Information Barriers, Racial Similarity, and Consumption in Segregated Neighborhoods*

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Abstract

We study whether, and to what extent, creating opportunities for consumption in historically segregated neighborhoods can shift individuals' spending patterns. In partnership with local non-profit organizations in Tulsa, we randomly assigned participants either to attend a social event featuring local vendors in East and North Tulsa—predominantly Black and Hispanic neighborhoods with a history of segregation—or to visit a neutral site. Using card transaction data combined with survey responses, we find that the intervention tripled the share of expenditures in the targeted neighborhoods, primarily among recent movers from Black and Hispanic backgrounds. These results suggest that prior exposure shapes consumption in segregated urban areas, but mainly for individuals who share racial or ethnic ties with the community.

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1 Introduction

Cities exhibit stark segregation not only in where people live but also in where—and how—they consume. Residential and consumption segregation are often intertwined: people typically consume near where they live, and both residential and consumption choices carry an important ethnic and racial dimension (Boar and Giannone, 2023). Neighborhoods such as Brick Lane in London, where a historically Bangladeshi community supports curry houses, sari shops, and Bangla groceries, or Harlem in New York City, long a center of African American life with soul food restaurants, jazz clubs, and Black-owned bookstores, exemplify how residence and consumption reinforce one another along racial lines.

Such segregation in consumption arises from both travel-time frictions and neighborhood social boundaries that concentrate demand locally. Distance and demographic dissimilarity jointly reduce cross-neighborhood patronage (Davis et al., 2019). Firms, in turn, adapt to localized demand by adjusting their location decisions, product assortments, and service levels, thereby shaping the variety and quality of consumption opportunities available across neighborhoods (Handbury and Weinstein, 2015; Pongeluppe, 2022; Gagliardi and Sorenson, 2023). These dynamics can reinforce "retail redlining," generating uneven service environments in minority neighborhoods (Shannon, 2021). Most importantly, because consumption environments determine not only prices, quality, and variety but also access to information and social networks, they play a central role in shaping equality of opportunity. Understanding how to relax these frictions thus offers a complementary pathway for integrating disadvantaged groups within cities.

In this paper, we test whether, and to what extent, exposing city residents to consumption opportunities in a racially segregated neighborhood affects their spending in that area. We do so via a randomized field experiment in Tulsa, Oklahoma—a city with a well documented history of racial residential segregation. Our design creates exogenous variation in exposure to neighborhoods with high shares of Black and Hispanic residents—specifically North Tulsa and the Greenwood District (historically Black) and East Tulsa (with a large Hispanic population)—by providing participants with information and an experiential consumption tour. We implement the intervention by offering a mix of information and hands on consumption opportunities that by design should be most salient for participants whose information sets about the city are narrower and whose consumption routines are less established. We operationalize this by distinguishing established long term residents from recent movers (individuals who arrived in the city within the last 12 months).

We recruit 341 participants, of whom 30% are recent movers. Participants are followed for four consecutive weeks. Each week, every participant receives a $50 stipend on a prepaid

credit card, which provides transaction level data; we also administer brief weekly surveys on consumption patterns. After two baseline weeks, approximately half of the sample is randomly invited to the experiential tour of targeted neighborhoods (treatment), with the remainder serving as controls and attending a placebo tour of a local museum. Focusing on individuals who largely share the same residential area (about three quarters reside in downtown/midtown) limits confounding from travel distance to the target neighborhoods; random assignment addresses selection into consumption opportunities; and the common stipend helps equalize short run consumption budgets. To deliver the study, we partnered with two local organizations that supported recruitment and helped run the experiential tour. A financial institution issued the prepaid cards, credited the weekly stipends, and provided de identified transaction records. Throughout the four weeks, we collected card transactions and survey responses, allowing us to test whether increased exposure translates into higher expenditures in those neighborhoods after the intervention.

We find that treated participants who arrived in the city within the last 12 months increase their expenditures in the targeted neighborhoods by approximately 13 percentage points, about three times the average share of expenditures in targeted neighborhoods among the sample of participants. This change is strongest among participants who share the same racial background as the majority of local residents. In particular, recently arrived Black and Hispanic participants exhibit the largest estimated treatment effects. Combining transaction records with detailed survey data, we present evidence consistent with a social identity mechanism underlying treatment effects: among individuals with narrower pre existing information about the city and less established consumption routines, the intervention shifts choices primarily for those whose demographic characteristics and tastes align with the neighborhood's population. We discuss this pattern in the light of a simple illustrative framework in which the utility from consuming in a location includes a homophily component that increases with the match between a consumer's racial identity and the local population share.

More specifically, we build three pieces of evidence in support of a racial-based social identity mechanism. First, we document a strong assortative matching in consumption along racial lines: Black participants increase their expenditures in predominantly Black neighborhoods targeted by the intervention, while Hispanic-dominated areas do not experience a comparable increase from this group. Second, we show that both Black and Hispanic participants respond to the intervention most strongly when they begin with a lower level of familiarity with the city. This suggests that the social identity mechanism is particularly salient when participants are less aware of consumption opportunities that align with their own preferences and tastes. Finally, we examine how different racial groups alter their geographical consumption patterns in the post-intervention period. Consistent with the social

identity mechanism, Black and Hispanic participants increase their expenditures in targeted neighborhoods, whereas the consumption of other racial groups remains concentrated in downtown and midtown Tulsa.

Our paper contributes to different stream of research. First, we extend recent work on residential and consumption segregation by showing that neighborhood-based differences in consumption are not only a byproduct of travel frictions or demographic sorting, as emphasized by Davis et al. (2019), but also reflect identity-based mechanisms that shape where individuals choose to spend. In this sense, we complement Boar and Giannone (2023), who highlight the interplay of residential and consumption segregation, by documenting how racial identity amplifies these divides. Second, we contribute to the literature on inequality and market participation by demonstrating how interventions can shift the consumption behavior of disadvantaged groups, particularly when they lack familiarity with the urban opportunity set. This mechanism resonates with evidence in economic history and labor economics on how group identities shape economic outcomes (Boustan, 2016; Aneja et al., 2025). Third, we contribute to the literature on firm strategy and consumer demand heterogeneity. Prior work has shown that firms endogenously adapt location and product offerings to local demand (Handbury and Weinstein, 2015; Pongeluppe, 2022), yet our findings suggest that such adaptation interacts with social identity in ways that can either reinforce or relax market segmentation. The fact that our intervention primarily increases expenditures among participants who share the same racial background as residents in targeted neighborhoods points to a potential reinforcement of segmentation along racial lines. At the same time, to the extent that new visitors differ from local residents in terms of enclave membership or socioeconomic background, such interventions may reduce segmentation along other dimensions. This dynamic may improve local offerings by creating incentives for firms to cater to a broader set of consumers, while also exposing local residents to interactions, products, and networks that extend beyond their immediate enclaves. In this sense, our work provides a complementary mechanism to the "Moving to Opportunity" tradition (Katz et al., 2001; Chetty et al., 2016; Bergman et al., 2024), which emphasizes the benefits of relocating households to neighborhoods with greater opportunities. Whereas that framework brings people to opportunities, our place-based perspective brings opportunities to people, offering a novel path for promoting the inclusion of segregated groups within cities.

The rest of the paper is organized as follows: Section 2 describes the setting and experimental design, Section 3 provides details on the data and describes our main sample, Section 4 presents the effects on consumption behavior, Section 5 presents an illustrative framework, and Section 6 concludes.

2 Study Setting and Experimental Design

2.1 Study Setting: Tulsa, Oklahoma

Our study takes place in Tulsa, Oklahoma, a city of 0.4 million people. Tulsa, Oklahoma offers an ideal setting to conduct our experiment with a history of residential segregation, recent migration, and active local partnerships. Tulsa remains highly residentially segregated by race and ethnicity, which is rooted in historical events such as the 1921 Tulsa Race Massacre. Figure 1 shows that North Tulsa and the Greenwood District (northeast of downtown) are predominantly Black, while East Tulsa is predominantly Hispanic. This historical and geographic context provides a natural setting for studying consumption segregation. Additionally, Tulsa Remote has been attracting new migrants through relocation incentives since 2018, allowing us to recruit a sizable share of recent arrivals for our study. They are full-time remote workers or self-employed individuals, with some accompanied by family members.[1] Lastly, we partnered with a number of local nonprofit organizations dedicated to racial equity and community development, including the Downtown Tulsa Partnership, Tulsa Remote, Experience Tulsa, and Builders and Backers.[2] These collaborations were essential in connecting us to the community and facilitating our work on the ground, such as recruiting program participants, holding orientation events smoothly, and executing the intervention (giving a local tour to unique destinations in Tulsa).

2.2 Experimental Timeline

The experimental timeline is summarized in Appendix Figure A2. Our recruitment targeted Tulsa residents, encompassing both long-term natives and recent migrants. After the recruitment phase, we held 30-minute drop-in orientation events over a nine-day period, allowing participants to attend at their convenience. This was followed by a two-week pre-intervention period and a two-week post-intervention period, as detailed below.

2.3 Recruitment and Orientation

Recruitment was conducted over four weeks using various communication channels, including emails, social media (such as Instagram and Slack channels), the Downtown Tulsa Partnership

[1] We provide the sample description in Section 3.

[2] The Downtown Tulsa Partnership was established in 2021 by property and business representatives and civic leaders to support a prosperous, vibrant, and inclusive Downtown Tulsa. The Tulsa Remote program, initiated by the George Kaiser Family Foundation in 2018, is intended to attract and retain remote workers who are mostly high-skilled and are willing to contribute to a more inclusive and resilient economy. Next, Experience Tulsa showcases the unique past, present, and future of Tulsa in an inclusive culture. Finally, Builders and Backers partnered with Tulsa Remote to ensure smooth debit card issuance and cash flow management for our participants.

newsletter, and outreach at a farmers market (see Appendix Figure A3 for details). Eligibility was restricted to individuals residing in the city of Tulsa who routinely make purchases in downtown Tulsa. Once potential participants registered for the study by completing the survey, we scheduled them for orientation events.

The goals of the orientation events are fourfold. First, we delivered important logistical information to participants, such as instructions for using their debit cards, survey obligations, and details about the upcoming tour event. We distributed an information packet (see in Appendix B) and reviewed the key points with each participant during the orientation. Second, participants collected their debit cards issued by Builders and Backers. Third, participants signed the consent form only if they agreed to participate; otherwise, they were free to opt out of the study at any time. Finally, participants completed a 15-minute baseline survey, asking demographic and working characteristics, their experience in Tulsa, consumption and time use, and attitudes toward diversity and inclusion. Participants could easily drop by our orientation venue located in downtown Tulsa at their convenience due to a wide range of available time slots and the downtown Tulsa venue's accessibility. Debit cards for all participants were activated on the same day after the orientation period ended, allowing them to use up to $50 in the first week of our experiment period. In the following weeks, participants could access an additional $50 per week upon completing their weekly surveys and attending the tour after the second week.

2.4 Randomization, Intervention, and Pre- and Post-Periods

The study includes 341 participants, with 170 assigned to the treatment group and 171 to the control group. Randomization was conducted at the individual level and stratified by recruitment source (e.g., Downtown Tulsa Partnership or Tulsa Remote). Participants, both Tulsa natives and recent migrants, were randomly allocated to either a treatment or a control group. Individuals received a welcome email informing them of the four-week study, without disclosure of their treatment status.

During the two weeks of pre-intervention period, all participants could use their debit cards for up to $50 per week. Card use was restricted to purchases from certain types of merchants, as guided in the information packet distributed: (i) food and beverage, (ii) clothing, accessories, and personal goods, (iii) home, furniture, and improvement, (iv) specialty and hobby retail, (v) health, beauty, and personal care, (vi) electronics, office, and technology, and (vii) services and miscellaneous retail.

On the intervention day, all participants gathered at a parking lot in downtown Tulsa. Without knowing their treatment status, they were assigned to two types of buses: (i) treatment buses traveling to North and East Tulsa and (ii) control buses traveling to a local art

museum. Each treatment bus had a local tour guide who introduced participants to the history of North, East Tulsa, and the Greenwood District, formerly known as Black Wall Street (see Appendix C for the standardized script). Tour guides in the treatment buses were trained to provide uniform content and detail, following a predefined script. At two vendor fairs (one in East Tulsa and the other in North Tulsa), local food shops, bars, pubs, and restaurants in these areas set up stands to offer samples, interacted with participants, and provided an immersive experience of the neighborhood's culture and history. In contrast, the control group took a neutral tour of a local art museum without exposure to the targeted neighborhoods. The control group was served franchised lunch boxes. Importantly, confining the control group to the museum prevented any interaction with treatment group participants. Each tour lasted a total of five hours.

Participants who attended the tour received an additional $50 per week, while non-participants had their debit cards deactivated. In the following week, as long as participants completed the third weekly survey, their debit cards were loaded with $50 again.

3 Data Collection and Sample Description

The data collection phase spanned from early September 2024, when participant recruitment began, to the end of November 2024, when the experiment concluded. During this period, we collected three types of data. First, we administered an orientation survey to gather basic demographic information and data on participants' baseline consumption patterns before the start of the experiment; this information was used to randomly assign individuals to either the treatment or control group and to map their pre-treatment consumption habits. Second, we conducted weekly surveys throughout the four-week intervention to collect self-reported data on consumption behaviors and participants' motivations for choosing to consume—or not consume—in specific areas. Third, we obtained detailed transaction records for all purchases made during the four-weeks period of the experiment using the prepaid credit cards loaded weekly with the stipend provided to program participants. In what follows, we describe the data sources, present descriptive statistics, and show the results of the balance test between the treatment and control groups.

3.1 Orientation Survey

Our data collection began during the participant recruitment phase. Upon opting into the program, individuals were asked to complete an orientation survey designed to collect demographic information and details about their typical consumption habits. The recruitment period ran from September 2nd to October 24th, 2024. The survey consisted of 33 core questions capturing demographic characteristics, including gender, age, residential zip code,

race, ethnicity, education level, marital status, and vehicle ownership. In addition to basic demographics, the survey gathered detailed information on participants' employment status, pre-tax earnings over the previous 12 months, industry of employment, primary work location (e.g., home or office), and average weekly working hours. To assess participants' familiarity with Tulsa, the survey asked whether they were born in Tulsa, whether they currently live in the city, whether they attended college in Oklahoma, whether they had ever lived in Tulsa previously—and, if so, for how long—and whether they relocated to the city through the Tulsa Remote program. This section also included questions about how frequently participants visited different neighborhoods in the downtown and greater Tulsa metro area, with specific attention to North and East Tulsa and the Greenwood district—the neighborhoods targeted by the intervention. For areas not typically visited, respondents were asked to identify the main reasons, including distance, lack of time, unfamiliarity, financial cost, or other factors. The survey further inquired about participants' leisure and consumption habits, such as how they typically spend their free time (e.g., dining out, engaging in sports, watching television, volunteering, attending social or religious gatherings, or shopping). Participants were also asked about their preferred shopping mode for essentials like groceries (in-person vs. online), the top six restaurants and cafés they regularly visit in Tulsa, their top three non-food locations visited, and their typical weekly grocery spending. Additionally, the survey included a set of behavioral questions aimed at measuring attitudes toward diversity and social trust. Participants were asked to rate, on a scale from 1 (not at all) to 7 (completely), their level of trust toward various groups, including family, neighbors, acquaintances, strangers, people from different religious backgrounds, and people from different ethnic backgrounds. Respondents also self-assessed their personality traits—such as how outgoing, helpful, reckless, friendly, active, open-minded, and adventurous they perceive themselves to be—on the same 1-to-7 scale. Moreover, they were asked to report their willingness to take risks in a variety of contexts, including driving, financial decisions, leisure activities, work, health, social interactions, trying new foods, and exploring new places. Finally, the survey asked whether participants enrolled in the program alone or with others, such as friends or family members. If they indicated they joined with others, they were asked to list up to five names. They were also asked to name up to five individuals they regularly socialize with in Tulsa. This information was collected to map the social networks of participants. The full structure of the survey and all administered questions are reported in D.

3.2 Weekly Survey

During the four weeks of the intervention, participants were asked to complete a short weekly survey consisting of 12 questions. To increase the response rate, participants were prompted

to complete the survey prior to the disbursement of their weekly stipend on the prepaid credit card. The purpose of the weekly survey was to collect self-reported data on consumption patterns within Tulsa. The survey primarily asked whether participants spent the full stipend, only part of it, or did not spend it at all. If they had not used it, they were asked to explain why. Participants were then asked to identify the top three neighborhoods in Tulsa where they spent their stipend during the week—specifically including North and East Tulsa and the Greenwood district—and to indicate their motivations for doing so. Possible reasons included the need to purchase specific items, a desire to visit the area and particular vendors or shops there located, proximity to their home or workplace, or the influence of friends or family. Participants were also asked to rate, on a four-point scale ranging from "Definitely" to "No," the likelihood that they would return to those areas in the future. Finally, the survey asked whether participants spent their stipend alone or with others and whether those individuals were also enrolled in the program. To help assess time availability for leisure activities, participants were also asked to report the number of hours they typically worked in a representative week. The full structure of a representative weekly survey is provided in E.

3.3 Card Transaction Data

We collected detailed information on all transactions made by program participants using the prepaid credit card through which their weekly stipend was distributed. For each transaction, we recorded the monetary amount in U.S. dollars, along with the precise timestamp, including the day, hour, and minute of the purchase. Additionally, we obtained information about the merchant where the transaction occurred, including the business name, associated ZIP code, city, and state. The dataset also specifies whether the transaction was conducted in person (i.e., at a physical point of sale) or remotely (e.g., online). This high-resolution transactional data allows us to track not only where and how participants spent their stipends, but also to analyze temporal patterns in spending behavior and geographic patterns of consumption at a very detailed geographical scale.

3.4 Sample Characteristics and Balance Tests

In this section, we describe baseline characteristics for the 341 individuals enrolled in week 1 of the program, before any intervention. Of these participants, 171 were randomly assigned to the treatment group and 170 to the control group. Column 1 of Table 1 summarizes the overall sample: 63 percent are women; 49 percent identify as White and 28 percent as Black; and 83 percent hold at least a bachelor's degree. Annual wages are clustered in the middle range, with more than half earning between USD 50,000 and USD 99,999, and 57 percent

report working from home. In terms of residential history, 18 percent were born in Tulsa and an additional 30 percent moved to the city within the past 12 months, classifying them as recent migrants. Seventy-four percent enrolled as single individuals, offering insight into household composition at baseline. Columns 2 and 3 of Table 1 report statistics separately for the treatment and control groups, and Column 4 presents p-values for mean differences across these groups. As expected under random assignment, baseline characteristics are well balanced. Similar balance holds across the four experimental arms—defined by treatment status and Tulsa Remote vs Downtown Tulsa strata—which we confirm in Table A1 of the Appendix.

Next, we analyzed how often participants visited parts of the city beyond downtown—where most reside—including Greenwood, North Tulsa, and East Tulsa (the neighborhoods targeted by the intervention), as well as Midtown, North and West Tulsa, and South Tulsa. Figure 2 shows the percentage of participants who visited each area, distinguishing recent migrants (those arriving in Tulsa within the last 12 months) from long-term residents. Visit patterns are heavily skewed toward Midtown, which many recent migrants and long-term residents frequent on a weekly basis. In contrast, Greenwood, North Tulsa, and East Tulsa are visited infrequently by most participants—often less than two to four times per month. North-West Tulsa likewise sees low visitation; this neighborhood, situated between the Arkansas River and the Frisco rail lines (Highways 64/51), consists largely of residential blocks punctuated by light industrial pockets along the corridor.

In Figure 3, we plot the share of participants who did not visit each neighborhood, broken down by their primary reason for non-visitation. Lack of familiarity is the most frequently cited barrier, and this is especially true for recent migrants who are markedly less likely to explore parts of the city they do not yet know. Travel distance and required time also feature prominently as obstacles, but these concerns are more often reported by longer-term residents, who tend to face established commuting patterns and scheduling constraints. Cost considerations and safety concerns account for smaller proportions of non-visits in both groups, while "other" reasons (such as personal preference or health limitations) fill out the remainder.

We delve deeper into the role of lack of familiarity—a motive for not visiting certain areas that aligns closely with the informational content of our intervention. In Figure 4, we restrict the sample to participants who report visiting the targeted neighborhoods infrequently (at most once or twice per month) and plot the share citing lack of familiarity as a key barrier. Recent migrants score significantly higher, with about 73.5% reporting low familiarity as a reason for not visiting, whereas the corresponding share among long-term residents is significantly lower (56.6%).

Finally, in Figure 5 we compare how long-term residents and recent migrants distributed their responses on four seven-point items—from 1 ("not likely") to 7 ("very likely")—that tap open-mindedness, trust in a stranger at first meeting, willingness to take risks in meeting new people, and willingness to take risks in visiting new places. These figures are meant to capture behavioral differences in attitudes towards novel and unforeseen situations or encounters. For general open-mindedness, about 45 percent of residents and 58 percent of migrants selected the top category (7), with an additional 35 percent versus 24 percent at 6, so roughly 80 percent of both groups fall in the top two. Trusting a stranger follows almost the same pattern, with about 45 percent of residents and 58 percent of migrants at 7 and 35 percent versus 24 percent at 6. In contrast, only 40 percent of residents and 44 percent of migrants rate themselves 6–7 on taking risks to meet new people, reflecting greater social caution; by comparison, 87 percent of residents and 91 percent of migrants rate themselves 6–7 on taking risks to visit new places. In every case the share of top-two responses is systematically higher among recent migrants, suggesting that relocation is associated with a stronger self-reported propensity to embrace both social and spatial novelty.

4 Effects of Exposure

This section reports the experimental findings in two parts. First, we examine how the intervention influenced consumption patterns using transaction data from a balanced panel that tracks all participants over the four-week study period. We estimate heterogeneous effects for recent movers versus long-term residents to test whether the former—who joined the program with lower familiarity with targeted neighborhoods—are more responsive to the intervention providing an informational nudge about these areas. Second, we draw on transaction data and weekly survey responses to explore the mechanisms underlying any observed shifts in consumption, identifying the channels that explain the treatment's impact.

4.1 Changes in consumption patterns

We start estimating a specification where for each participant i in week t the dependent variable y_{it} is the share of that week's expenditures in the neighborhoods targeted by the intervention (North Tulsa, East Tulsa, and Greenwood)[3]:

$$y_{it} = \alpha + \beta_1 \,\text{Treat}_i + \beta_2 \,\text{Post}_t + \beta_3 \,\text{Treat}_i \times \text{Post}_t + \gamma_i + \delta_t + \varepsilon_{iw}.$$

Here $\text{Treat}_i = 1$ for treated participants and 0 otherwise; $\text{Post}_t = 1$ for weeks 3–4 (the

[3]This variable is missing for 93 participants who did not make any transaction in a given week, for a total of 223 participant–week observations.

post-treatment period) and 0 for weeks 1–2; γ_i are individual fixed effects; and δ_t are week fixed effects. The coefficient β_3 therefore captures the difference-in-differences estimate of the intervention's impact on spending in the targeted neighborhoods. Standard errors are clustered at the participant level. To assess whether the treatment effect differs for recent migrants versus long-term residents, we augment the baseline model by interacting the treatment–post indicator with a "recent migrant" dummy (equal to 1 for participants who arrived in Tulsa within the past 12 months). In this expanded specification, the coefficient on the triple interaction $\text{Treat}_i \times \text{Post}_w \times \text{Recent mover}_i$ captures the additional post-treatment impact for recent movers relative to long-term residents.

Table 2 shows the effect of the intervention. Column 1 reports the simple difference in difference specification where we test for the effect of the intervention across treatment and control group. Although the coefficient associated with the treatment–post indicator is positive it's level of statistical significance is below standard levels, suggesting the lack of an detectable treatment effect on the overall population of program participants. In column 2, we add the term for recent migrant to investigate any heterogeneous effects according to whether the participant is recently arrived (within the last 12 months) or can be qualified as a longer term resident.

Descriptive statistics in Section 3 indicate that, relative to long-term residents who have had more time to learn about the city, recent migrants view lack of familiarity with the targeted neighborhoods as a more salient barrier to visiting them and appear more receptive to exploring new places. This combination of initially limited information and a greater predisposition to explore should amplify the impact of our intervention—designed to provide information and to expose participants to an experiential tour of North and East Tulsa and the Greenwood District—particularly among recent migrants.

Accordingly, Column 2 of Table 2 shows that relative to long-term residents, recent migrants in the treatment arm increased the share of their spending in the targeted neighborhoods by an additional 13.0 percentage points (p-value=0.011) in the post-treatment period. In other words, the intervention's impact on neighborhood-level expenditures is substantially larger for those who arrived within the past 12 months, and this heterogeneity is precisely estimated and statistically significant at the 1 percent level. The magnitude of the treatment effect is large in context: the overall mean of the dependent variable is only 0.0447 (4.47 percentage percents). A 13-percentage-point increase for recent movers corresponds to almost three times the sample's average expenditure share.

To further examine variation in treatment effects by length of residence, beyond the binary distinction between recent migrants and long term residents, we grouped participants according to how long they had lived in Tulsa—those in the city for less than one year, one to three

years, three to five years, five to twenty years, and more than twenty years—and interacted this tenure measure with our treatment-by-post indicator, using the longest-tenured group as the reference. Figure 6 reports the coefficient estimates. Although point estimates are positive across residency groups, only those who arrived within the past year show a statistically significant increase in spending in the targeted neighborhoods ($\beta = 0.169$, p = 0.019), indicating that the intervention's impact is concentrated among the most recent arrivals. Figures 7 and 8 present the same specification for Black and White participants—the two largest racial groups in our sample. The aggregate pattern is driven by Black participants: recent migrants in this group increase their spending in targeted neighborhoods following the intervention (Figure 7). By contrast, White participants show no detectable effect, regardless of their tenure in Tulsa (Figure 8).

In table A2 in Appendix A, we report several robustness checks. First, we replace our continuous dependent variable with a binary indicator equal to one if a participant spent any money in the targeted neighborhoods in a given week. This specification, which captures the extensive margin, yields positive but not significant treatment effect either in the full sample or among recent movers (Columns 1). This suggests that the intervention increases the share of spending in the targeted areas but does not raise the likelihood of making at least one transaction there. Next, we replace the Post indicator with a four-level week variable (1–4) and interact it with treatment and the recent migrant dummy (Column 2). The coefficients confirm the absence of pre-treatment trends and show that the treatment effect only emerges after the intervention, particularly in week 4. Finally, in Column 3 we limit the analysis to the 273 participants who joined the neighborhood tour on November 9, 2024. Results remain qualitatively unchanged, indicating that attrition was unrelated to treatment assignment.

4.2 Mechanism

Our results show that the intervention significantly increased recent movers' spending in the targeted neighborhoods, particularly among Black participants. By taking participants on a guided tour of North Tulsa, East Tulsa, and the Greenwood District, the program aimed to provide information and reduce the knowledge barriers that often deter newcomers from exploring unfamiliar areas. Accordingly, participants who arrived in Tulsa within the last 12 months—hence less familiar with the city—responded the most to the intervention. However, within this group, the effects are concentrated among Black participants. What explains this pattern?

A parsimonious explanation is that, by reducing information frictions, the tour activated a social-identity mechanism that made the intervention more salient for participants whose racial background overlaps with the resident population of the targeted neighborhoods. In

this setting, first-hand exposure and direct contact with local business owners and community members increased familiarity by reinforcing perceived fit and the credibility of the new information. Together, these forces translate curiosity into concrete intentions to visit and spend. In this section, we combine transaction data and information from the weekly survey to provide evidence in support of this social identity mechanism activated by the intervention.

4.2.1 Evidence from Transaction data

We start examining participants' racial identities to isolate the social identity mechanism. Specifically, we focus on the subset of Black and Hispanic individuals— the two ethnic minorities most represented in the neighborhoods targeted by the intervention. Together, these groups constitute approximately one third of all participants: 27.6% Black and 5.3% Hispanic, amounting to 370 individuals. We begin with a descriptive overview of the treatment effects in the post-treatment period. Figure 9 provides a snapshot of these effects by plotting the share of expenditures in areas targeted by the intervention for treated and control groups, segmented by recent movers and longer-term residents, and further broken down by Black and Hispanic individuals versus other racial groups (including White participants, who account for about 49% of the sample, as well as American Indian, Asian, and other minorities). Among the latter population, recent movers exhibit some increase in consumption in treated areas, consistent with our main findings. However, the most pronounced effect occurs among Black and Hispanic participants, whose share of spending in treated neighborhoods rises markedly — especially for recent movers.

Next, we construct a dependent variable measuring the share of expenditures in targeted neighborhoods, distinguishing between Black areas (Greenwood and North Tulsa) and Hispanic areas (East Tulsa). Focusing on Black participants only, we re-estimate our main regression using, in turn, the share of expenditures in Black neighborhoods and the share in Hispanic neighborhoods as the outcome. Figure 10 plots the triple interaction term (treated $\times$ post $\times$ recent migrant) for these two specifications. After treatment, Black participants disproportionately increase spending in Black neighborhoods ($\beta = 0.15$, $p = 0.019$), whereas effects in Hispanic neighborhoods remain negligible.

Finally, we re-estimate the specification in Column (2) of Table 2 on the sample of respondents reporting lack of familiarity as a key barrier to exploring different neighborhoods in Tulsa (Table 3). Column (1) reports results for other racial groups; Column (2) reports results for Black and Hispanic participants. Treatment effects remain concentrated among Black and Hispanic participants, consistent with lower information frictions combined with stronger, racially based social identification with the targeted neighborhoods.

Taken together, these findings provide support for the social identity mechanism driving our treatment effects. The impact of the intervention on consumer behavior and spending

patterns is especially pronounced among participants who share the same racial background as residents of the targeted neighborhoods. Given the informational shock about parts of the city they may not have known well, shared racial identity shapes how new information translates into tangible changes in consumption patterns.

4.2.2 Evidence from Weekly Survey data

A total of 1,176 participant–week observations are available from the weekly survey spanning the four weeks of the experiment. Of these, 341 were completed in Week 1, 314 in Week 2, 273 in Week 3, and 248 in Week 4. About 2.72% of program participants reported not spending any of their budget, while the remainder reported spending the entire stipend (62.8%) or part of it.

We begin by examining whether participants listed the intervention's target neighborhoods—North Tulsa, East Tulsa, and the Greenwood District—among their top three spending locations. Figure 11 presents pre- and post-intervention percentages by treatment status (treated vs. control) and residency status (recent movers vs. long-term residents). Treated participants show a clear post-intervention increase in the percentage reporting targeted areas as top spending locations, with the largest gains among recent movers. By contrast, control recent movers exhibit a decline in the same measure, suggesting forces outside the program may have pulled their consumption away from the targeted neighborhoods. Accordingly, further analyses indicate that long-term residents in the control group were primarily motivated by idiosyncratic needs—specific items to buy—when choosing where to spend in the post-intervention period. Overall, long-term residents display smaller movements in both treatment arms, consistent with the information based treatment being less salient on them.

Figure 12 charts how stated motives for choosing where to spend changed before versus after the intervention among treated individuals, again distinguishing recent movers from long-term residents. Among recent movers, the share citing interest in visiting a particular area or shop rises after the intervention, while proximity-based considerations become less prominent. For long-term residents, motivations remain more anchored in specific items to buy, with only muted shifts in place-based interest. This pattern is consistent with the program making targeted neighborhoods more salient as destinations—especially for those who were less familiar with these areas. Taken together, the evidence indicates that the intervention redirected where people chose to spend, with the most pronounced shifts among treated recent movers and more modest changes among long-term residents. The motive profiles suggest that after the intervention, treated participants—particularly recent movers—were more likely to cite interest in visiting the area or specific shops and less likely to emphasize proximity, implying the program created destination appeal rather than merely nudging convenience.

Next, we incorporate information on participants' race and construct heat maps for recent movers in the treated group—the subgroup driving the main treatment effects—before and after the intervention. Each heat map cross-tabulates race with geographical areas that participants report as top spending locations. For readability, we distinguish Black and Hispanic participants—the groups most represented in the targeted neighborhoods—from other racial groups (White, Indian American, Asian, and other minorities), and we group spending areas into Downtown, Midtown, North-East and the Greenwood District, North-West and South Tulsa, and Other (including distant locations corresponding to online transactions). In the pre-intervention period (Figure 13), Black and Hispanic participants concentrate spending in Downtown, consistent with newcomers first exploring nearby locations and with the prominence of proximity-based motives noted earlier; other racial groups also spend heavily in Downtown or in distant locations/online, and there is no clear evidence that social identity shapes choices at baseline (if anything, non-Black/non-Hispanic participants appear relatively more present in Black/Hispanic neighborhoods than vice versa). In the post-intervention period (Figure 14), Downtown remains important but both racial groups expand their footprint; Midtown—adjacent to Downtown and mixing residential streets with shopping districts—emerges as a notable destination for both, while the targeted neighborhoods (North-East Tulsa and the Greenwood District) gain prominence among Black and Hispanic participants and decline in relative weight for other racial groups. This pattern suggests that, although all participants received the same information about targeted neighborhoods, the intervention made those places especially appealing to Black and Hispanic recent movers, consistent with a social-identity mechanism rather than a uniform shift across all groups.

Overall, the weekly survey yields three key insights. First, the intervention increased spending in the targeted neighborhoods among treated participants, with the largest gains among those who moved within the last 12 months. Second, within this subgroup in the post-treatment period, curiosity about visiting particular areas and their shops became a more salient motive for consumption. Third, Black and Hispanic recent movers in the treated group showed the strongest post-period increases in targeted-area spending. Taken together, these patterns suggest the treatment shifted consumption choices most among recent movers—and, within that group, particularly among participants racially similar to the resident population of the targeted neighborhoods, consistent with evidence from transaction data.

4.3 Alternative explanations

In this section, we address the most plausible alternative explanations for our main results. A natural concern is that Black and Hispanic participants may face lower spatial frictions in accessing targeted areas. Such differences could arise if they are more likely to adopt

alternative modes of transportation—for instance, owning a private vehicle—or if they reside closer to targeted areas relative to other racial groups. We implement two checks to account for this possibility. First, we examine data from the orientation survey on vehicle ownership by race, tenure in Tulsa, and treatment status. As shown in Figure 15, Black and Hispanic participants are in fact less likely to own a private vehicle than other racial groups, particularly among recent migrants in the treatment group. Thus, if anything, differences in vehicle ownership would bias against our finding that Black recent migrants in the treatment group are more likely to visit targeted areas. Second, we directly test whether residential proximity to targeted areas differs systematically across racial groups. This analysis shows that Black and Hispanic participants do not live systematically closer to targeted neighborhoods than others, alleviating concerns that geographic proximity explains our results.

Second, we georeference the location of both participants and vendors at the ZIP code level and restrict attention to transactions taking place in Tulsa. We then construct a four-week panel dataset at the participant–vendor dyad level, including as a control the geographical distance between each participant and every vendor with whom they interacted during the experiment. In this specification—restricted to recent migrants—the coefficient of interest is the triple interaction between the treatment dummy, the post-intervention dummy, and an indicator for whether the vendor is located in a targeted neighborhood. Table 4 reports the results. Column 1 presents estimates from a specification that includes only the triple interaction and its constituent main effects, controlling for week and participant fixed effects. In the post-intervention period, treated participants spend about 14 dollars more at vendors located in targeted areas compared to vendors in other parts of the city (relative to an average transaction amount of 5.56 dollars). Column 2 augments this with the participant–vendor distance control. The coefficient on the triple interaction—capturing the post-intervention treatment effect on expenditures at vendors located in targeted areas relative to other neighborhoods—is positive, statistically significant, and highly stable across the two specifications. This suggests that differences in geographical distance between participants and vendors do not drive the treatment effects.

A further concern relates to pre-existing networks between participants and specific vendors. For example, if Black participants in the treatment group were already more likely to patronize certain vendors in targeted areas—because of the products they offered or the strategies they used to attract and cater to customers—then the estimated treatment effects might simply reflect these pre-existing ties, later reinforced by the intervention. To address this possibility, we first examine the share of repeated transactions at the same vendor during the pre-intervention period, focusing on vendors located in targeted areas. Figure 16 plots the share of participant–vendor dyads with repeated transactions relative to the total

number of dyads in the sample. While Black and Hispanic participants are generally more likely to conduct repeated transactions in the pre-intervention period, this share is, if anything, higher among the control group compared to the treatment group. Moreover, in the post-intervention period, the share of repeated transactions with specific vendors declines substantially—even among Black participants—suggesting that the intervention encouraged broader exploration of consumption opportunities in targeted neighborhoods rather than simply reinforcing pre-existing relationships with particular vendors.

Finally, we return to the participant–vendor dyad panel and estimate a specification in which the coefficient of interest remains the triple interaction between the treatment dummy, the post-intervention dummy, and the indicator for whether the vendor is located in a targeted neighborhood, but we now include fixed effects for each participant–vendor dyad. These fixed effects absorb any time-invariant pre-existing relationships between participants and vendors that could otherwise confound the treatment effect. The results, reported in Column 3 of Table 4, show that the coefficient of interest remains positive, statistically significant, and remarkably stable. This provides further reassurance that our findings are not driven by prior ties between participants and specific vendors, but rather reflect genuine changes in consumption patterns induced by the intervention.

5 Illustrative Framework

5.1 Set up

To formalize how a local intervention can affect residents' welfare, we present a simple framework of consumption choice. Individual i receives utility from shopping in a neighborhood j (let $j \in \mathcal{J}\{0,1\}$, where $j = 0$ denotes a non-segregated neighborhood and $j = 1$ denotes a segregated neighborhood) at time t, specified as:

$$U_{i,j,t} = \underbrace{\beta_{g(i,j)} X_{i,j,t} + \alpha Z_i + \gamma Z_{i,j}}_{:=V_{i,j,t}} + \nu_{i,j,t}$$

where $X_{i,j,t}$ is a binary variable indicating the absence of information frictions for individual i in neighborhood j at time t. For instance, long-term residents face no information frictions in any neighborhoods ($X_{long\text{-}term,j,t} = 1$ for all j, t), whereas recent migrants experience frictions in a segregated neighborhood before the treatment (e.g., $X_{recent,j=1,pre} = 0$), which go away with the treatment in these neighborhood (e.g., $x_{recent,j=1,post} = 1$). Z_i denotes individual characteristics (e.g., car ownership); and $Z_{i,j}$ captures individual-neighborhood characteristics (e.g., residential distance between an individual i's residential place to a neighborhood

j). Idiosyncratic shock $\nu_{i,j,t}$ follows a Type 1 Extreme Value distribution.

Preference parameters, $\beta_{g(i,j)}, \alpha, \gamma$, are attached to $X_{i,j,t}, Z_i$, and $Z_{i,j}$ respectively. Importantly, $\beta_{g(i,j)}$ is specific to racial or ethnic match between an individual i and a neighborhood j. For example, a Black resident ($i = B$) has a different preference parameter $\beta_{g(i=B,j=1)}$ attached to a Black dominant neighborhood ($j = 1$) from that of a White resident $i = W$, $\beta_{g(i=W,j=1)}$. As evidenced in our results in Section 4, we hypothesize that $\beta_{g(i,1)} > \beta_{g(i',1)}$ for all $i \in \{Black, Hispanic\}$ and $i' \in \{White\}$, meaning that, in our context, those who share a similar racial or ethnic background respond more to the treatment than those who do not.

Then, an individual i chooses a neighborhood j to shop in period t, defined as:

$$d_{i,j,t} = \mathbf{1}\{U_{i,j,t} \geq U_{i,j',t}; \forall j' \in \mathcal{J}\}$$

Thus, the consumption share of an individual i in a neighborhood t in a period t is written as:

$$P(d_{i,j,t} = 1 | Z_i, Z_{i,j}, \mathcal{J}; (\beta, \gamma, \alpha)) = \frac{exp(V_{i,j,t})}{\sum_{j' \in \mathcal{J}} exp(V_{i,j',t})}$$

5.2 Treatment Effects

Giving a local tour to a segregated neighborhood induces $X_{i,j=1,post} = 1$ for individual i in the treated group, among both long-term residents and recent migrants. However, giving a local tour does not shift long-term residents' consumption patterns because they did not face any information frictions before the treatment ($X_{i,j=1,pre} = X_{i,j=1,post} = 1$), even among Black long-term residents. Recent migrants had information frictions with a segregated neighborhood before the treatment, but become familiarized with the segregated area through the intervention (i.e., $X_{i,j=1,pre} = 0$ but $X_{i,j=1,post} = 1$). Therefore, first, giving a tour increases the utility of a treated individual i among recent migrants when shopping in a neighborhood j. Second, those with common racial or ethnic characteristics have different preference parameters embedded in their utility. This suggests that information alone is insufficient to break consumption segregation.

6 Conclusion

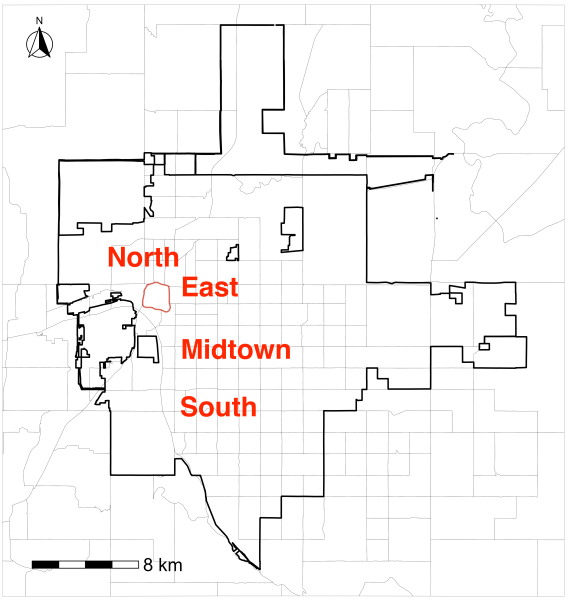
This paper examines whether, and to what extent, facilitating consumption in historically segregated neighborhoods shifts individuals' consumption. We test this using a randomized controlled trial in Tulsa, Oklahoma, a city characterized by high segregation. We randomly assigned the treatment group to attend a local vendor fair in a historically segregated area,

providing in-person exposure to local businesses, including food tastings. The control group visited a neutral site, an art museum in Tulsa.

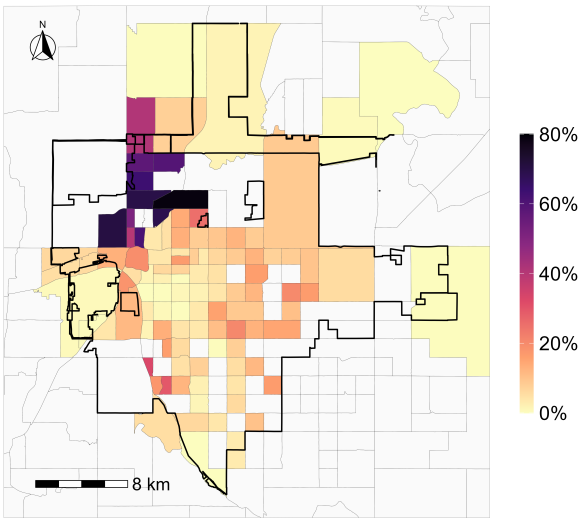
We find that recent movers increase the share of their spending in historically segregated neighborhoods in response to the intervention compared to their own pre-intervention baseline, relative to long-term residents over the same period. The effect is pronounced when recent movers share racial or ethnic characteristics with the destination neighborhood. These results indicate that reducing information barriers alone is not sufficient to eliminate consumption segregation.

Figure 1: Racial and Ethnic Segregation in Tulsa

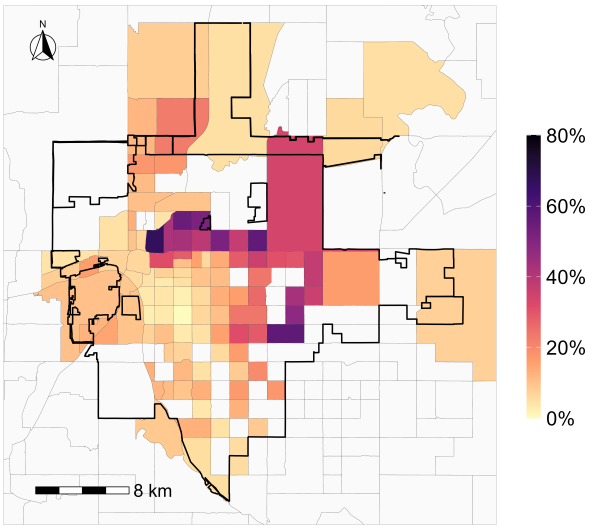
(a) City of Tulsa



(b) Black Population (%) by Census Tract

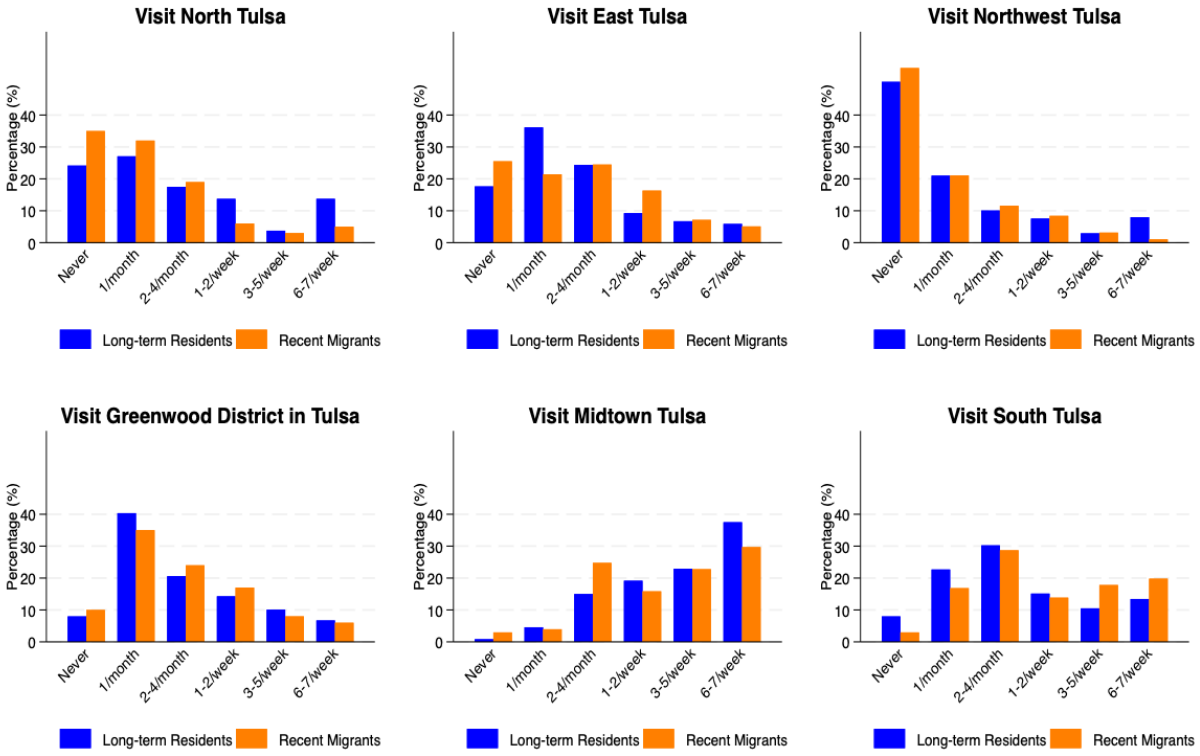


(c) Hispanic Population (%) by Census Tract



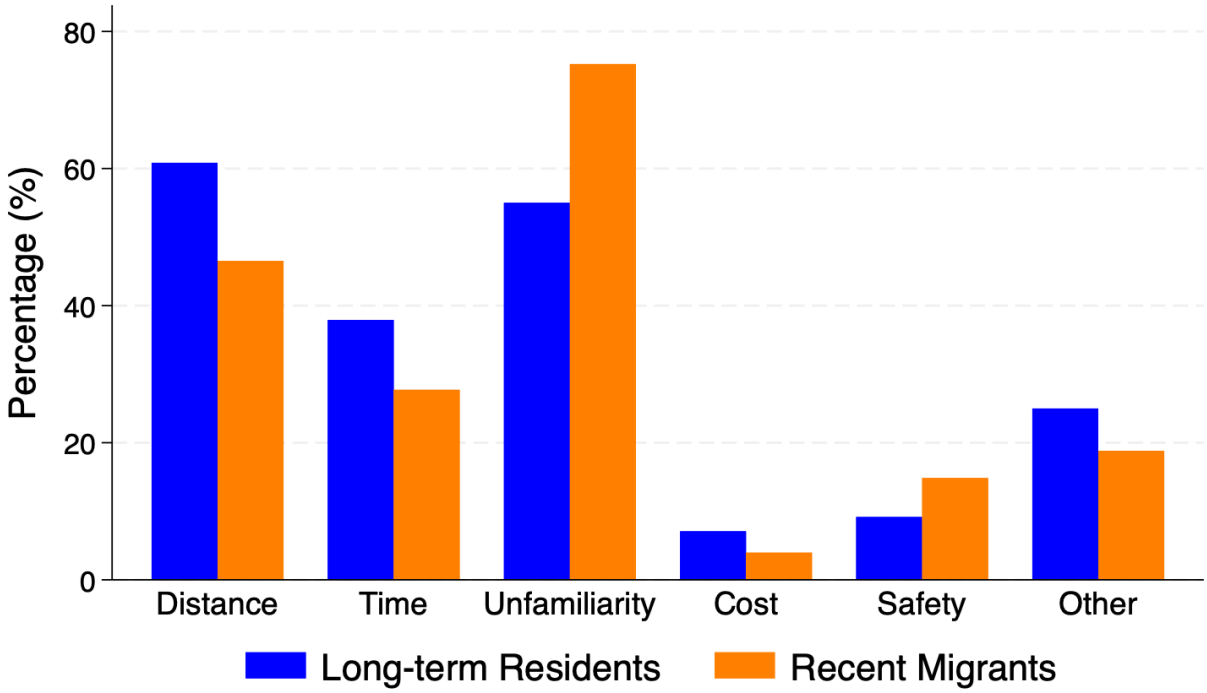
Notes: Panel (a) presents the geographic boundaries of the city of Tulsa, annotated with key location names. The red line marks downtown Tulsa. North of downtown is called North Tulsa, and moving clockwise from there are East Tulsa, Midtown, and South Tulsa. Panel (b) demonstrates the density of the Black population in the city of Tulsa by census tract, and Panel (c) shows the density of Hispanic population in East Tulsa (source: NHGIS 2023).

Figure 2: Participants Visiting Different Neighborhoods (%)



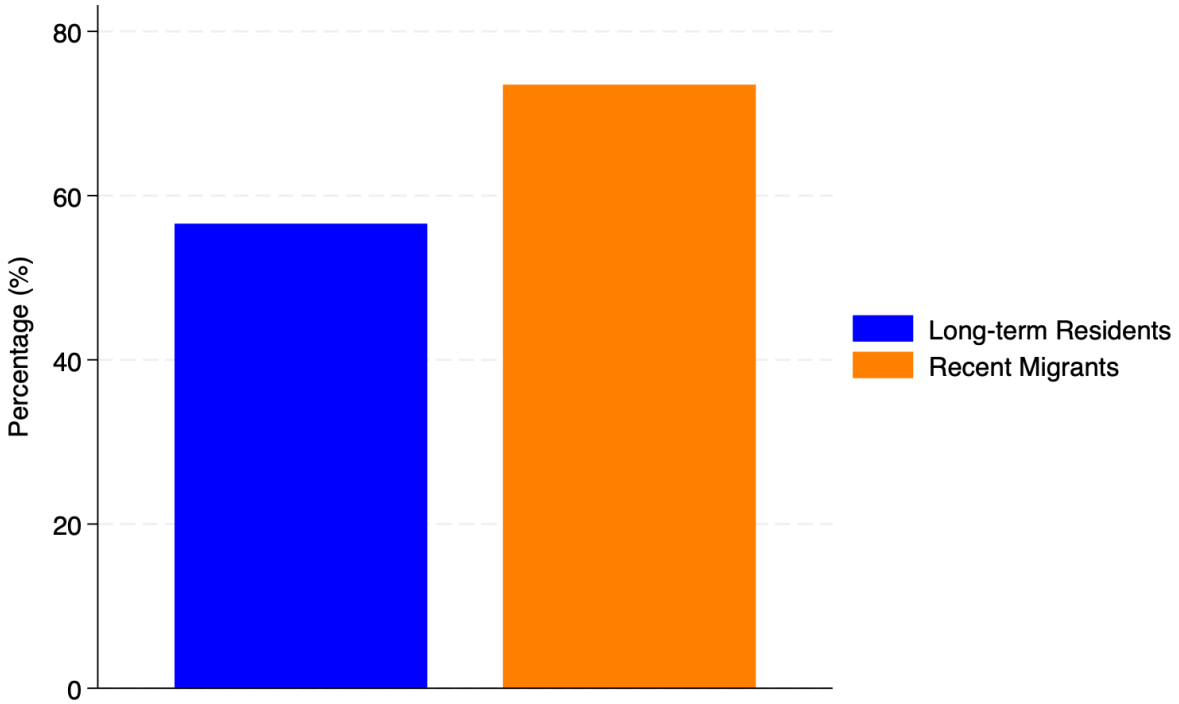
Notes: The figure plots the percentage of program participants by how frequently they visit neighborhoods across the Tulsa metropolitan area. Data come from Q20 in the Orientation survey.

Figure 3: Barriers to Visiting Different Neighborhoods (%)



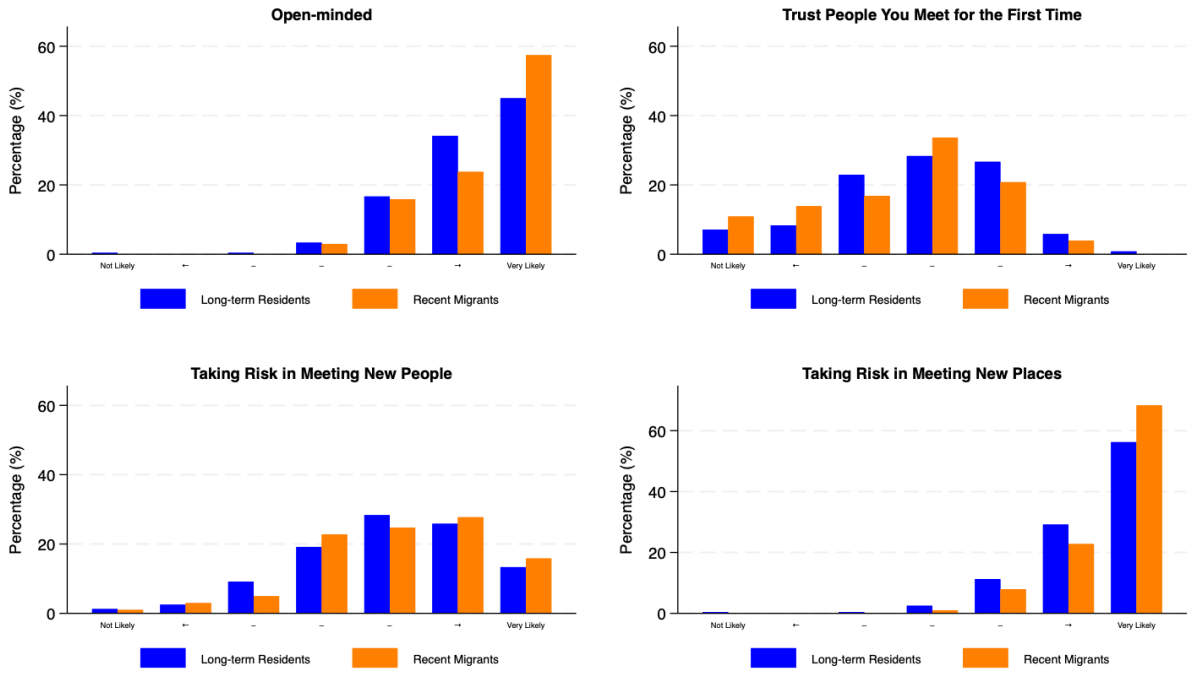
Notes: The figure shows the percentage of program participants citing each reason for not visiting different areas in Tulsa. Data come from Q21 in the Orientation survey.

Figure 4: Lack of Familiarity with Targeted Neighborhoods (%)



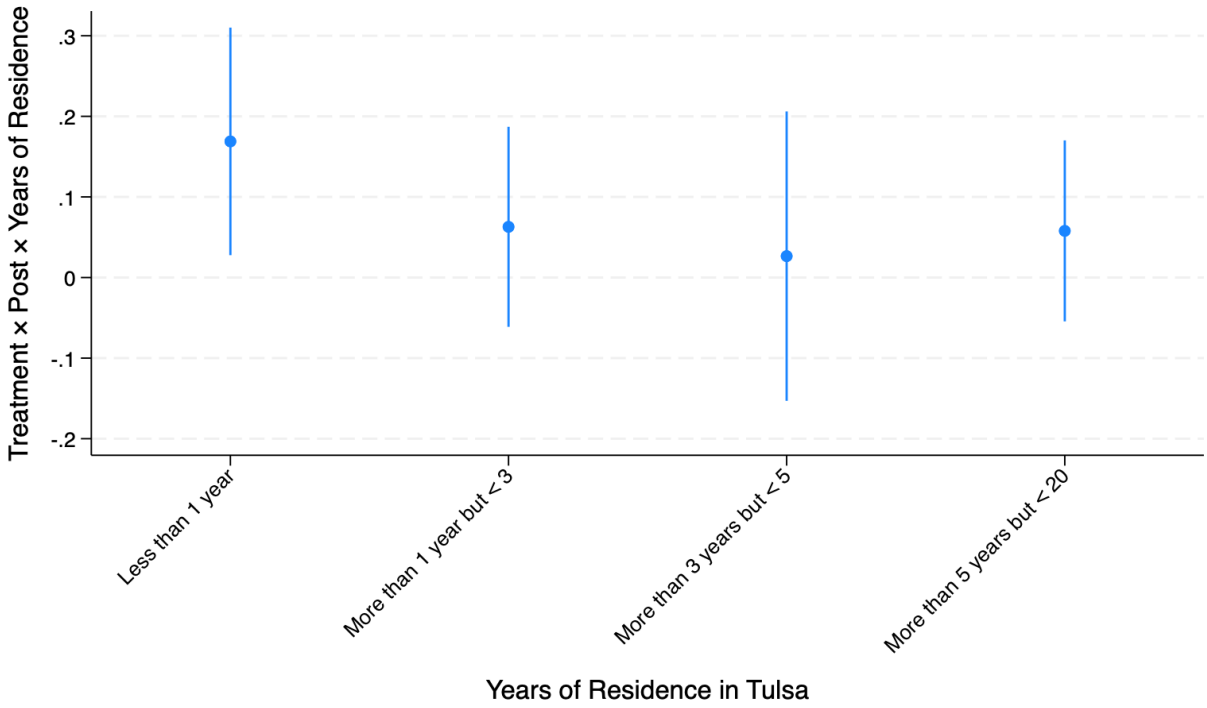
Notes: The figure reports the percentage of program participants who, in the orientation survey, cited lack of familiarity as a key reason for infrequently - less that 2 to 4 times per month - visiting North-East Tulsa and the Greenwood District. Information on lack of familiarity, defined as are retrieved from Q21.3 in the Orientation survey.

Figure 5: Attitudinal measures by recent migrants and long-term residents (%)



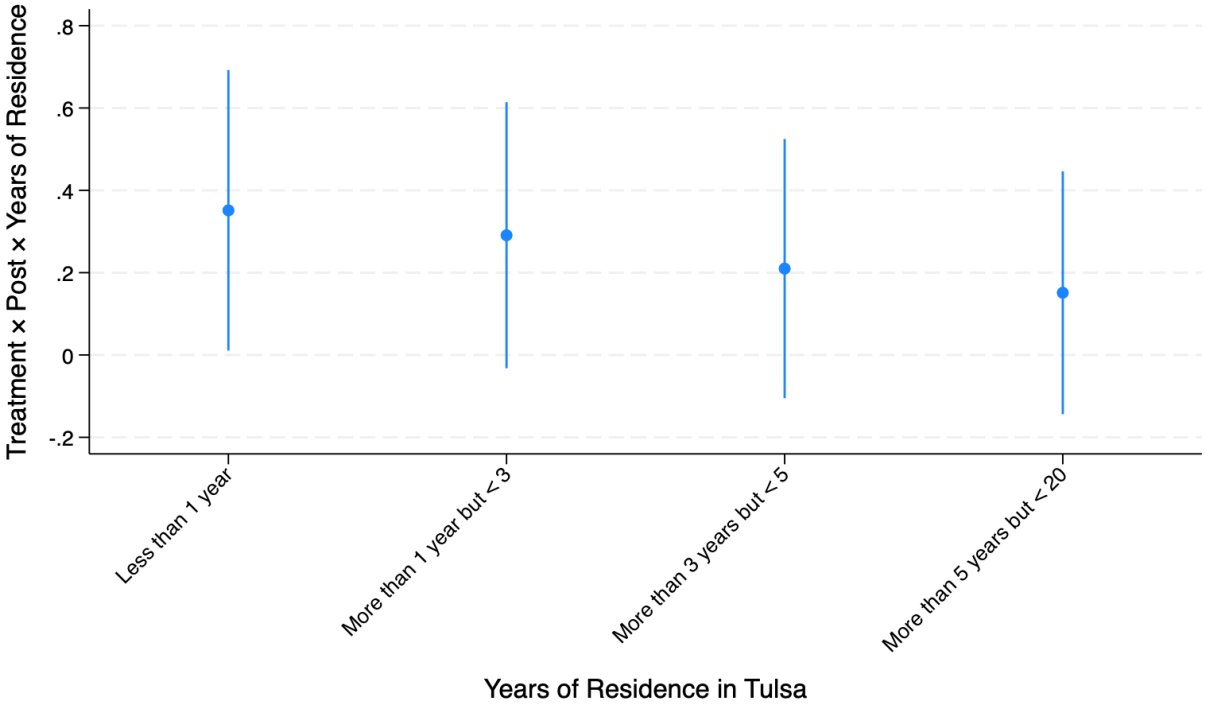
Notes: The figure reports the percentage of program participants who, in the orientation survey, indicated being open-minded (Q29.6), trusting people they meet for the first time (Q28.4), and willing to take risks when meeting new people (Q30.f) and when visiting new places (Q30.h).

Figure 6: Effects on Share of Expenditures in Targeted Neighborhoods - by Tenure in Tulsa



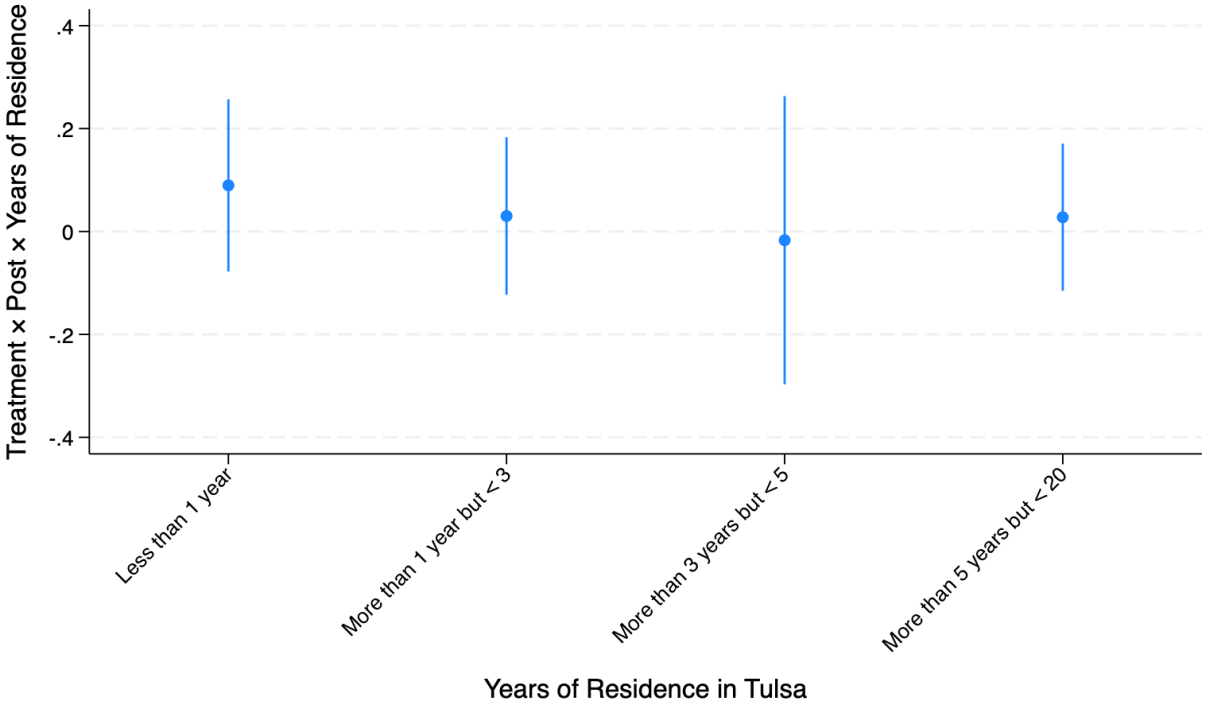
Notes: The figure plots the coefficients on the triple interaction Treated × Post × Tenure in Tulsa. "Tenure in Tulsa" is coded as indicators for: <1 year, 1–3 years, 3–5 years, 5–20 years and >20 years. The >20-year category is omitted and serves as the baseline (reference) group.

Figure 7: Effects on Black Participants' Share of Expenditures in Targeted Neighborhoods, by Tenure in Tulsa



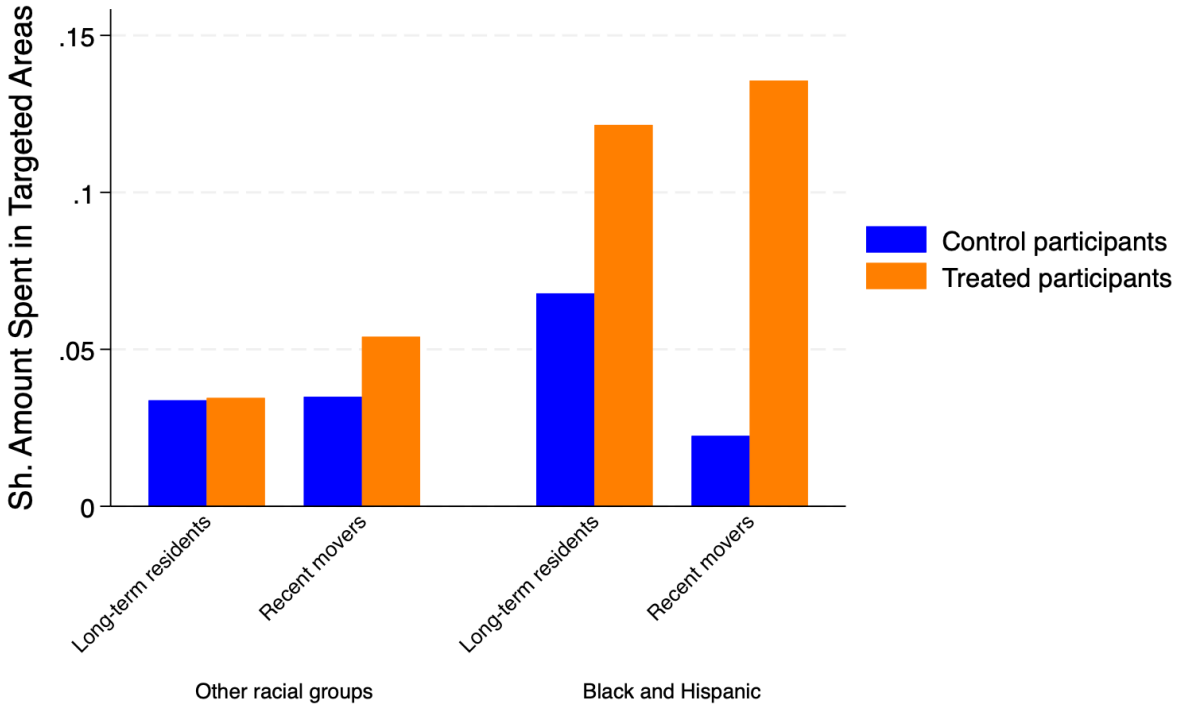
Notes: The figure plots the coefficients on the triple interaction Treated × Post × Tenure in Tulsa for the subsample of Black program participants. "Tenure in Tulsa" is coded as indicators for: <1 year, 1–3 years, 3–5 years, 5–20 years and >20 years. The >20-year category is omitted and serves as the baseline (reference) group.

Figure 8: Effects on White Participants' Share of Expenditures in Targeted Neighborhoods, by Tenure in Tulsa



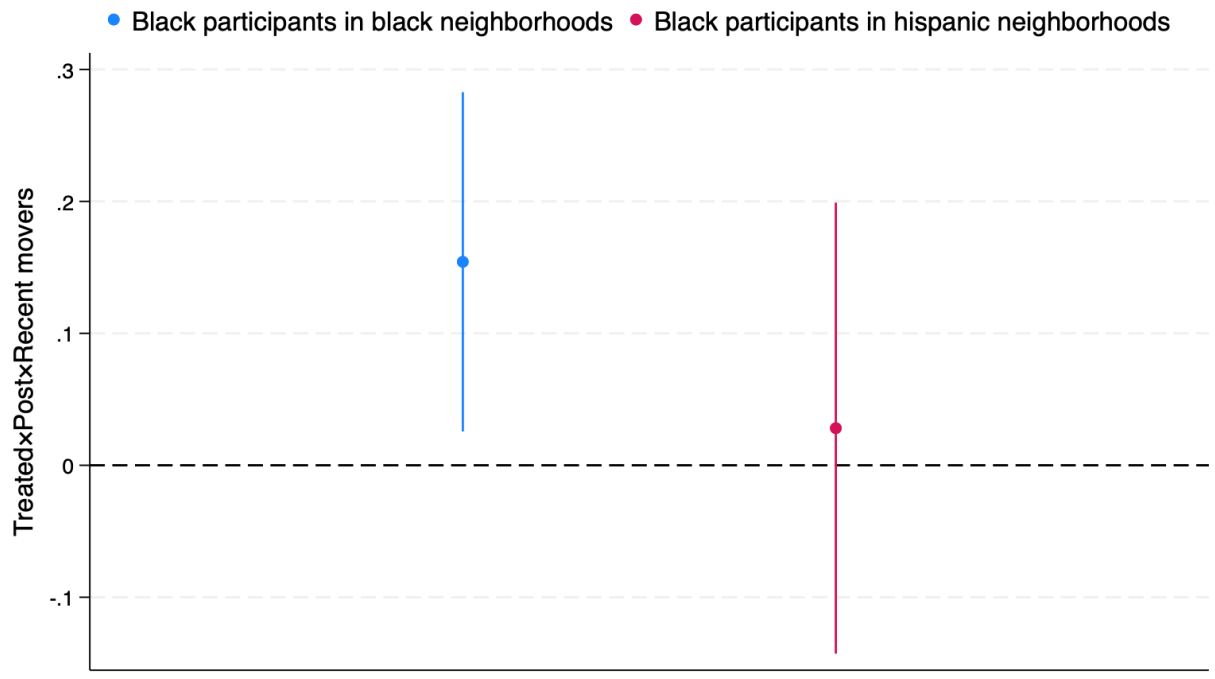
Notes: The figure plots the coefficients on the triple interaction Treated × Post × Tenure in Tulsa for the subsample of White program participants. "Tenure in Tulsa" is coded as indicators for: <1 year, 1–3 years, 3–5 years, 5–20 years and >20 years. The >20-year category is omitted and serves as the baseline (reference) group.

Figure 9: Post-intervention Expenditures' share by tenure and racial background



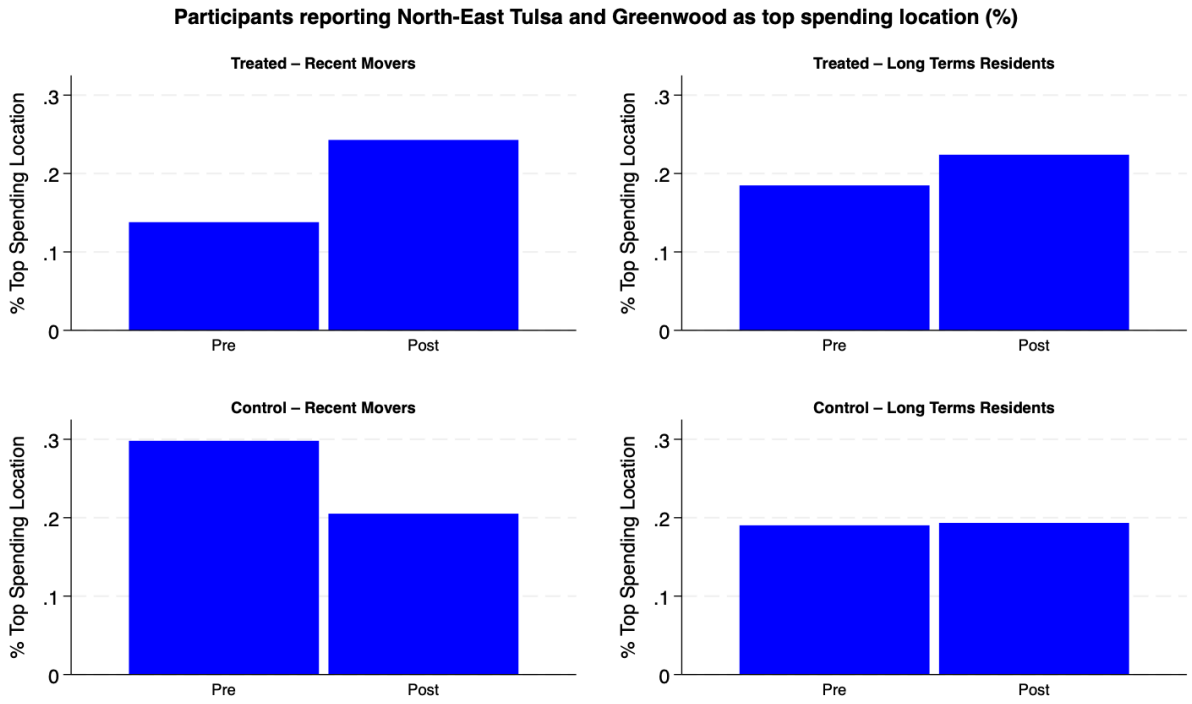
Notes: The figure reports the share of expenditures in targeted neighborhoods in the post intervention period (week 3 and 4), by recent migrants and long-term residents and by other racial groups (including Whites) and Blacks and Hispanics

Figure 10: Share of Expenditures by Black Participants Across Predominantly Black and Predominantly Hispanic Targeted Neighborhoods



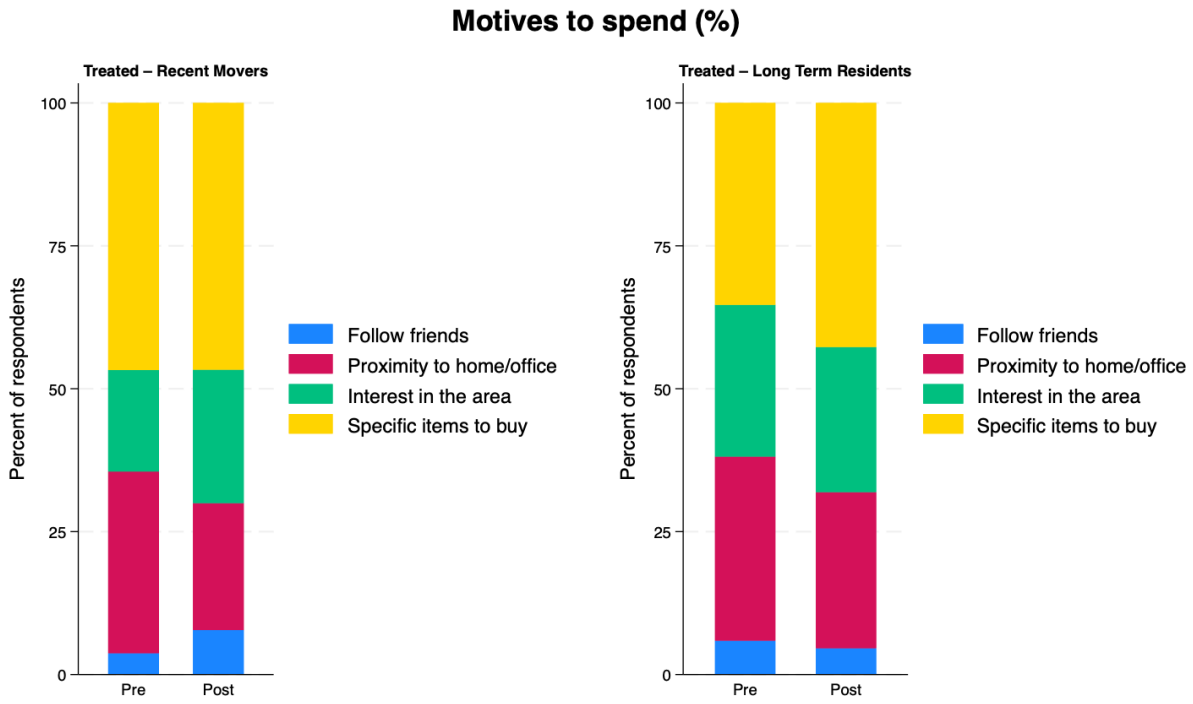
Notes: The figure plots the coefficient on the triple interaction Treated × Post × Recent Migrant from a specification that restricts the sample to Black participants. We estimate two versions: one using the share of expenditures in predominantly Black targeted neighborhoods (North Tulsa and the Greenwood District) as the dependent variable, and another using the share of expenditures in the predominantly Hispanic targeted neighborhood (East Tulsa).

Figure 11: Participants spending in targeted neighborhoods (%)



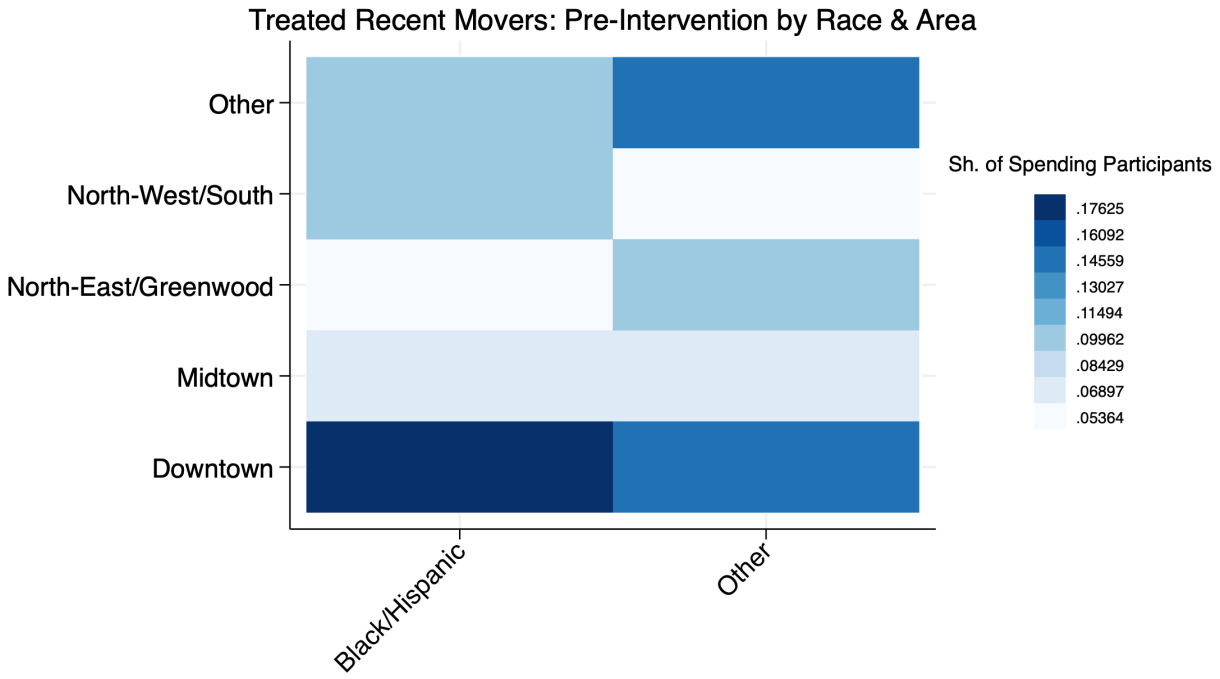
Notes: The figure reports the percentage of participants reporting North-East Tulsa and the Greenwood districts among the top three spending locations before and after the intervention, by treatment status and tenure in Tulsa.

Figure 12: Motives to spend in targeted neighborhoods



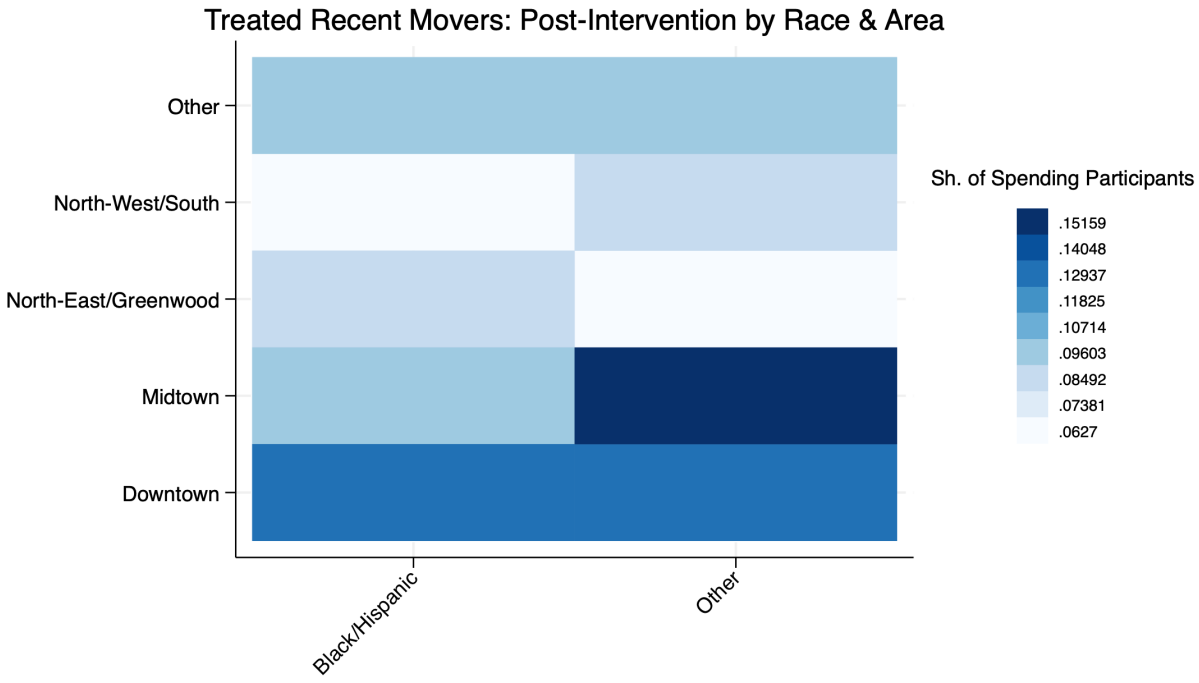
Notes: The figure shows the percentage of treated participants citing each motive for choosing where to spend, before and after the intervention, separately for recent migrants and long-term residents.

Figure 13: Pre-Intervention spending patterns by race and location - Treated recent migrants



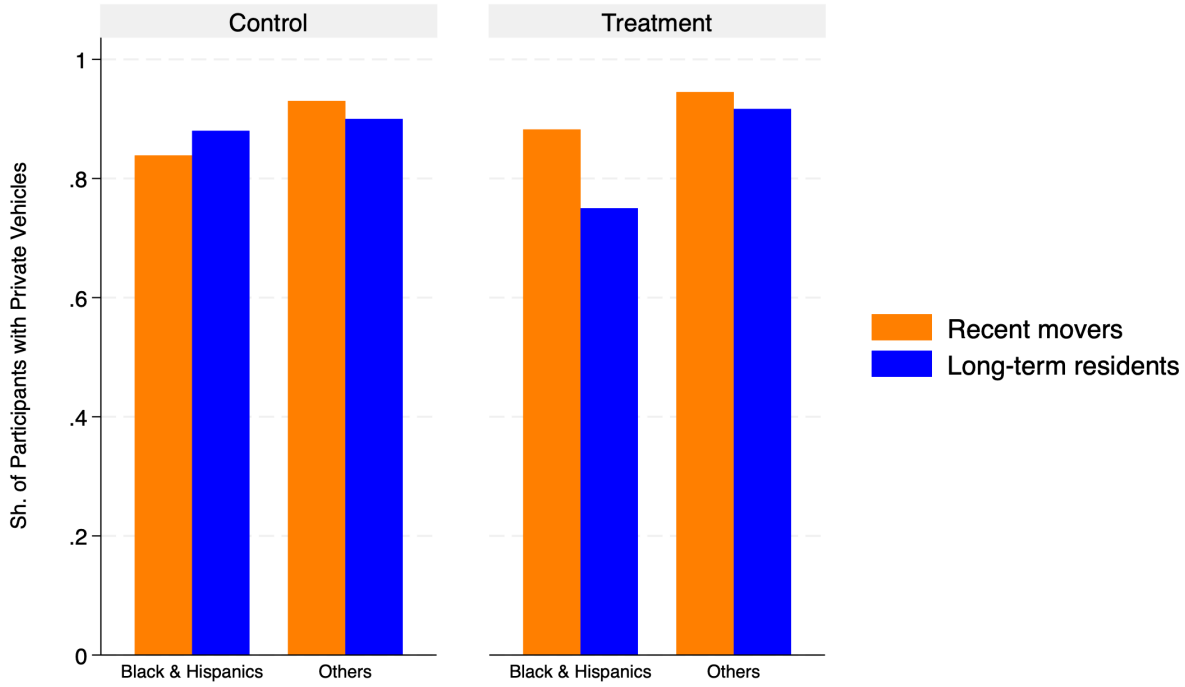
Notes: The heat map cross-tabulates spending locations by participants' racial group, restricting the sample to treated recent migrants in the pre-intervention period.

Figure 14: Post-Intervention spending patterns by race and location - Treated recent migrants



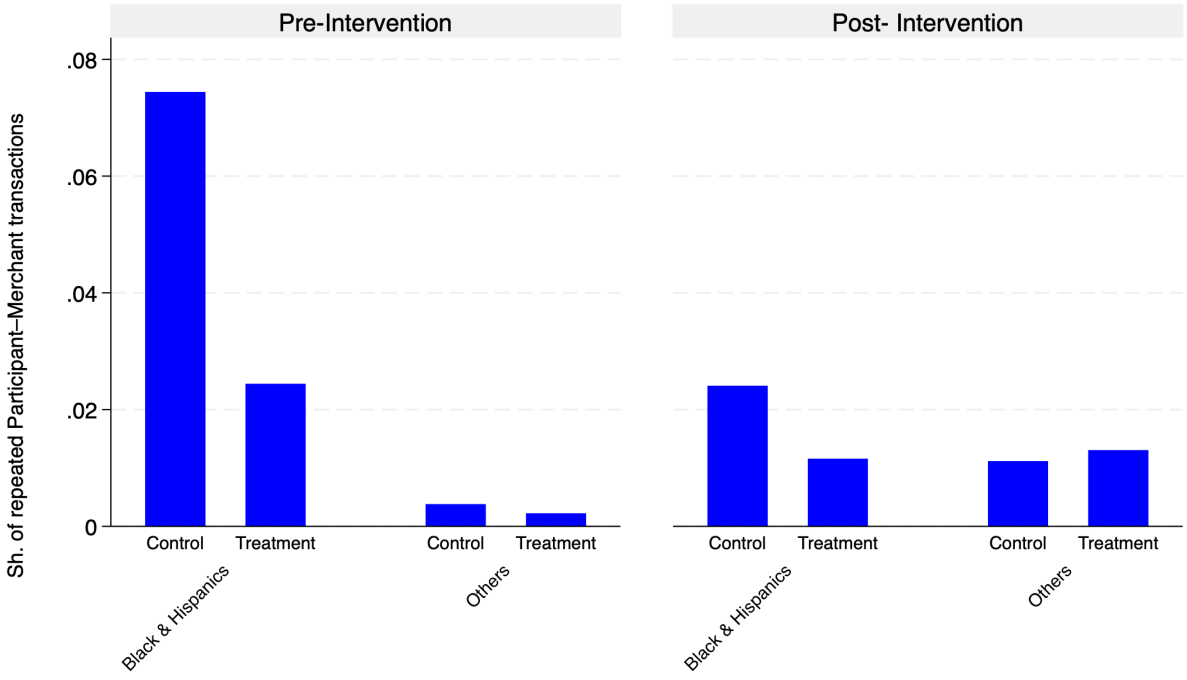
Notes: The heat map cross-tabulates spending locations by participants' racial group, restricting the sample to treated recent migrants in the post-intervention period.

Figure 15: Share of participants with private vehicles



Notes: The figure reports the share of program participants who own a private vehicle based on records from the orientation survey.

Figure 16: Share of participants with private vehicles



Notes: The figure reports the share of participant–vendor dyads with repeated transactions in the two-week periods before and after the intervention, relative to the total number of participant–vendor dyads in the sample. In total, there are 2,579 transactions, 56% of which occurred in the pre-intervention period.

Table 1: Sample characteristics and balance between treatment and control

Variable	Sample mean	Treatment mean	Control mean	p-value (T−C)
Female	0.63	0.61	0.65	0.41
White	0.49	0.50	0.47	0.63
Black	0.28	0.29	0.26	0.61
Young	0.41	0.42	0.40	0.71
Mid-age	0.48	0.46	0.50	0.48
Bachelor and above	0.83	0.85	0.82	0.48
Single	0.55	0.52	0.57	0.42
Married	0.33	0.35	0.31	0.47
Low wage	0.23	0.24	0.23	0.78
Mid wage	0.54	0.55	0.53	0.78
High wage	0.23	0.21	0.24	0.54
Vehicle owner	0.91	0.91	0.91	0.99
Work from home	56.96	56.48	57.46	0.80
Born in Tulsa	0.18	0.18	0.18	0.87
Recent migrants	0.30	0.27	0.32	0.30

Notes: `Female`, `White`, `Black`, `Single`, and `Married` report the share of program participants in each category. `Young` is the share aged 18–34; `Mid-age` is the share aged 35–54. `Bachelor or above` is the share with a bachelor's degree or higher. `Low wage`, `Mid wage`, and `High wage` are the shares with annual wages $<$ \$50,000, between \$50,000 and \$99,999, and $\geq$ \$100,000, respectively. `Vehicle owner` is the share owning a private vehicle; `Work from home` is the percentage of hours worked from home; `Born in Tulsa` the share born in Tulsa; and `Recent migrants` the share who arrived in the last 12 months. p-values test equality of means between treatment and control.

Table 2: Effects on Share of Expenditures in Targeted Neighborhoods

	(1) Baseline DID	(2) DID × Recent Migrant
Treated × Post	0.014	-0.023
	(0.021)	(0.022)
Post × Recent Migrant		-0.067*
		(0.037)
Treated × Post × Recent Migrant		0.130**
		(0.051)
Observations	1126	1126
R-squared	0.362	0.369

Notes: Observations comprise 341 program participants followed over four weeks. For total of 223 participant–week observations with no transactions in a given week the dependent variable cannot be constructed. They have been dropped from the analysis together with a further 15 due to singleton participant dummies. All specifications include week and participant fixed effects. Standard errors are clustered at the participant level. Stars denote: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Effects on Share of Expenditures in Targeted Neighborhoods by Familiarity

	(1) Other racial groups	(2) Blacks and Hispanics
Treated × Post	-0.001	0.003
	(0.021)	(0.050)
Post × Recent Migrant	-0.004	-0.140
	(0.030)	(0.087)
Treated × Post × Recent Migrant	0.011	0.214**
	(0.038)	(0.105)
Observations	434	255
R-squared	0.422	0.443

Notes: Sample restricted to participants reporting low familiarity as a key barrier to explore different neighborhoods within Tulsa. Column (1) reports estimates for respondents belonging to White, American-Indian, Asian and other racial groups; Column (2) reports estimates for Blacks and Hispanics. All specifications include week and participant fixed effects, and standard errors are clustered at the participant level. Stars denote: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Effects on Expenditures at Vendors Located in Targeted Areas

	(1)	(2)	(3)
Merchant in target areas	3.107	2.868	
	(3.306)	(3.303)	
Treated × Post	-1.100	-1.100	-1.100
	(0.936)	(0.936)	(0.935)
Treated × Merchant in target areas	-8.496**	-8.354**	
	(3.488)	(3.488)	
Post × Merchant in target areas	-5.430	-5.430	-5.430
	(4.656)	(4.657)	(4.653)
Treated × Post × Merchant in target areas	14.852***	14.852***	14.852***
	(5.481)	(5.482)	(5.478)
Log distance (km)		0.475	
		(0.294)	
Observations	1896	1896	1896
R-squared	0.076	0.077	0.151

Notes: Sample restricted to transactions in Tulsa. The dependent variable is weekly expenditures (in U.S. dollars). The unit of observation is the participant–vendor dyad by week. Columns 1 and 2 include participant and week fixed effects, while Column 3 includes participant–vendor dyad and week fixed effects. Standard errors are clustered at the participant level. Stars denote: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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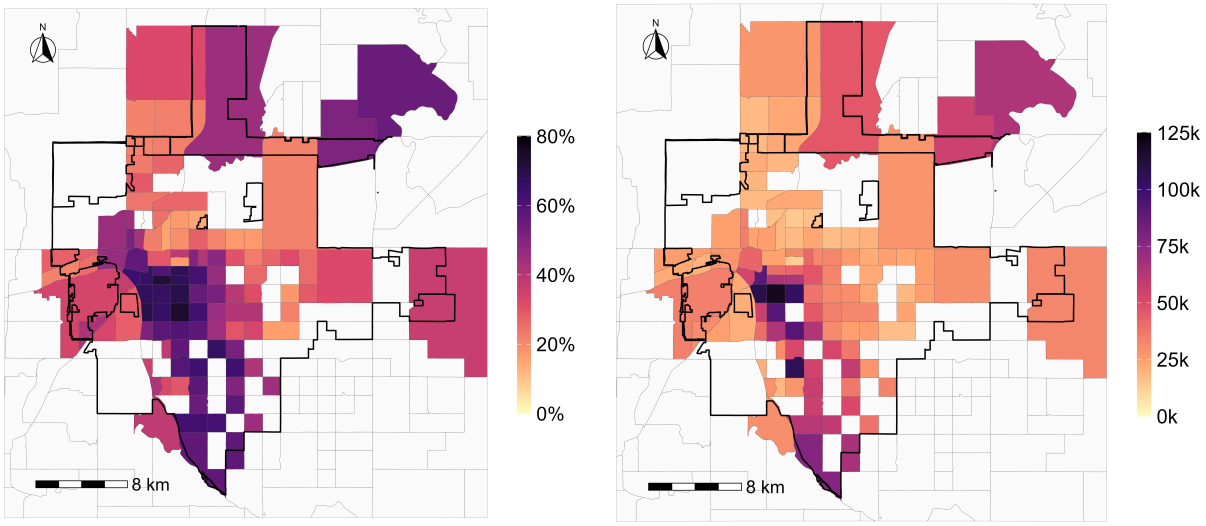
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A Additional Figures and Tables

Figure A1: Distribution of Education and Income per Capita in Tulsa

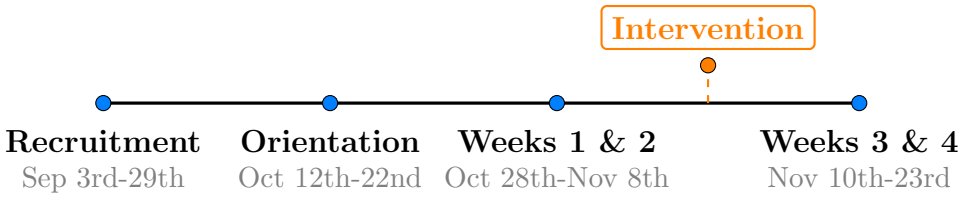
(a) Some College (%) by Census Tract

(b) Income per Capita ($)



Notes: Panel (a) presents the distribution of education (above high school) by census tract. Panel (b) presents the distribution of annual income per capita ($) by census tract (source: NHGIS 2023).

Figure A2: Experimental Timeline (in 2024)



Notes: This Figure describes the timeline of the experiment. Recruitment was conducted between September 3rd and 29th, followed by participant orientation from October 12th to 22nd. The program was implemented in two two-week periods: (i) Weeks 1-2 (October 28th-November 8th) and Weeks 3-4 (November 10th-23rd). The intervention (marked in orange) took place between Weeks 2 and 3.

Table A1: Sample characteristics by program arm and subpopulation

	Tulsa Remote			Downtown Tulsa		
Variable	Treated	Control	p-value	Treated	Control	p-value
Female	0.60	0.63	0.65	0.61	0.67	0.47
White	0.44	0.40	0.55	0.57	0.56	0.93
Black	0.37	0.34	0.76	0.19	0.17	0.65
Young	0.37	0.30	0.35	0.49	0.53	0.69
Mid age	0.56	0.65	0.23	0.35	0.33	0.82
Bachelor or above	0.90	0.85	0.27	0.78	0.78	0.97
Single	0.58	0.65	0.37	0.45	0.47	0.81
Married	0.28	0.28	1.00	0.43	0.35	0.30
Low wage	0.06	0.05	0.76	0.45	0.44	0.82
Mid wage	0.63	0.62	0.88	0.44	0.42	0.82
High wage	0.30	0.32	0.75	0.10	0.14	0.48
Vehicle owner	0.85	0.88	0.52	0.97	0.94	0.26
Work from home	72.87	71.92	0.82	36.04	38.87	0.61
Born in Tulsa	0.04	0.04	1.00	0.35	0.33	0.82
Recent movers	0.45	0.48	0.66	0.05	0.13	0.10

Notes: `Female`, `White`, `Black`, `Single`, and `Married` report the share of program participants in each category. `Young` is the share aged 18–34; `Mid age` is the share aged 35–54. `Bachelor or above` is the share with a bachelor's degree or higher. `Low wage`, `Mid wage`, and `High wage` are the shares with annual wages $<$ \$50,000, between \$50,000 and \$99,999, and $\geq$ \$100,000, respectively. `Vehicle owner` is the share owning a private vehicle; `Work from home` the percentange of hours worked from home; `Born in Tulsa` the share born in Tulsa; and `Recent movers` the share who arrived in the last 12 months. p-values test equality of means between treatment and control within each subpopulation.

Figure A3: Various Recruitment Channels

(a) Recruitment Email Excerpt



Title: Participants Needed! Neighborhood Economic Development Survey ($200 Stipend)
From: Tulsa Remote

We are writing this email to invite you to participate in a study about neighborhood revitalization in Tulsa. Participants will receive $200 over the course of four weeks in compensation for completing weekly surveys. We are collaborating with Tulsa Remote and a team of researchers from Harvard Business School, Bocconi University, and University of Illinois Urbana Champaign, on a neighborhood economic development study focusing on distinct areas of Tulsa.

(b) Instagram



Notes: This figure presents examples of recruitment materials used in the study. Panel (a) shows an excerpt from a recruitment email sent to potential participants through partner organizations' mailing lists (in this example, Tulsa Remote). Panel (b) displays a recruitment post on Downtown Tulsa Partnership's Instagram designed to reach a broader local audience. These channels, along with others (e.g., newsletters, community events), were employed to maximize the number of participants.

Figure A4: Intervention: Treatment and Control

(a) Treatment



(b) Control



(c) Treatment: Vendor Fairs



Notes: Panels (a) and (b) present representative images from the treatment and control activities, respectively. Panel (a) shows the treatment group's experience: vendor fairs in North and East Tulsa, where local businesses and community members gathered in historically segregated neighborhoods. Pnael (b) shows that the control group visited a neutral site (the Philbrook Museum of Art) without exposure to the targeted neighborhoods or interaction with treatment participants. Additionally, Panel (c) shows other images of the vendor fairs to illustrate the setting and community engagement during the intervention.

Table A2: Robustness Checks

	(1) Prob.any Spend	(2) Share of Exp.	(3) Share of Exp.(tour only)
Treated × Post	0.036		-0.023
	(0.058)		(0.022)
Post × Recent Migrant	0.039		-0.054
	(0.087)		(0.035)
Treated × Post × Recent Migrant	0.017		0.117**
	(0.115)		(0.049)
Treated × Week 2		-0.039	
		(0.030)	
Treated × Week 2 × Recent Migrant		-0.027	
		(0.048)	
Treated × Week 3		-0.040	
		(0.037)	
Treated × Week 3 × Recent Migrant		0.114	
		(0.081)	
Treated × Week 4		-0.050	
		(0.036)	
Treated × Week 4 × Recent Migrant		0.115*	
		(0.065)	
Observations	1364	1126	1018
R-squared	0.421	0.372	0.358

Notes: Column (1) uses the full panel of 341 participants observed over four weeks; the dependent variable is an indicator equal to 1 if the participant made any transaction in the targeted neighborhoods that week. Column (2) also uses the 341×4 panel with the dependent variable equal to the share of weekly expenditures in the targeted neighborhoods; because this share is undefined in weeks with no transactions, 223 participant–week observations are dropped, along with 15 additional observations due to singleton participant dummies. Column (3) is based on 273 participants observed over four weeks; the dependent variable is the share of expenditures in the targeted neighborhoods. Here, 73 participant–week observations with no transactions and one singleton observation are dropped. All specifications include week and participant fixed effects, and standard errors are clustered at the participant level. Stars denote: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

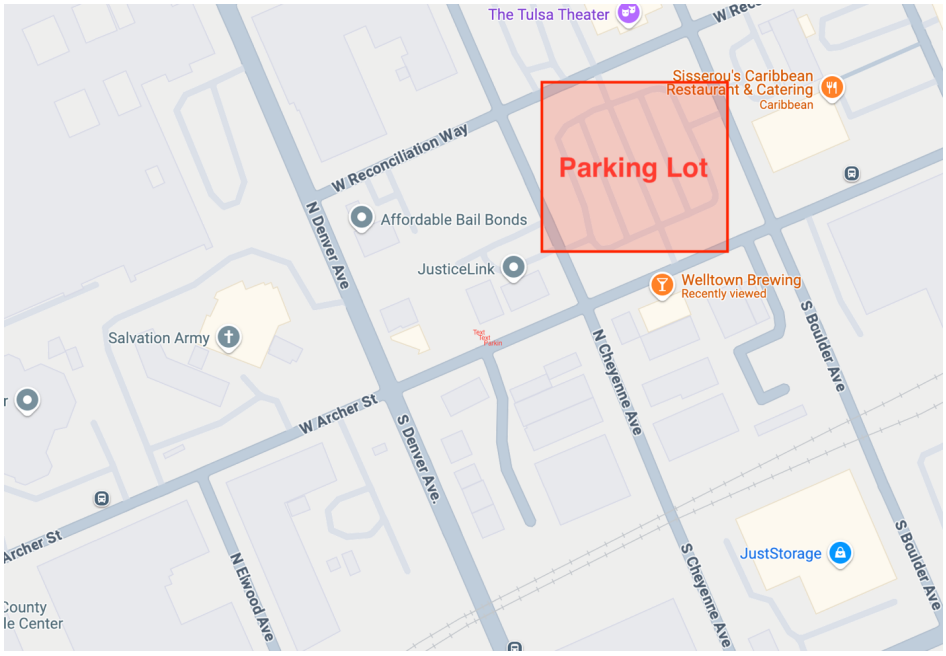
B Information Packet Provided at Orientation

Welcome to Neighborhood Revitalization Research!

We are excited to have you in our study on neighborhood revitalization in Tulsa. Participants will receive $200 over the course of four weeks as compensation for completing weekly surveys. We greatly appreciate your involvement.

Moving forward, this packet includes some important guidance about:

1. Pebble card instructions
    a. Restrictions on the types of merchants
    b. Frequently Asked Questions
    c. Weekly Surveys
2. A guided tour
    a. Time: 9:45 AM – 1:45 PM on **Saturday, November 9th**
    b. Meet-up point: **Parkway parking lot** at the intersection of Cheyenne Avenue and Archer Street (right across from Welltown Brewing)



Pebble card instructions

The Pebble Fund card functions like a standard credit card and is accepted anywhere Visa payments are accepted, but there are some spending restrictions.

There will be **four times** of payment provided.

There are some **restrictions on the types of merchants** you can purchase from. Here are the merchant types that are allowed. Please note that these categories are based on how each merchant is registered with the credit card processing organizations. You may use the card at the following types of business:

Agricultural Cooperative
Antique Shops
Art Dealers and Galleries
Artists Supply and Craft Shops
Auto and Home Supply Stores
Bakeries
Barber and Beauty Shops
Bicycle Shops
Book Stores
Books, Periodicals, and Newspapers
Camera and Photographic Supply Stores
Candy, Nut, and Confectionery Stores
Children and Infants Wear Stores
Cigar Stores and Stands
Commercial Footwear
Commercial Photography, Art and Graphics
Computer Software Stores
Computers, Peripherals, and Software
Cosmetic Stores
Dairy Products Stores
Department Stores
Discount Stores
Drapery, Window Covering, and Upholstery Stores
Drinking Places
Drug Stores and Pharmacies
Durable Goods (Not Elsewhere Classified)
Duty-Free Stores
Eating Places, Restaurants
Electric Razor Stores
Electronics Stores
Family Clothing Stores
Fast Food Restaurants
Florists Supplies, Nursery Stock, and Flowers
Furniture, Home Furnishings, and Equipment Stores, Except Appliances

Furriers and Fur Shops
Gift, Card, Novelty, and Souvenir Shops
Glass, Paint, and Wallpaper Stores
Glassware, Crystal Stores
Grocery Stores, Supermarkets
Hardware Stores
Hardware, Equipment, and Supplies
Health and Beauty Spas
Hobby, Toy, and Game Shops
Home Supply Warehouse Stores
Household Appliance Stores
Jewelry Stores, Watches, Clocks, and Silverware Stores
Luggage and Leather Goods Stores
Lumber, Building Materials Stores
Marketplaces
Massage Parlors
Mens and Boys Clothing and Accessories Stores
Mens, Womens Clothing Stores
Miscellaneous Apparel and Accessory Shops
Miscellaneous Food Stores - Convenience Stores and Specialty Markets
Miscellaneous General Merchandise
Miscellaneous Home Furnishing Specialty Stores
Miscellaneous Recreation Services
Miscellaneous Specialty Retail
Motorcycle Shops and Dealers
Music Stores-Musical Instruments, Pianos, and Sheet Music
News Dealers and Newsstands
Nondurable Goods (Not Elsewhere Classified)
Nurseries, Lawn and Garden Supply Stores
Office and Commercial Furniture
Package Stores-Beer, Wine, and Liquor
Pawn Shops
Pet Shops, Pet Food, and Supplies
Photographic, Photocopy, Microfilm Equipment, and Supplies
Piece Goods, Notions, and Other Dry Goods
Precious Stones and Metals, Watches and Jewelry
Religious Goods Stores
Sewing, Needlework, Fabric, and Piece Goods Stores
Shoe Stores
Sporting Goods Stores
Sports and Riding Apparel Stores
Stamp and Coin Stores
Stationary, Office Supplies, Printing and Writing Paper
Stationery Stores, Office, and School Supply Stores
Tent and Awning Shops

Tourist Attractions and Exhibits
Typewriter Stores
Uniforms, Commercial Clothing
Used Merchandise and Secondhand Stores
Variety Stores
Video Amusement Game Supplies
Video Game Arcades
Wholesale Clubs
Wig and Toupee Stores
Womens Accessory and Specialty Shops
Womens Ready-To-Wear Stores

Frequently Asked Questions:

Q: What is the billing address of my card (for online purchases)?
A: The address you submitted when you filled out the verification form.

Q: Is my Pebble Fund taxable income?
A: No. The funds are not income to you or your business.

Q: Are there limitations on my card use?
A: Yes, you are limited to $50 per week, $200 total spend.

Q: Does the remaining stipend roll over to the next week? For example, if I only spent $10 in the first week, can I spend $90 in the second week?
A: No. You should spend each $50 in the designated period. See the next section for details.

Q: How do I activate the card?
A: Our team will activate the cards through Stripe on October 28th.

Q: Can I complete the weekly survey before spending $50 (but I plan to use $50 later)?
A: No. You should use your stipend first and then fill out the survey.

Q: What do I do if I have issues using my card?
A: Please reference the allowed merchant types and if you still cannot make purchases, contact support@buildersandbackers.com

Weekly Survey

The payment is provided upon the weekly survey completion and the tour. **After you spend $50 each week**, please fill out the survey we will send to your email address. It will take about 5 minutes and can be completed from any location using your computer or phone. Simply log in to our system at a time that is convenient for you.

Specifically, please follow the timeline below:

- **1st payment ($50):** October 28th (Monday) at noon – November 3rd (Sunday) at 6 pm
  - **1st weekly survey:** will be sent out on October 28th (Monday) at noon, and will be closed on November 3rd (Sunday) at midnight
- **2nd payment ($50):** November 4th (Monday) at noon – November 8th (Friday) midnight
  - **2nd weekly survey:** will be sent out on November 4th (Monday) at noon, and will be closed on November 8th (Friday) at midnight
- **3rd payment ($50)**: November 11th (Monday) at noon – November 17th (Sunday) at 6 pm
  - **3rd weekly survey:** will be sent out on November 11th (Monday) at noon, and will be closed on November 17th (Sunday) at midnight
- **4th payment ($50):** November 18th (Monday) at noon – November 24th (Sunday) at 6 pm
  - **4th weekly survey:** will be sent out on November 18th (Monday) at noon, and will be closed on November 24th (Sunday) at midnight

Please also note that **if you do not spend your payment during the designated period, it will not be rolled over**. You should spend each $50 within the specified timeframe if you would like to.

A Guided Tour

- Date: November 9th, Saturday
- Time: 9:45 am – 1:45 pm
- Pick-up and dropped off Location: Tulsa Community College Parking Lot

Lunch will be provided, and vegan/vegetarian options will be available.

Questions?

This project is facilitated by a team of researchers and Downtown Tulsa Partnership. If you have any questions or needs, there are a couple ways to reach out:

- By email to the entire team at tulsaresearchteam@gmail.com
- By phone or email to Daniel Jackson at Downtown Tulsa Partnership at daniel@downtowntulsa.com and 918-221-8642
- By phone or email to Emily Scott at Downtown Tulsa Partnership at emily@downtowntulsa.com and 918-221-8635

Thank you for considering this opportunity to contribute to neighborhood revitalization research in Tulsa and to help make our communities thrive. We look forward to your valuable participation!

Thank you,
Downtown Tulsa Partnership

C Intervention Script

Initial Stop: Hello everyone. Thank you so very much for joining us today on our Tulsa Tour and for participating in this research project. My name is _____, and I will be your tour guide for today's tour. To ensure that all groups are receiving the same experience I will be reading from this script for the duration of today's tour. Today we are going to experience two exciting and growing districts of the city as we get outside of our downtown bubble. We will be going on a tour of areas within North and East Tulsa. Along the way we will stop at two "vendor fairs" to highlight some intriguing businesses on the North and East side and to give you an opportunity to sample some tasty treats and speak with vendors from around Tulsa.

As we are a large group I would ask that folks refrain from asking questions along our tour, and wait until we are off the bus. With that, let's head out!

To be read at the intersection of 1st and Greenwood: We are now at the intersection of the heart of historic Greenwood. Just over there is the intersection of Archer and Greenwood Ave. Fun fact, there is a famous Tulsa born Funk band you may know called the GAP Band. Well GAP stands for Greenwood, Archer, and Pine which are the three main streets of historically Black Tulsa. Normally we would get a bit closer but there is currently an exciting new music festival, Dreamland feast, occurring and they have blocked off some roads.

I'm sure we all know a little bit of history regarding Greenwood and the Tulsa Race Massacre but for those who may not, this historic Greenwood District was once one of the busiest hubs of commerce in all of Tulsa. Hundreds of black owned businesses operated here, from barber shops and grocery stores to dance halls and accounting firms. Commerce in Greenwood boomed prior to the 1921 Race Massacre, the events of which you can learn more about in Greenwood Rising (the building to our right), and boomed a second time through the 50's and 60's before Urban renewal policies led to the district's second downfall. The old brick buildings you see in the Greenwood District were primarily constructed in the mid to late 1920's after the events of the Tulsa Race Massacre, and they are today owned by the Black Wall St Chamber of Commerce!

Today the Greenwood District is undergoing a second renaissance along with much of North Tulsa. What was once, as recently as the early 2000's vacant shop space, is now booming with new businesses. There are great coffee shops like the black wall street liquid lounge. Exciting book stores like Fulton St Books. Delicious soul food at Sweet Lisas. And the best sneaker shop in town at Silhouettes Sneakers. And don't forget the tasty treats at

Cobbler Mom's pie shop!

Now we will make our way a bit further North to explore more!

To be read in the parking lot of Oasis Fresh Market: We are now near the intersection of Peoria and Pine, just North of downtown. The longtime Tulsan's amongst you may be aware that for much of the recent past, North Tulsa has been a food desert. After years of urban renewal policies, neglect from city spending, and general disenfranchisement, the North Tulsa community was left without a full time grocer. As you can see around us, much of what filled in after the grocers left were large scale chains and fast food restaurants. Dollar stores also began to move in to fill the grocery gap, but of course national chains and dollar stores pull money out of the North Tulsa community. That changed in May of 2021 when Oasis Fresh Market opened! This is the first full service grocer in North Tulsa in over 14 years and the first black owned grocery store in Tulsa in over 50 years. Oasis seeks to provide a true community for the residents of all of Tulsa to come and purchase nourishing food serving a mission. The neighborhood has also taken the unique step of putting a moratorium on the constructions of new "Dollar Store" facilities in North Tulsa, to ensure that more dollars are kept in the community. Spending dollars locally keeps dollars local!

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To be read in the parking lot of 36th St North Event Center: We are now three miles north of downtown at the intersection of 36th St N and Peoria. This is the core of the second renaissance of North Tulsa. At the intersection we just crossed you can see the future

of North Tulsa being built. You'll notice we passed a new apartment complex, the ground floor of which will soon be filled with local businesses. The large field at the northeast corner of the intersection is home to the new Comanche Housing Development, reinvigorating the neighborhood with 500 units of affordable, mixed income housing. Finally, you may have noticed some wooded open land to the east as we were driving in. That is home to the Peoria Mohawk Light Industrial Park. It consists of over 100 acres of land that is available for development for light manufacturing facilities. The land is free so long as the incoming businesses meet certain pay standards and agree to hire a certain percentage of their workforce directly from the North Tulsa community. We are now at the 36th St North Event Center. Inside we have arranged for some vendors from North Tulsa to come and share their stories and some samples with you. Feel free once you enter to grab a plate and roam around, talk with vendors, and try some samples. There are also restrooms inside. We will be here for about 40 minutes before we load back on the bus. Now, let's go explore!

ENTER THE VENDOR FAIR

To be read in the vendor fair when it's time to get back on the bus: Hey there everyone! I hope you've been enjoying your time here and the wonderful samples. We are now going to load back onto the same bus we were originally on. Let's all load up!

To be read once the bus is loaded: Alright everyone. I hope you enjoyed getting to interact with some of our North Tulsa business owners. We will now head towards our next touring stops in East Tulsa!

EAST TULSA TOUR

To be read at Plaza Santa Cecilia: We have now arrived in East Tulsa's Global District! Just a 12 minute drive from the core of downtown, the Global District is home to many of Tulsa's vibrant immigrant communities. The district boasts recent immigrants from Latin America, East Asia, Myanmar, and throughout the middle east. In fact, many folks don't know but Tulsa is home to the largest population of Burmese folks anywhere in the world outside of Myanmar. We also have a growing population of Afghan refugees.

This diverse melting pot of Tulsa is truly an exciting and growing part of our city. East Tulsa is also one of the newer portions of our great city. Whereas much of downtown and midtown was constructed in the early 1900's, most of the East Tulsa of today began truly growing in the 80s and 90s.

We are currently just outside one of the commercial hubs of East Tulsa, the Plaza Santa Cecilia mall. Within Plaza Santa Cecilia is a walking mall filled with restaurants, bars, and vendors of all kinds. This space also includes an events space where the local community hosts everything from weddings to quinceaneras. This center also serves as a transportation hub for incoming visitors. Every day three to four buses come in and depart from Plaza Santa Cecilia bringing in visitors from Mexico and taking Tulsan's to visit family over the border. Much of what you'll find inside is of Mexican heritage, but you don't have to speak Spanish to enjoy it!

We'll now head to our next stop!

To be read at Supermercado Morelos: We are now outside Supermercado Morelos. A staple of Oklahoma's hispanic community, this statewide chain was started by the Ibarra Family in 2003, who immigrated to Oklahoma in search of a better life from Mexico. They now have 11 stores across the State, with 5 here in Tulsa alone. Supermercado Morelos focuses on keeping their communities history and traditions alive, while increasing access for all of Tulsan's to Mexican and Latin American foods. In fact, their slogan is "Viva La Tradicion" (Long Live Tradition). Each Supermercado also has a delicious taqueria inside, where you can grab a bit whilst shopping around.

While we all love our Reasors, Walmarts, and Trader Joes, the East side of town has a much greater variety of local grocers that provide cultural authenticity and a unique flavor to the Global District!

To be read at Nam Hai Grocer: We are now outside Nam Hai Grocer and Oriental Food Market, one of the most unique grocery stores in all of Tulsa. Don't let the facade fool you, once inside you'll realize Nam Hai is massive. A true testament to the diversity of the global district, Nam Hai has cuisines from around the world. Specializing in snacks, produce, and food from China, Korea, Vietnam, and East Asia Nam Hai has everything from produce, to interesting foreign snacks, to homegoods. Within Nam Hai, customers can also see the fusion of cultures that the Global district is known for. Spanish music is often playing on the radio and you'll find shelves where the food labels are in both Spanish and Chinese!

Next to Nam Hai you'll also see Pho Ni, one of the vendors you'll be interacting with shortly! Across the street is Pancho Anaya, a delicious local Mexican bakery with three locations throughout Tulsa. It's in places like this that you can see the Global District at its finest. Local businesses abound, run by long-time Tulsans and immigrants alike.

We will now head to our final East Side Stop at Hannah Hall!

To be read when departing the bus: We are now at Hannah Hall. Inside we have arranged for some vendors from East Tulsa to come and share their stories and some samples with you. Feel free once you enter to grab a plate and roam around, talk with vendors, and try some samples. We will be here for about 40 minutes before we load back on the bus. Now, let's go explore!

ENTER THE VENDOR FAIR

To be read in the vendor fair when it's time to get back on the bus: Hey there everyone! I hope you've been enjoying your time here and the wonderful samples. We are now going to load back onto the same bus we were originally on. Let's all load up!

To be read once the bus is loaded and the tour is finished: Alright. We will now complete our driving tour and head back to our cars!

To be read before getting off the buses: Thank you all so very much for participating in today's Tour of Tulsa! I truly hope you enjoyed getting to see a bit more of our incredible city and learning a bit about the people and businesses that inhabit it. You are now free to depart. Please remember to continue to fill out your surveys and to spend down your cards each week as best you can. Have a wonderful rest of your weekend!

D Orientation Survey

2. Main Survey

[**Basic Demographics**]

1. What is your

   (1) Name: _____

   (2) Email: _____

   (3) Phone number: _____

   (4) Current zip code (five digits): _____

2. What is your sex?

   (1) Male

   (2) Female

3. What age range do you fall into?

   (1) 18-24 years old

   (2) 25-34 years old

   (3) 35-44 years old

   (4) 45-54 years old

   (5) 55-64 years old

   (6) 65+ years old

4. Which of the following best describes your race?

   (1) White

   (2) Black/African American

   (3) American Indian/Alaska Native

   (4) Asian/Pacific Islander

   (5) Other race/Two or more races

5. Which of the following best describes your ethnicity?

    (1) Not Hispanic

    (2) Mexican/Puerto Rican/Cuban

    (3) Other

6. What is the highest level of education you have completed?

    (1) Less than high school

    (2) High school / GED

    (3) Some college (but without degree)

    (4) Associate's degree

    (5) Bachelor's degree

    (6) Graduate or professional degree

7. What is your marital status?

    (1) Single

    (2) Married

    (3) Divorced/Separated

    (4) Widowed

8. Does your household own any vehicles (cars/trucks/motor vehicles)?

    (1) Yes

    (2) No

[**Working Characteristic**]

9. What is your employment status?

   (1) Self-employed

   (2) Working for wages

   (3) Unemployed, but searching for a job

   (4) Not in the labor force

10. What is your pre-tax wage and salary income during the past 12 months?

   (1) Less than $15,000

   (2) $15,000-$24,999

   (3) $25,000-$34,999

   (4) $35,000-$49,999

   (5) $50,000-$74,999

   (6) $75,000-$99,999

   (7) $100,000-$149,999

   (8) $150,000-$200,000

   (9) Over $200,000

11. What is your working industry?

   (1) Agriculture, Forestry, Fishing and Hunting

   (2) Mining, Quarrying, and Oil and Gas Extraction

   (3) Utilities

   (4) Construction

   (5) Manufacturing

   (6) Wholesale Trade

   (7) Retail Trade

   (8) Transportation and Warehousing

   (9) Information

   (10) Finance and Insurance

   (11) Real Estate and Rental and Leasing

   (12) Professional, Scientific, and Technical Services

(13) Management of Companies and Enterprises

(14) Administrative and Support and Waste Management and Remediation Services

(15) Educational Services

(16) Health Care and Social Assistance

(17) Arts, Entertainment, and Recreation

(18) Accommodation and Food Services

(19) Other Services (except Public Administration)

(20) Public Administration

12. What is the approximate breakdown of the percentage of time you spend working in each location (The total should be equal to 100%)?

    (1) Your office: (_____%)

    (2) Your home: (_____%)

    (3) Cafes/bars: (_____%)

    (4) Co-working spaces: (_____%)

    (5) Other: (_____%)

13. How many hours do you work per week on average?

    (1) 0 hours/week

    (2) $<$ 40 hours/week

    (3) $\geq$ 40 hours/week and $<$ 50 hours/week

    (4) $\geq$ 50 hours/week and $<$ 60 hours/week

    (5) $\geq$ 60 hours/week

[**Tulsa Experience**]

14. Were you born in Tulsa?

    (1) Yes

    (2) No

15. Do you currently live in Tulsa?

    (1) Yes

    (2) No

16. Did you go to college in Oklahoma?

    (1) Yes

    (2) No

17. Have you ever lived in Tulsa?

    (1) Yes

    (2) No

18. Are you a member of Tulsa Remote?

    (1) Yes

    (2) No

19. How long have you lived in Tulsa in total?

    (1) Less than 6 months

    (2) More than 6 months, but less than 1 year

    (3) More than 1 year, but less than 3 years

    (4) More than 3 years, but less than 5 years

    (5) More than 5 years, but less than 7 years

    (6) More than 7 years, but less than 10 years

    (7) More than 10 years, but less than 15 years

    (8) More than 15 years, but less than 20 years

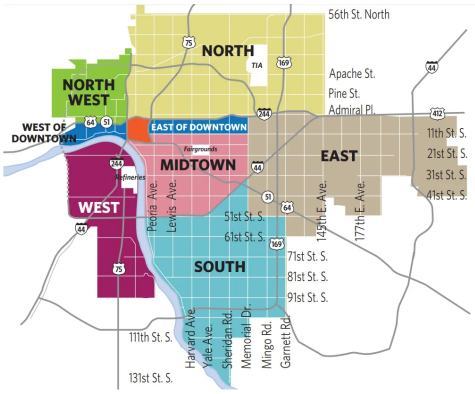
    (9) More than 20 years, but less than 30 years

    (10) More than 30 years

Downtown Tulsa



Tulsa Metro



20. How often do you visit the following areas?

    Please feel free to change the map if there are better versions (I took some from the DTP report).

In Downtown area:

	Never	1/month	2-4/month	1-2/week	3-5/week	6-7/week
(1) Tulsa Arts District	☐	☐	☐	☐	☐	☐
(2) Historic Greenwood District	☐	☐	☐	☐	☐	☐
(3) Arena/Medical District	☐	☐	☐	☐	☐	☐
(4) Deco Disstrict	☐	☐	☐	☐	☐	☐
(5) Blue Dome District	☐	☐	☐	☐	☐	☐
(6) East Village	☐	☐	☐	☐	☐	☐
(7) Cathedral District	☐	☐	☐	☐	☐	☐
(8) Gunboat Park	☐	☐	☐	☐	☐	☐

In the city of Tulsa and Tulsa metro:

	Never	1/month	2-4/month	1-2/week	3-5/week	6-7/week
(1) North	☐	☐	☐	☐	☐	☐
(2) North West	☐	☐	☐	☐	☐	☐
(3) West	☐	☐	☐	☐	☐	☐
(4) Midtown	☐	☐	☐	☐	☐	☐
(5) East	☐	☐	☐	☐	☐	☐
(6) South	☐	☐	☐	☐	☐	☐
(7) Broken Arrow	☐	☐	☐	☐	☐	☐
(8) Owasso	☐	☐	☐	☐	☐	☐

21. If you are not visiting some areas above less than 2-4 times per month, what would be the most likely reasons? (Check multiple if applicable).

    (1) Distance

    (2) Time

    (3) Lack of Familiarity

    (4) Financial cost

    (5) Safety

    (6) Other (please specify): _____

[**Consumption/Time**]

22. How often do you participate in the following activities during your leisure time? Please mark your answer below.

	Never	1/month	2-4/month	1-2/week	3-5/week	6-7/wee
a. Going out to restaurants/bars	☐	☐	☐	☐	☐	☐
b. Sports activities	☐	☐	☐	☐	☐	☐
c. Watching TV at home	☐	☐	☐	☐	☐	☐
d. Volunteering for local organizations	☐	☐	☐	☐	☐	☐
e. Attending social/religious meetups	☐	☐	☐	☐	☐	☐
f. Shopping	☐	☐	☐	☐	☐	☐

23. In a given week, what percentage of your groceries do you usually purchase in person, as opposed to online? _____ %

24. Among those, what are the top 3 grocery stores you use most often? (Please write the exact name of the store – for example, ALDI, The Fresh Market, etc. If you don't have anymore, please feel free to leave it blank.)

    (1) _____

    (2) _____

    (3) _____

25. What are the top 6 restaurants/cafes/bars you visit most often? (Please write the exact name of the place – for example, Chimera Cafe, Dilly Diner, Starbucks, etc. If you don't have anymore, please feel free to leave it blank.)

    (1) _____

    (2) _____

    (3) _____

    (4) _____

    (5) _____

    (6) _____

26. Other than grocery stores and restaurants/cafes/bars, what are other top 3 places you visit most often? (Please write the exact name of the place – for example, Skelly Field at H.A. Chapman Stadium, Gathering Place, Woodward Park and Gardens, First Baptist Tulsa, Philbrook Museum of Art, Tulsa City County Library, Magic City Books.)

    (1) _____

    (2) _____

    (3) _____

27. In a given week, how much do you spend on your groceries?

    (1) < $20

    (2) $20-$49

    (3) $50-$99

    (4) $100-$149

    (5) $150-$199

    (6) $200-$249

    (7) $250-$300

    (8) Over $300

[Attitude Toward Diversity and Inclusion]

28. We would like to ask you how much you trust people from various groups. Could you tell us for each to what extent you trust people from this group (using a 7 to 1 scale where 7 means "trust completely" and 1 means "not at all")?

	← Trust completely 7	6	5	4	3	2	Not at all – 1
(1) Your family:	☐	☐	☐	☐	☐	☐	☐
(2) Your neighborhood:	☐	☐	☐	☐	☐	☐	☐
(3) People you know personally:	☐	☐	☐	☐	☐	☐	☐
(4) People you meet for the first time:	☐	☐	☐	☐	☐	☐	☐
(5) People of another religion:	☐	☐	☐	☐	☐	☐	☐
(6) People of another nationally/ethnicity:	☐	☐	☐	☐	☐	☐	☐

29. Please indicate how well each of the following describes you (using a 7 to 1 scale where 7 means "very much" and 1 means "not at all"):

	← Very much						Not at all →
	7	6	5	4	3	2	1
(1) Outgoing:	☐	☐	☐	☐	☐	☐	☐
(2) Helpful:	☐	☐	☐	☐	☐	☐	☐
(3) Reckless:	☐	☐	☐	☐	☐	☐	☐
(4) Friendly:	☐	☐	☐	☐	☐	☐	☐
(5) Active:	☐	☐	☐	☐	☐	☐	☐
(6) Open-minded:	☐	☐	☐	☐	☐	☐	☐
(7) Adventurous:	☐	☐	☐	☐	☐	☐	☐

30. People behave differently in different situations. We'd like to know your willingness to take risks in the following areas. Using a 7 to 1 scale where 7 means "fully prepared to take risks." and 1 means "unwilling to take any risks"

	← Very willing						Not at all willing →
	7	6	5	4	3	2	1
a. While driving:	☐	☐	☐	☐	☐	☐	☐
b. In financial matters:	☐	☐	☐	☐	☐	☐	☐
c. During leisure and sport:	☐	☐	☐	☐	☐	☐	☐
d. In your occupation:	☐	☐	☐	☐	☐	☐	☐
e. With your health:	☐	☐	☐	☐	☐	☐	☐
f. In meeting new people:	☐	☐	☐	☐	☐	☐	☐
g. In tasting new food:	☐	☐	☐	☐	☐	☐	☐
h. In visiting new places:	☐	☐	☐	☐	☐	☐	☐

[**Social Connection**]

31. Do you participate this survey with anyone you know? Please select all that apply below.

    (1) By myself

    (2) With my spouse/partner

    (3) With my kids

    (4) With other family members (parents/siblings)

    (5) With my friends

    (6) With my work colleagues

    (7) Other: _____

32. If you chose "(2)-(4)" to question #26, could you list their names? (If you do not have, please leave it blank.)

    (1) _____

    (2) _____

    (3) _____

    (4) _____

    (5) _____

33. If you chose "(5)-(7)" to question #26, could you list their names? (If you do not have, please leave it blank.)

    (1) _____

    (2) _____

    (3) _____

    (4) _____

    (5) _____

E Weekly Survey

3. Weekly Survey

Thank you for logging into this survey. We appreciate your valuable time. If you have any questions, please feel free to reach out at

- tulsaresearchteam@gmail.com
- Emily Scott: emily@downtowntulsa.com / 918-221-8635
- Daniel Jackson: daniel@downtowntulsa.com / 918-221-8642

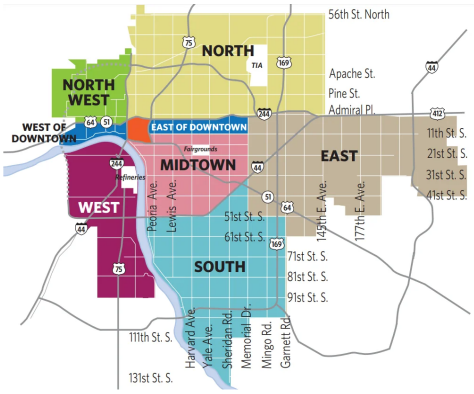
Please answer the following questions based on your experience regarding the stipends we distributed for you to use from **Monday (10/28) at noon** to
Sunday (11/3) at 6 pm.

Important!

- After you finish using your card (up to $50) for the first week, please fill out this survey. This way, you will receive an additional $50 for the following next week.
- However, please do NOT fill out the survey until you finish using your card.
- You need to fill out this survey by Sunday (11/3) midnight

1. What is your
   (1) First Name: _____, Last Name: _____
   (2) Email: _____
2. Did you use the $50 stipend distributed this week?
   (1) Yes (I used all $50)
   (2) Some (Less than $50 but more than $30)
   (3) Some (Less than $30 but more than $0)
   (4) Not at all
3. If you chose (2)-(4) in Question #2, what is the most likely reason? (Select all that apply.)
   (1) I did not have enough time to use the stipend.
   (2) I did not find anything I wanted to buy.
   (3) I forgot to use it.
   (4) I was traveling.
   (5) Other: _____

(b) Tulsa Metro



(a) Downtown Tulsa



4. Where did you use it? Please rank the top three from the options below. (If you do not have three, please feel free to leave the rest blank.)

   (1) Midtown (in Tulsa Metro)
   (2) North, East (in Tulsa Metro)
   (3) Northwest, West, South (in Tulsa Metro)
   (4) Tulsa Arts District (in Downtown)
   (5) Historic Greenwood District (in Downtown)
   (6) Arena/Medical District (in Downtown)
   (7) Deco District (in Downtown)
   (8) Blue Dome District (in Downtown)
   (9) East Village (in Downtown)
   (10) Cathedral District (in Downtown)
   (11) Gunboat Park (in Downtown)
   (12) Broken Arrow/Owasso
   (13) Somewhere else

Top 1. _____

Top 2. _____

Top 3. _____

5. Why did you spend your stipend in these places the most?

(1) I had specific items in that area that I wanted to purchase.

(2) I wanted to visit some vendors/shops/places in that area.

(3) It was close to my work/home or on my way.

(4) I followed my friends/family members/partners/colleagues.

(5) Other: _____

6. For the top three (based on your answer to Question #4), will you visit these places again?

	Definitely I will	Maybe I will	I am not sure	No
(1) Your Top 1 to Question #4	☐	☐	☐	☐
(2) Your Top 2 to Question #4	☐	☐	☐	☐
(3) Your Top 3 to Question #4	☐	☐	☐	☐

7. If you did answer "Definitely I will" or "Maybe I will" to any of Question #6 from (1) to (3), please list your top three places that you would like to visit again among those where you spent your stipend. (Please write the exact name of the place – for example, Chimera Cafe, Dilly Diner, Starbucks, etc. If you don't have anymore, please feel free to leave it blank.)

Top 1. _____

Top 2. _____

Top 3. _____

8. If you did not pick certain areas listed in #4, what would be the most likely reasons? (Check multiple if applicable, or not).

In Downtown Tulsa:

	Distance	Lack of Time	Familiarity	Financial cost	Safety	Others
(1) Tulsa Arts District	☐	☐	☐	☐	☐	☐
(2) Historic Greenwood District	☐	☐	☐	☐	☐	☐
(3) Arena/Medical District	☐	☐	☐	☐	☐	☐
(4) Deco Disstrict	☐	☐	☐	☐	☐	☐
(5) Blue Dome District	☐	☐	☐	☐	☐	☐
(6) East Village	☐	☐	☐	☐	☐	☐
(7) Cathedral District	☐	☐	☐	☐	☐	☐
(8) Gunboat Park	☐	☐	☐	☐	☐	☐

In the city of Tulsa and Tulsa metro:

	Distance	Time	Lack of Familiarity	Financial cost	Safety	Others
(1) North	☐	☐	☐	☐	☐	☐
(2) North West	☐	☐	☐	☐	☐	☐
(3) West	☐	☐	☐	☐	☐	☐
(4) Midtown	☐	☐	☐	☐	☐	☐
(5) East	☐	☐	☐	☐	☐	☐
(6) South	☐	☐	☐	☐	☐	☐
(7) Broken Arrow	☐	☐	☐	☐	☐	☐
(8) Owasso	☐	☐	☐	☐	☐	☐

9. With whom did you spend your stipend for shopping/eating/drinking? (Select all that apply.)

   (1) By myself
   (2) With my spouse/partner
   (3) With my kids
   (4) With other family members (parents/siblings)
   (5) With my friends
   (6) With my work colleagues
   (7) Other (please specify): _____

10. If you chose "(2)-(4)" to question #8, does/do the person/people who you go with also participate in this research project?

    a. Yes
    b. No
    c. Mostly, yes
    d. Mostly, no
    e. For some of them, yes, but for others, no
    f. I do not know

11. If you chose "(2)-(4)" to question #8, could you list their names? (If you do not have, please leave it blank.)

    (1) First Name: _____ Last Name: _____
    (2) First Name: _____ Last Name: _____
    (3) First Name: _____ Last Name: _____
    (4) First Name: _____ Last Name: _____
    (5) First Name: _____ Last Name: _____

12. How many days do you work from home on usual week?

    (1) Not at all
    (2) 1 day/week
    (3) 2 days/week
    (4) 3 days/week
    (5) 4 days/week
    (6) 5-7 days/week