

# Google Reduces Traffic through Effective Behavioral Science

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May 28, 2021

## **Executive Summary**

Google uses behavioral science to change employee's commuting habits from driving solo to sharing the ride by offering a microtransit pilot. Drive alone rate of employees during the pilot period in the areas that Via2G service was available decreased in the Sunnyvale campus from 53% to 46% and in the Mountain View campus from 42% to 39%. This drop is credited to studying commuters behaviors, habits, and real or perceived obstacles.

## **Background**

In 2020, Google announced plans to achieve carbon-free by 2030. One of the ways to reduce and eliminate carbon is by reducing carbon emissions generated by vehicle trips. Google's headquarters in Silicon Valley experiences high traffic congestion and parking demand, and Google has invested in extensive transportation demand management (TDM) for years to reduce solo-drive commutes to and from the office. In addition to an already robust set of TDM programs, behavioral science strategies are used to nudge behavior change of solo drivers to try and permanently convert to an alternative; as well as continue to support and maintain current commuters behavior who are already sharing the ride or biking to work.

At Google's Bay Area offices in Mountain View and Sunnyvale, parking is free and available first-come, first serve. In order to attract commuters to share the ride or bike to work, Google offers a suite of commute options and incentives. For example, Google operates a successful corporate shuttle program that transports over a third of its employees to work. However, commuter survey data shows that a large portion of its employees live nearby and tend to drive to work due to convenience and short travel time.

Google partnered with Via Transportation Inc. to launch a microtransit pilot that offered employees who live within 10 miles of their office an on-demand, curb-to-curb, shared-ride service. Though the service is not door-to-door, travelers only walk a short distance to get picked up. These shared rides are more efficient than traditional fixed-route shuttles that have been successful for long distance commutes, and convenient for those who desire a flexible commute schedule.

## **Executing with Behavioral Science**

Google has already completed research studies that indicated that many commuters drive to work because it takes less time than alternatives, it is more convenient and flexible, and necessary when they need to run errands during their commute. Behavioral science was considered throughout the process from planning and design to execution of this pilot to address some of these concerns.

### *A Frictionless Experience*

The pilot was set up to reduce friction for users, making the experience as seamless as possible. Similar to other commute options offered, this service is free of charge. The app offers on-demand ride service, is easy to use, intuitive for hailing a ride, and offers riders ADA accessibility and bike racks. The pilot offered clear communication with a list of frequently asked questions, and Google offered phone and email customer service. Part of the pilot is testing commuter's willingness to walk a short distance, which will be

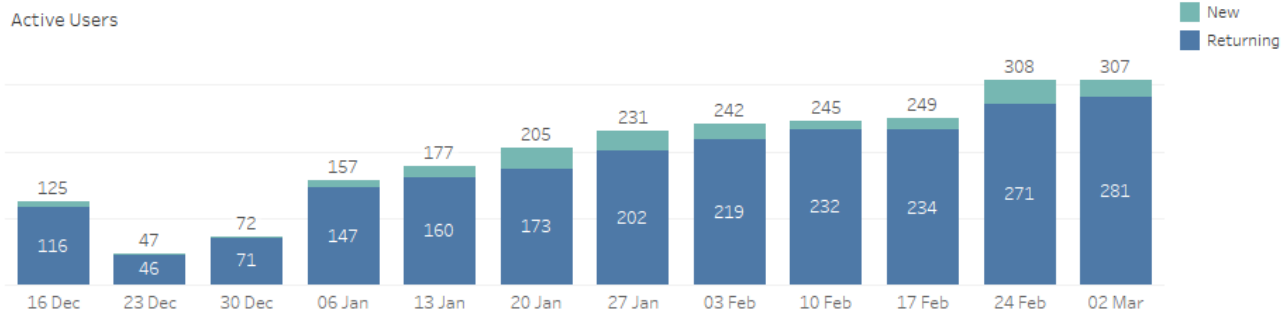
a change for those users who are accustomed to walking to their car. The short walk (programmed to be less than 400 meters or 0.25 miles), may vary in distance and location based on the time of booking.

*A/B Testing*

At the launch of the pilot, an invitation email was sent to employees to invite them to the pilot. Different messages were crafted to target the user's intrinsic motivation to share a ride, incite interest, and sign up for the service.<sup>1</sup> The three different messages were used for A/B testing to understand which one was more effective in motivating employees to sign up to learn more about the program. Since employee's exact home locations are unknown, users would have to sign up first to be notified when the service was available in their area. Of the three different messages, one based on time convenience and a stress-free experience, one based on reducing carbon footprint and sustainability Google's sustainability goals, and lastly one with a generic message acting as the control. These 3 emails were sent to 5,272 employees, with 45% of respondents showing interest in using the pilot to commute to work. Of those who responded, 35% responded to the stress-free and control message, while only 30% were from the sustainability message. The consistent response rate between the stress-free and control messages may indicate that the experiment and verbiage needed more variation and emphasis on the specific message. Another reason for the similar response rate may be that recipients were not particularly motivated by either messages - giving the need to better understand users priorities and drivers before the next campaign. Further analysis is also needed to determine which messages led to conversion of solo drivers to microtransit.

*Incentives for Continued Usages*

Users were encouraged and further incentivized to use the service beyond the first time. Behavior change requires time and multiple exposures before an action becomes a habit.<sup>2</sup> User's first experience may also not be as frictionless as their 5th or 10th experience. With that said, once a user has completed their 10th ride, they will receive a \$25 gift card to the Google merchandise store. 72% of 895 users took more than two trips, almost 300 users took more than 10 trips to reach this milestone during the pilot period. This incentive encouraged users to continue to use the service, as seen in this chart, allowing the program managers to focus on acquiring new users, rather than maintaining existing users. A marketing communications plan was formed to continue to engage with users who have not taken a ride or have only taken a few rides, but were never executed due to the pause in service. Additional experiments could be conducted with groups receiving no incentives (control group) or if the incentives were distributed to users after 20 or 40 rides for a more consistent habit towards this behavior change.



**Results of Successful Behavior Change**

During the pilot period, the drive alone rate of employees in the service areas decreased in the Sunnyvale office from 53% to 46% and in the Mountain View campus from 42% to 39%. The service never fully

launched in the designated zones and ended due the global pandemic and employees were required to work from home for an extended period of time. Google plans to continue to serve commuters in these areas with more microtransit options when commuters return to the office. Over 2,346 employees showed interest and signed up for the pilot, but only 974 users were eligible and downloaded the app. Of those users, 26% had not taken a ride and 36% have never requested a ride. This may be the result of users downloading the app to understand the service, but not ready to take a ride. Users may have attempted to book a ride outside of the service area or hours, 4% of trips requests were outside operating hours. The high number of interest indicates that commuters are interested in new commute options, and it is an opportunity for Google to provide options for users to help them get to work without driving solo.

For the full report on the pilot, visit <https://transweb.sjsu.edu/research/2002-Microtransit-Evaluation>.

## REFERENCES

1. Lessons Learned from Diverse Efforts to Change Social Norms and Opportunities and Strategies to Promote Behavior Change in Behavioral Health, National Center for Biotechnology Information, 2017, [www.ncbi.nlm.nih.gov/books/NBK475879/](http://www.ncbi.nlm.nih.gov/books/NBK475879/).
2. Maltz M. *Psycho-cybernetics*. New York, NY: Prentice Hall; 1960. [[Google Scholar](#)]