

## **Data on the Connection between Owning a Car and Economic Mobility**

The following hypotheses are what we believe based on ten years of making auto loans to low-income families. In addition to our direct observation and feedback from our clients, we have also read substantial research on the connection between transportation and economic mobility. We published a book on this topic in our effort to inform policymakers and serve as a thought leader in this space. After the summary, we provide specific quotes from scientific peer-reviewed journals and data from our clients' experiences to support the hypothesis, including both qualitative and quantitative primary data and the results of the University of New Hampshire's randomized control trial evaluation of On the Road Lending's efficacy.

### **HYPOTHESES:**

People with cars are able to earn higher wages than those without.

People with cars are more reliable employees, saving employers turnover costs.

People with a car are healthier.

People with a car are able to get fresher food and more affordable groceries.

People with a car can live in better/safer neighborhoods.

People with a car can access more educational opportunities.

People with a car can allow their children to participate in more activities.

People with a car have more time than those who use mass transit.

People with a car have less social isolation and greater quality of life.

People who live in rural locations and have a car have greater opportunity.

People who receive a loan from OTR build credit and wealth/assets.

Most of the people who receive a loan through OTR perform on their loans.



People who train at On the Road Garage achieve high wages and high opportunities for employment.

People who train at On the Road Garage work on cars at the forefront of automotive technology.

People who drive a newer car with a warranty are less at risk of losing the car than those who drive a car without a warranty.

People who drive a newer car are less likely to get into an accident than those who drive older cars.

People who drive a newer car use less fuel and emit fewer greenhouse gases than those who drive an older one.

Most low-income people have had cars but lost them for periods of time (primarily because they couldn't afford maintenance costs.) OTRL is not increasing the quantity of cars on the road, but the quality.

## SUPPORTING RESEARCH

### People with cars have higher incomes.

In the most recent client survey, the average OTR client doubled income (some have quadrupled).<sup>1</sup> In many cases this gain happened simply because of being able to drive to a better job. In others, it was because having a car gave them the flexibility to accept a promotion or take a different job because they were no longer tied to a fixed mass transit schedule. Rarely did this require additional education or training. The impact is immediate and lasting.

"The real (inflation-adjusted) median income of families with cars rose 20% [from 1969 to 2013], while the income of families without automobiles fell 35%, from \$26,000 to \$17,000."<sup>2</sup> There is a substantial economic penalty for not owning a car.

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<sup>1</sup> OTR Client Empowerment Survey – July 2023

<sup>2</sup> Manville, Michael, Michael Smart and David King, "The Necessity of Cars," August 2023, Transfers Magazine, p. 2

Eighty-one percent of clients in the most recent survey said they had found a better job because of their car.<sup>3</sup>

“Our findings suggest that we have created a world that often demands a car...we should strive for universal auto access: helping low-income people get and keep cars.”<sup>4</sup>

“Between 1960 and 2014, the US poverty rate fell from 24% to 14%. For households without vehicles, however, the poverty rate rose from 42% to 44%.”<sup>5</sup>

“Households without vehicles in 2013 earned less money, in absolute-inflation-adjusted terms, than households without vehicles in 1969. A vehicle, in this way, is analogous to a college degree. Over time, college degrees have become more valuable, and the fortunes of people without them have fallen. But even that comparison isn’t strong enough. Real average earnings for people without college degrees have stagnated, but they haven’t gone backward. Carlessness, in contrast, is associated with actually losing ground, making the economic penalty associated with it more distinctive.”<sup>6</sup>

“For low-income households, access to cars translates to jobs and higher earnings (Baum 2009; Blumenberg and Manville 2004; Gurley and Bruce 2005; Ong 2002).”<sup>7</sup>

“The relationship between transportation and social mobility is stronger than that between mobility and several other factors like crime, elementary-school test scores or the percentage of two parent families in a community, said Nathaniel Hendron, a Harvard economist and one of the researchers on the study (Moving to Opportunity).”<sup>8</sup>

### People with cars are more reliable employees, saving employers turnover costs.

Lack of reliable transportation is the number one reason people lose their jobs.<sup>9</sup>

People with their own car as twice as likely to get a good job and four times as likely to keep it as one without.<sup>10</sup>

<sup>3</sup> OTR Client Empowerment Survey – July 2023

<sup>4</sup> Manville

<sup>5</sup> Manville

<sup>6</sup> Ibid, p. 3

<sup>7</sup> Klein, Nicolas and Michael J. Smart, “Car today, gone tomorrow: The ephemeral car in low-income, immigrant and minority families”, October 13, 2015, Transportation Journal, p. 497

<sup>8</sup> Brouhard, Mikhaela, “Transportation Crucial to Escaping Poverty,” New York Times, May 7, 2015

<sup>9</sup> Pendall, Rolf, et al, “Driving to Opportunity,” Urban Institute, 2013.

<sup>10</sup> Pendall

“Transportation access can ... protect the working poor from losing their jobs. Lack of reliable transportation is the second most common cause of worker absenteeism among welfare recipients, after lacking childcare (Holzer and Wissoker 2001). Having a car is associated with welfare recipients and other low-income individuals staying employed over time (Blumenberg and Pierce 2014; Gurley and Bruce 2005; Thakuria and Metaxatos 2000).”<sup>11</sup>

According to the Society for Human Resource Management, the cost to replace an employee can be as much as six to nine months of salary.<sup>12</sup>

“Fifty-eight percent of respondents reported that job opportunities decreased and 32 percent lost a job after losing a car.”<sup>13</sup>

### People with a car get healthcare when needed and feel healthier.

The inability to travel may preclude people from visiting important destinations, such as employment or school, the doctor, a food outlet, or social and recreational destinations.<sup>14</sup>

Twenty-one percent of U.S. adults without access to a vehicle or public transit went without needed medical care last year. Reliable transportation is a social driver of health.<sup>15</sup>

Eighty-five percent of clients recently surveyed said they are healthier.<sup>16</sup>

“Applicants who had their OTRL car loans approved say that their economic and health conditions improved during the first 12 months immediately after obtaining their car. These conditions include the following: economic/financial wellbeing, having more years of schooling, improved commute times, regular source of income, improved physical and mental health, and overall quality of life. These condition-related ratings of the

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<sup>11</sup> Smart, Michael and Nicholas Klein, “Disentangling the role of cars and transit in employment and labor earnings,” *Transportation Journal*, November 26, 2018

<sup>12</sup> <https://hrshrm.shrm.org/blog/2017/10/essential-elements-employee-retention>

<sup>13</sup> Klein

<sup>14</sup> Wang et al, “Rural-nonrural divide”

<sup>15</sup> Smith, LB, “More than one in five adults with limited public transit access forgo healthcare because of transportation barriers,” Robert Wood Johnson Foundation, April 26, 2023

<sup>16</sup> OTR Client Empowerment Survey – July 2023

respondents with an approved OTRL loan are much higher than the comparison group.”<sup>17</sup>

A team of researchers at the University of Richmond taught rats to drive to explore how performing complex tasks could provide treatment for mental health conditions, such as depression and anxiety. “Rats that participated in the driving training had healthier stress hormone profiles than they had prior to their training...’We concluded that the rats that actually learned to drive had a greater sense of control over their environment that was accompanied by an increased DHEA (hormone response) – something like a rodent version of self-efficacy or agency in humans.’”<sup>18</sup>

### People with a car get fresher and more affordable food.

“The best measure of whether someone who lives far from a grocery store faces obstacles to accessing affordable and nutritious food is whether or not he or she has a car. Access to a car allows people to leave the food desert and shop at supermarkets and large grocery stores outside of their neighborhoods...lack of transportation poses a likely barrier to accessing healthy, affordable food.”<sup>19</sup>

“Vehicle owners spend less on food, spend more of their budget on food consumed at home, and experience less food distress.”<sup>20</sup>

Our clients tell us that, before they had their car, they would buy their groceries at gas stations and convenience stores because they could only carry a few items. Having a car enables them to buy in bulk, bringing down grocery costs by about 60%.

### People with a car can live in better/safer neighborhoods.

“Families with access to cars were more likely to have found housing in neighborhoods with a ‘better environmental and social quality’ and where they felt safer.”<sup>21</sup>

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<sup>17</sup> Center for Impact Finance, Carsey School of Policy, University of New Hampshire, “On the Road Lending Program Evaluation,” April 19, 2023, p. 5

<sup>18</sup> Lambert, Kelly, “Enriched Environmental Exposure Accelerates Rodent Driving Skills,” Behavioral Brain Research Journal, October 2019.

<sup>19</sup> Ver Ploeg, Michele, Access to Affordable, Nutritious Food is Limited in Food Deserts, USDA, March 1, 2010

<sup>20</sup> Fitzpatrick, Katie and Michele Ver Ploeg, “On the Road to Food Security: Vehicle Ownership and Access to Food,” USDA and Institute of Social Research, University of Michigan.

<sup>21</sup> Shen, Fern, “Study finds connection between car ownership and success for the poor,” Baltimore Brew, April 2, 2014.

“Often, the lack of transportation forces (domestic violence) victims to choose between their welfare and returning to their abusers. Exiting a relationship can be one of the most dangerous times for victims and survivors. On average, it takes a victim seven times to safely leave an abusive relationship before staying away for good.”<sup>22</sup>

One hundred percent of clients surveyed indicated they and their children were safer due to their reliable car than they were before.<sup>23</sup>

#### People with a car can access more educational opportunities.

“Young adults who were carless growing up completed less education than their matched peers who always had access to a car.”<sup>24</sup>

#### People with a car can allow their children to have more activity.

“An automobile is essential for quickly and conveniently accessing opportunity. As such, households without cars are thought to suffer from transportation disadvantage...transportation disadvantage may harm children in two ways: through general family disadvantage (e.g., lower household earnings and more expensive household items) and through constrained access to child-specific activities (e.g., organized sports and clubs).”<sup>25</sup>

#### People with a car have more time than those who use mass transit.

“We discourage driving [in favor of mass transit] by withholding it from a small group of people who would benefit from it most. This approach is neither fair nor effective; the costs it imposes are large, and the benefits it delivers small. It doesn’t reduce driving enough to help the environment, but denies low-income people increases in mobility that could be life-changing. The evidence is clear: Policymakers concerned about access to opportunity should consider subsidizing low-income car ownership.”<sup>26</sup>

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<sup>22</sup> <https://www.thehotline.org/resources/barriers-to-transportation-for-domestic-violence-survivors/>

<sup>23</sup> OTR Client Empowerment Survey – July 2023

<sup>24</sup> Ralph, Kelcie, “Childhood car access: Long-term consequences for education, employment and earnings,” Journal of Planning Education and Research, March 2022

<sup>25</sup> Ibid

<sup>26</sup> Ibid, p. 8

“In most places in the US, even the poorest families choose to own a car, although their access to those cars may be short-lived. Living without a car is burdensome for most Americans due to land-use configurations and inadequate transit service; gaining and subsequently losing access to a vehicle may add additional costs, imperil employment, and further burden poor and disadvantaged families. This fluid view of car ownership adds another dimension to our understanding of transportation’s role in disadvantage and social exclusion of marginalized populations (Blumenberg and Thomas 2014; Currie et al. 2007; Lucas 2004). Policy interventions aimed at helping poor families obtain a car might serve to strengthen the family’s economic outlook, but simply providing assistance with car acquisition may not be enough; these families may need additional help to keep the car once they have it.”<sup>27</sup>

OTR client Pam Burch lives in the Highland Hills neighborhood of south Dallas and works in Las Colinas (in Irving). On mass transit her commute in the morning is two hours and twenty minutes. It involves:

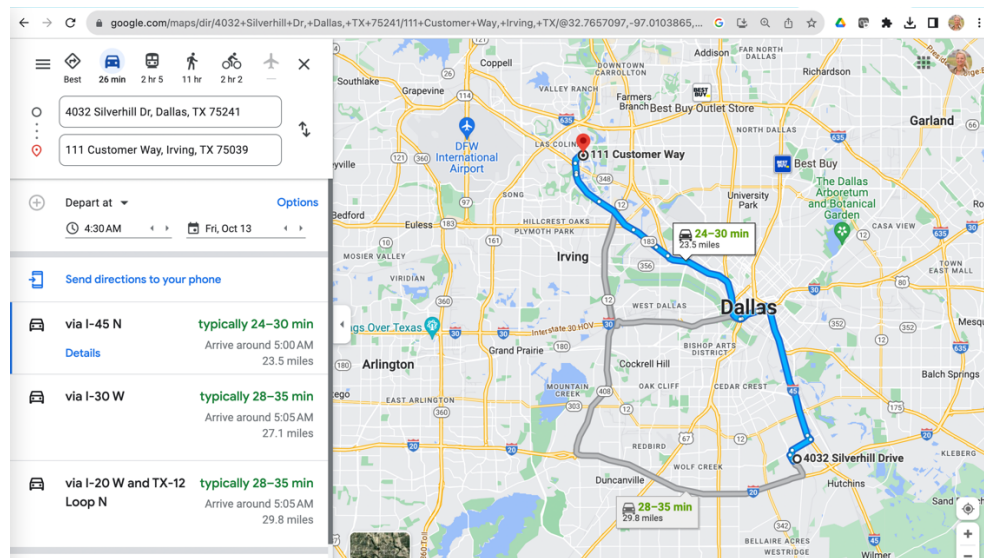
- Leave out of her house at 4:20 a.m. and walk to a bus stop (0.3 miles, 5 minutes)
- Board a bus at 4:30 a.m., which makes 30 stops over a 22-minute journey to the Ledbetter train station, 4.1 miles away
- Wait 10 minutes, then board the train, which makes ten stops over a 27-minute period before arriving at a second train station at the West End in downtown Dallas, eight miles away
- Wait 1 minute (unless the trains are off-schedule and the connection is missed, which means she missed work that day), then board the second train, which makes 12 stops over a 35-minute period, before arriving at the Irving Convention Center Station, 12 miles away
- Walk one mile over an 18-minute period to reach her job at 6:50 a.m.

When we helped her buy a car, the journey is 23.5 miles, reachable in 26 minutes at this time of day.<sup>28</sup>

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<sup>27</sup> Klein, Transportation Journal, p. 507

<sup>28</sup> OTR’s Clean Transportation ICMA analysis for Sustainability, 2021



People with a car have less social isolation.

“Rural carless residents are less likely to participate in out-of-home activities, and they experience increased social isolation and reduced psychological and social well-being than the general rural population (Delbosc and Currie 2011; Morris et al. 2020).”<sup>29</sup>

“Losing access to a car typically results in decreased activity participation and lower quality of life, while regaining a car plays the opposite role. This should come as no surprise; much of the country’s built environment, cultural norms, and labor market conditions are predicated on near-universal automobility (King, Smart, and Manville 2019).”<sup>30</sup>

“As society becomes more organized around vehicles, people without vehicles risk being left out of society.”<sup>31</sup>

<sup>29</sup> Wang, Weijing, Sierra Espeland, Jesus Barajas, Dana Rowanrould, “Rural-nonrural divide in car access and unmet travel need in the United States.” *Transportation Journal*, September 29, 2023.

<sup>30</sup> Ibid

<sup>31</sup> Manville, Michael, Michael Smart and David King, “The Necessity of Cars,” August 2023, *Transfers Magazine*

People who live in rural locations and have a car have greater opportunity.

“Rural carless and car-deficit residents are about 1.5 times more likely to have a disability or to be unemployed.”<sup>32</sup>

People who receive a loan from OTR build credit and wealth/assets.

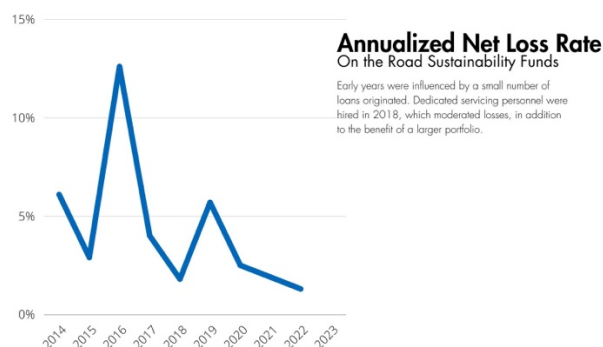
Client’s average increase in wealth is \$4,000 during their time as a client (some are as high as \$20,000).<sup>33</sup>

Client’s credit scores increased by as much as 286 points with an average increase of those surveyed of 73 points. (And they know their scores!)<sup>34</sup>

“The behavior-related ratings (saving an emergency fund or \$500, paying bills on time, staying within a budget) of the respondents with an approved OTRL loan is much higher than the comparison groups” (in a randomized control trial of 10,000 similar people from a TransUnion dataset).<sup>35</sup>

Most of the people who receive a loan through OTR perform on their loans.

As OTR has grown its portfolio, the loss rates have continued to trend downward. We’ve averaged less than 5% for most of our history.<sup>36</sup>



<sup>32</sup> Ibid

<sup>33</sup> OTR Client Empowerment Survey, July 2023

<sup>34</sup> Ibid

<sup>35</sup> Center for Impact Finance, Carsey School of Policy, University of New Hampshire, “On the Road Lending Program Evaluation,” April 19, 2023, p. 5

<sup>36</sup> OTR historical loss chart

People who train at On the Road Garage achieve high wages and high opportunities for employment.

Two apprentices have graduated. Our first repair planner apprentice graduate was offered \$83,000 to work for Caliber Collision (although he opted to remain with OTRG so that he could train others). Our first painter graduate took a job in Austin at 40% higher pay than she was making as an apprentice.

People who train at On the Road Garage work on cars at the forefront of automotive technology.

On the Road Garage trains people on electric vehicles through partnerships with Rivian/Amazon, Canoo/Walmart, and Tesla. We are one of the few body shops who has a dedicated internal team engaged in Advanced Driver Assistance Systems' calibration (which is a part of autonomous vehicles).



People who drive a newer car with a warranty are less at risk of losing the car than those who drive a car without a warranty.

Ninety-one percent of US households own at least one car, and 83 percent of all trips in the US are made in a private automobile.<sup>37</sup> "The median gap in car ownership is 1.7

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<sup>37</sup> Klein, Nicolas, Rounaq Basu and Michael J. Smart, "Transitions into and out of Car Ownership among Low-Income Households in the United States," Journal of Planning Education and Research, February 2023, p. 3

years; the median gap among Black and Hispanic adults is a year longer. The primary reason why people lose their cars is not by choice, but because they cannot afford to repair them.”<sup>38</sup> Black adults are also more likely than other survey respondents to report being without a car because they lacked legal requirements (insurance, tags, title, registration or other legal requirements).<sup>39</sup>

### People who drive a newer car are less likely to get into an accident than those who drive older cars.

Nationally all but about 3% of commuters use personal vehicles to access jobs because the avoidance of frequent stops and circuitous routes results in a time-savings over transit. Yet lower-income consumers often drive older vehicles without the benefit of collision-avoidance safety features that are common on most newer vehicles because poor credit reduces their options and affordability. Traffic fatalities are 4.3x higher for lower-income people as a consequence of driving older cars.<sup>40</sup> Accidents contributing to injury and death have a high economic cost for businesses and the public – almost \$1 trillion.<sup>41</sup> Intelligent transportation systems that pair in-vehicle telematics with advanced driver assistance systems (ADAS) provide important public safety, mobility, and environmental benefit. ADAS alone could reduce nearly 30% of traffic accidents and save over \$250 billion annually if all cars had these systems on-board.<sup>42</sup>

### People who drive a newer car use less fuel and emit fewer greenhouse gases than those who drive an older one.

Over the past 50 years cars have become much cleaner. Newer model cars, SUVs and pickups are 99% cleaner than vehicles from 1970.<sup>43</sup>

Thirty-two percent of OTRL borrowers reduced their fuel consumption and emissions in their purchased vehicle versus what they drove previously.

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<sup>38</sup> Ibid, p. 2

<sup>39</sup> Ibid, p. 6

<sup>40</sup> National Center for Health Statistics Data, as cited in American Journal of Epidemiology, September 8, 2015: “Trends in Socioeconomic Inequalities in Motor Vehicle Accident Deaths in the United States, 1995-2010”

<sup>41</sup> US Department of Transportation National Highway Transportation Safety Administration, May 2015, “The Economic and Societal Impact of Motor Vehicle Crashes, 2010”

<sup>42</sup> Boston Consulting Group, September 29, 2015: “A Roadmap to Safer Driving through Advanced Driver Assistance Systems”

<sup>43</sup> <https://www.epa.gov/transportation-air-pollution-and-climate-change/history-reducing-air-pollution-transportation>

OTR is not increasing the number of vehicles on the roads – most low-income people have had cars, but lost them because they couldn't afford maintenance costs.

"Our study highlights that the "carless" families often found in cross-sectional studies miss an important point: the overwhelming majority of zero-car families are carless only for a short while."<sup>44</sup>

"Episodes of car-lessness are common among households with annual incomes below \$50,000. Thirty-five percent of all respondents reported that they experienced at least one episode of car-lessness. Over time, more frequent and longer car-less episodes among black and Hispanic respondents add up to a greater share of their adulthood without access to a car. The median respondent in the sample of respondents who experienced a gap in car ownership was car-less for 27 percent of their adult lives. Black respondents reported that they were without a car for 37 percent of their adult lives, and Hispanic respondents were without a car for 38 percent of their adult lives."<sup>45</sup>

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<sup>44</sup> Klein, p. 6

<sup>45</sup> Klein, p. 7