive (as with Burkhardt, 1999). Aid without explicit compensation seemed most likely from friends, from closer ties, from larger social networks, between women, for smaller favors, to those attitudinally predisposed to seek help, and in urgent or emergency-like situations.

Other participants exchanged rides and cars as part of a negotiated exchange—that is, with explicit payment or reciprocity. While this seemed a stable temporary solution for some, most participants indicated having a long-term goal of obtaining their own car—perhaps unique to this population (especially upwardly mobile and evolving) relative to other transportation-disadvantaged populations such as elderly, disabled, or poor. There was some evidence of overpayment in these negotiated exchanges, offering support for Molm’s (2003) theory that power disparities have greater impact in negotiated exchanges where disadvantaged members face the risk of exclusion.

In both types of exchange (with and without explicit compensation), spatial proximity and logistical or technical considerations more broadly, seemed prominent considerations, as in Schwanen (2008). Schwanen’s description of individuals operating within the context of an assemblage—consisting of both human and non-human agents rooted in space and time—seems apt, and is also consistent with Urry’s concept of network capital (2007). Our findings show that in the face of limited network capital (in particular, limited access to cars in a society where cars are a practical necessity), participants did tap social capital to compensate, but that in many cases their friends and relatives had limited ability to help. In particular, the prevalence of discussion among the participants of this study about unlicensed drivers and uninsured or poorly maintained cars as liabilities for those offering rides indicates that participants largely drew support from within the community of recent immigrants, who offered a limited stock of resources (corroborating Portes and Zhou, 1993). This suggests that participants would benefit from establishing more ties beyond this community (e.g. Granovetter’s (1973) weak ties or Putnam’s (2000) bridging capital). On the other hand, the bonds of common group membership—or enclave membership in particular—may have facilitated the exchanges happening at all. Participants did seem willing, and frequently did, rely on less-intimate contacts for rides, such as co-workers, recent acquaintances, and sometimes strangers.



The results have several implications for services and policies that might aid this community. In particular, they suggest that ride-matching programs or shared taxis or jitneys that would require individuals to rely on mere acquaintances, or perhaps strangers, have potential for success. Any programs expanding individuals' access to other people who might offer rides, such as through a message board or other networking device, could be beneficial. As a part of this sort of program, it might be useful to include the posting of opportunities to trade services, such as meals or babysitting in exchange for rides, to help those unable to pay and burdened by guilt. To the extent that common group membership facilitates trust, such programs might be most successful if rooted in community-based organizations. Because the results also show that at least some participants *are* willing to pay for rides, however, there may also be opportunity for improved fare-based services in these communities, again potentially modeled after a jitney or van.

A direction for future research is to verify and quantify some of the findings proposed here. In particular, how socially distant can contacts be and still be trusted to provide a ride? How important is common group membership in fostering exchange? How much are participants willing to pay for a ride? Since the arrangements participants described were intended to be provisional until buying a car, if services were more formalized, would they still serve as only a temporary solution, or could they replace the eventual purchase of a car?

A limitation of this study and another direction for future research is to understand the extent that these findings apply to other population groups, such as the elderly, children, or the general population. Immigrant communities may be uniquely well poised to foster this sort of informal resource-sharing due to a cascading cycle of assistance that is received and then offered, as new immigrants quickly assimilate and are then well positioned to help others. By contrast, elderly are at the mercy of younger generations who might not yet empathize with their plight. Among the general population, there is some evidence of successful models of ridesharing through social networking websites or employer-based programs. Users of these services are rich in network capital and are also more likely to engage in equal or symmetric exchanges (people can both give and receive rides). It remains to be seen if these sorts of solutions might be adapted to serve transportation-disadvantaged populations as well. In particular, what is the best way to form bridges from those with transportation resources to those without? Solutions may differ for different types of groups, such as elderly, children, immigrants, and others.

In general, as the majority of the population drives and few alternatives exist in many parts of the United States, attention must be paid to the experiences and processes of those inevitably excluded from driving, such as elderly, children, the low-income, and recent immigrants. This study offers a view of experiences among one of these groups, examining the role of social networks in filling critical mobility gaps and pointing to the potential for further research in this area.

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