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Publication Date

2023

Peer reviewed|Thesis/dissertation

Shared & Equitable Micromobility in California: Recommendations for Public Agencies
and NGOs from expert observers' perceptions

By

JOUKE YPE RUUD PEUTZ
THESIS

Submitted in partial satisfaction of the requirements for the degree of

MASTER DEGREE OF SCIENCE

in

COMMUNITY DEVELOPMENT

in the

OFFICE OF GRADUATE STUDIES

of the

UNIVERSITY OF CALIFORNIA

DAVIS

Approved:

Stephen Wheeler, Chair

Dillon Fitch

Susan Handy

Committee in Charge

2023

Acknowledgments and Dedication

UC Davis Land Acknowledgement

We should take a moment to acknowledge the land on which we are gathered. For thousands of years, this land has been the home of Patwin people. Today, there are three federally recognized Patwin tribes: Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, Kletsel Dehe Wintun Nation, and Yocha Dehe Wintun Nation.

The Patwin people have remained committed to the stewardship of this land over many centuries. It has been cherished and protected, as elders have instructed the young through generations. We are honored and grateful to be here today on their traditional lands.

Thesis Acknowledgements

This research has been conducted thanks to my thesis committee at the University of California, Davis. Thank you to Prof. Dr. Stephen Wheeler, Prof. Dr. Susan Handy, and Prof. Dr. Dillon Fitch for your words of wisdom. The UC Davis Institute of Transportation Studies (ITS) has been incredibly supportive in providing a platform of experienced professionals that served as a foundation to explore this topic. A special thanks to the California Bicycle Coalition (CalBike) for supporting and advocating this work and my master's thesis. At last, a thank you to my friends, housemates (Matt, Mayowa, Ken), and family for learning alongside me.

Positionality Statement & Biases

Although land acknowledgments appear to be embraced by some California transportation agencies and organizations, the industry could benefit greatly from positionality statements or other reference(s) to highlight potential biases. This is especially of value when addressing a sensitive topic, like social equity, in our built environment. Providing such a statement can contribute to the transparency of knowledge and education. As argued by Martin et al, this should not simply be a “box-checking” exercise, but rather a deep engaging in the process of reflection which offers the opportunity to examine the impact of research decisions through the lens of social identities.¹ It is also important to keep in mind that these complex identities, whether from researchers' or other stakeholders' perspectives, can be subject to multiple and intersecting systems of oppression that may have compounded effects of discrimination.² Scholars, such as Dr. Crenshaw, have argued for over three decades that we should look at racial justice through the lens of intersectionality, a dynamic multifaceted view of racial theory.³ Positionality statements and reflection on equity are nothing new, but they are not yet standard practice in equity conversations.

“Let this be a call to action”.

¹ Martin et al, 2022

² Hampton et al, 2021

³ Santovec, 2017

My positionality is informed predominantly by privilege through heteronormativity, whiteness, able-bodiedness, neurotypicality, and other factors that generally allowed me to conform to the status quo. As a Dutch immigrant to the United States and Canada, I have been provided the opportunity to view our globalized society from a variety of perspectives and have been exposed to different norms, cultures, and languages. My lens on the marginalization and oppression in our society and built environment is limited. Only to a small degree have I been exposed to negative societal forces that one can face as an immigrant.

My experiences do not compare to those members of society who have encountered and have been burdened by discrimination based on race, gender, sexuality, or other societal categorizations. I have only witnessed people living in underserved communities, experiencing a lack of investments, displacing following gentrification, or living through other negative externalities within our physically urbanized environment. As a graduate student in community development and through my professional experience in the built environment, I feel it is appropriate to contribute my research to those who are underrepresented and underserved by our society. I do not see this paper or my experiences as "truth", but rather as a contribution to our understanding of our physical urban context and the social factors that bind it. Researchers and urban planners need to be transparent and open-minded to better understand how spaces can be designed for all people, regardless of class, status, or (non)conformity with the status quo.

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Abstract

In this research, I analyzed how California's government agencies may better assist the coordination and standardization of shared micromobility services run by private sector companies to better serve our marginalized communities. Previous work has found that shared micromobility services will not aid any disadvantaged community in a meaningful way without structural changes to our large-scale housing issues and integration of micromobility systems to other (mass) transit services on a state and/or regional, in contrast to local, scale.

Through the literature analysis, I identified micromobility research themes. I then conducted semi-structured confidential interviews with 10 expert observers in both public and private sectors on-the-record (transcripts attached) and several more off-the-record (transcripts not provided) and used the literature themes to analyze and compare the interview material.

Interviewees overall strongly believed that both urban planners and shared micromobility operators should develop long-term plans with government agencies to better incorporate micromobility services in our built environment. Representatives of both government agencies and operators expressed concerns about the "*here today and gone tomorrow*" culture of these companies. Interviewees on the operational side believed that without designated operational zones or changes in funding structures, they will be unable to make long-term guarantees or investments in communities. I

concluded that regional transportation planning agencies, or Metropolitan Planning Organizations (MPOs), need to play a much larger role in the development of shared micromobility in California. I found interviewees were open to pivoting these services towards a true type of "*public*" transportation service. This might mean, for example, the operators could be ceding control to the government in exchange for guarantees of contracts and funding and ending current practices under which, as an example, municipalities may make only short-term commitments of as little as one year, with operators essentially asked to perform ongoing public services.

Lastly, although micromobility services may currently be explored by different agencies and (local) governments, there are no clear policies that explicitly combine housing (or land-use), equity, and shared micromobility services. Based on the findings, I argue it is essential to have the state and MPOs develop policies to influence long-term decision-making on local housing, land-use, and alternatives to driving, which would support shared micromobility services. Most important to note is that this has the potential to benefit disadvantaged communities. Respondents in this research believed micromobility services would benefit from such broader structural changes.

Introduction

There has been an increase in focus on equity throughout the entire transportation and planning field in California. Whether it be large scale state agencies or small non-profits, organizations dedicate funds, programs, and workgroups to better-serving disadvantaged communities. In shared micromobility services, whether that be bike, scooter, or other vehicular platforms, there has been such emphasis on an equity lens as well. Additionally, although micromobility services may currently be explored by different agencies and (local) governments, I found that there are no clear policies that explicitly combine societal challenges, such as we experience with housing (or land-use), equity, and shared micromobility services.

This paper is geared towards any person interested in the societal equity gap, but its specifically intend is to serve as a framework for an equity conversation in the field of transportation, its subset field of active transportation, and its even smaller subset of shared micromobility services. From this lens, we need to question whether previous equity efforts or conversations are and have been successful. Whether we're talking about concerns or discrimination based on gender, sex, race, or other factors, such societal concerns are in the public domain, yet they have been asked to be solved throughout the private sphere with, for example, venture capital funds. Thus, I ask in this paper how California's government agencies may better assist the coordination and standardization of shared micromobility services, which to readers less familiar are

often run by private entities. The main goal is to better serve marginalized communities, or whichever definition of equity one even uses in the first place.

Background

At the outset, it is important to understand why it is urgent to focus on equity in shared micromobility services. Since the mass-manufacturing of the automobile, California has been an auto-centric state. Alternative visionary active transportation projects, like the 1898 California Cycleway, which almost connected Pasadena to Los Angeles based on a pathway indigenous people had traveled on for centuries, were abandoned as the biking infrastructure seemed unpractical, and costly, and made way for the growing city.⁴ As the state of California now attempts to advocate for cycling and other forms of active transportation, it has been known that stepping away from the car has not only direct benefits to households constrained by a car-dependent system, but also benefits the community in both tangible and intangible ways.⁵

In California, there are great challenges trying to fit car-alternative mode-shares back in the cities. As funds and programs like the Active Transportation Program (ATP) from the California Department of Transportation are meant to help make this shift by

⁴ Pasadena museum of history, 2017

⁵ Handy, 2020

“...making California a national leader in active transportation”⁶, the question remains if decision makers are exploring those avenues effectively, and realistically, especially regarding our equity efforts. It has been easier to find examples of the willingness of, for example, local government or state agencies to explore shared micromobility systems and equity goals than it has been to track or trace concrete results and plans.

“We will continue to increase investment in our bicycle and pedestrian travel network, as well as rail and transit, leverage new technologies to develop a more seamless multimodal system, and create greater access for historically underserved communities.” (Caltrans, 2021) ⁷

Shared micromobility services, whether that be e-scooters, bikes, or e-bikes, have nationwide been on the rise. In 2019, 40 million trips were made on station-based bike share systems (including both pedal & e-bikes) and 96 million trips were made on dockless e-bikes (10 million trips) and scooters (86 million trips).⁸ That same year, 109 cities had dockless scooter programs, a 45% increase from the previous year.⁹ During the covid-19 pandemic, these mode shares reduced at relatively lower rates compared to other modes and are said to have made promising recoveries in various

⁶ Caltrans, 2022

⁷ Caltrans, 2021

⁸ NACTO, 2019

⁹ NACTO, 2019

cases.¹⁰ Some systems, like the Chattanooga Bicycle Transit System, actually saw record-high ridership in the midst of the pandemic.¹¹ Bike Share Toronto closed 2020 off with 2.9 million trips and the highest membership rate in its 10-year history.¹² Despite the pandemic, dockless bikeshare and e-scooter systems expanded coverage and as of July 2022, there are now 45 dockless bikeshare systems and 300 e-scooter systems nationwide.¹³ In California, there are programs like Bay Wheels, which offers over 7,000 bicycles (both traditional bikes and hybrid electric bikes) at 550 stations in the Bay Area.¹⁴ This partnership between the Bay's Metropolitan Transportation Commission (MTC) and Motivate (a subsidiary of Lyft) offers: *"...convenient, healthy, climate-friendly transportation around the Bay Area"*.¹⁵

Although companies that provide shared micromobility services like Lyft, Lime, former Jump (later acquired by Uber, then by Lime), Razor USA, and others that either started or are still based in the San Francisco region, California has relatively few regions with programs on the United States Department of Transportation (DOT) interactive shared-bike and e-scooter map when compared to less-populous states on the East

¹⁰ Bureau of Transportation Statistics, 2021

¹¹ Chattanooga, 2021

¹² Bike Share Toronto, 2021

¹³ Bureau of Transportation Statistics, 2022

¹⁴ MTC, 2022

¹⁵ MTC, 2022

Coast by the total number.¹⁶ Meanwhile, California now ranks 4th place in the annual ranking of Bicycle Friendly States by the League of American Bicyclists.¹⁷ The state also spends about \$24 billion on transportation for which only roughly 2% goes to active transportation.¹⁸ This is a considerably poor outcome given that if the state were a country, the \$3.1 trillion economy would be the fifth largest in the world.¹⁹ In contrast, much smaller economies, like the Netherlands, are spending \$1.2 billion on just cycling alone.²⁰

Of course, it is complex to make or justify such comparisons, given that the Netherlands spends a lot on cycling per capita given its (just recent) history. Nevertheless, it does indicate the long road California, in its entirety, has ahead if it wants to continue to truly increase active transportation modes and utilize strong verbiage of such commitments. Additionally, the Caltrans Division of Research has indicated that researchers have not yet thoroughly examined the potential of bikeshare to solve the spatial gap between affordable housing and transit.²¹ And with rapid climate change on the horizon, time is of the essence.

¹⁶ BTS, 2022

¹⁷ CalBike, 2022

¹⁸ Lyft, 2022

¹⁹ Forbes, 2019

²⁰ Fietserbond, 2022

²¹ DRISI, 2022

Furthermore, when one discusses equity in California, it is important to remember that it was not only explicit laws, policies, or regulations, such as sundown towns, redlining, or exclusive covenants, that marginalized communities throughout the state. As researchers at UC Davis have expressed, there is a need to recognize that transportation systems are complicit in perpetuating racial injustice and segregation.²² They have historically provided access and speed to privileged populations while neglecting Black, Indigenous, and people of color (BIPOC) populations, where community members and their descendants have shared these stories.²³

Transportation and freeways, on a large scale, have been major planning tools to physically segregate black and white communities and auto-focused projects have a clear relationship to the displacement of people of color. Highways built to service suburban housing for predominantly white populations were built over or through historically Black and Latinx communities in many cities, often cutting those communities in half and decimating the livability of their built environment.²⁴ Examples can be found from the San Francisco region to communities in Los Angeles, as

²² McCullough et al, 2019

²³ McCullough et al, 2019

²⁴ McCullough et al, 2019

mentioned in Estrada's "*If you build it, they will move*" in which the right-of-way displacement and the East-Los Angeles freeway project shine a light on Mexican Angeleno Displacement.²⁵

Various studies on environmental initiatives have found gentrification to follow the greening of our urban areas.²⁶ This "greenlining" Californians have encountered may as well be argued to be a modern-day example of unequitable past urban practices, such as redlining, if professionals are not cautious in the approach. There already is evidence of low-income communities, people of color, and migrant communities facing various forms of climate injustice in the global North.²⁷ This is important to recognize as public funds designated for environmental and equity resolutions, from local air districts or large entities like the California Air Resource Board (CARB), can and have been utilized to fund shared micromobility projects under the sustainable umbrella or agenda. For example, in 2022 the CARB Board approved a far-reaching \$2.6 billion investment plan, which includes alternative mobility options, bikes, and reserves \$381 million for clean transportation equity projects.²⁸

²⁵ Estrada, 2005

²⁶ Rigolon et al, 2022

²⁷ Anguelovski et al, 2019

²⁸ CARB, 2022

Continuing on the intersection of environment, equity, and transportation, in California specifically, the Transportation Justice (TJ) movement developed from the Environmental Justice (EJ) movement, which stems from the broader Civil Rights movement in the United States.²⁹ As Martins argues, there's a need for an analytical framework in transportation that can be used to aid practitioners, analyze the state of a transportation system, and identify interventions that move the system closer to an equitable system in our society.³⁰

One could critique or argue the significance of shared micromobility services and their relevance to equity in a larger societal context, as there are not readily available datasets on its effectiveness or relationship to equity concerns. However, other similar operating shared-ride or shared-vehicle service platforms can highlight this importance by using equity reports in Mobility as a Service (MaaS) platforms. For example, a multi-institutional research study of 1,500 rides taken in Seattle and Boston found that Uber drivers in Boston were over twice as likely to cancel rides of passengers with names perceived to be of African American origin versus Caucasian names.³¹ In addition, drivers took women on longer, more expensive rides, African-

²⁹ Vanoutrive et al, 2019

³⁰ Martins, 2016

³¹ Shaheen et al, 2017

American travelers waited on average 20 percent longer than Caucasian travelers to have their ride accepted on Lyft or UberX, and it took about 30 percent longer for African-American travelers to be picked up than Caucasian travelers using UberX.³² Of course, ride-hail services of this type are not directly comparable to micromobility, but one should not be blind to the social inequities that may go paired with MaaS platforms as transportation may shift away from privately owned vehicles.

As mentioned earlier, the state DOT is already exploring the intersection of active transportation and equity. To further establish the important relationship between equity and shared micromobility at a local level, cities have been found to recognize the potential for e-scooters and other options to reduce not only congestion and carbon emissions, but have also explored these options for the cost of mobility for residents and transit inequity.³³ Micromobility has also been poised to promote equity in our built environment by improving services to low-income and underserved communities as they are said to require minimal infrastructure requirements and since they can be quickly deployed in low-service urban regions.³⁴ Service providers, too, have provided riders around the country the options to participate in reduced-fare

³² Shaheen et al, 2017

³³ National League of Cities, 2019

³⁴ National League of Cities, 2019

bikeshare and shared scooter equity programs.³⁵ These operators prioritize social equity and GHG reductions in their business models, encouraged by social responsibility and pushed by strong sustainability policies and operational requirements from all levels of government.³⁶

Simultaneously, researchers have argued that a lack of dedicated physical infrastructure has led to some safety hazards with micromobility services and that some cities have therefore simply banned micromobility services outright. This has been argued to cause frustration to residents who feel deprived of the benefits that micromobility services can offer.³⁷ The US DOT has also released a report which highlights that despite the adoption of environmental justice, citizen participation initiatives, open meeting laws, and other social policies designed to increase transparency and reduce disparities in planning processes and outcomes, transportation inequities persist across income, racial, and ethnic groups.³⁸ This report also highlighted that the effectiveness and credibility of bike-share programs rely on having more tangible outcomes.³⁹

³⁵ Lyft Multimodal Report, 2022

³⁶ Shaheen et al, 2021

³⁷ Fitch et al, 2021

³⁸ Smith et al, 2015

³⁹ Smith et al, 2015

In summary, California is currently allocating just a small fraction of its transportation budget to active transportation projects. Meanwhile, various California agencies and departments work on improving societies' sustainable goals and mitigating negative environmental impact through various channels, including active transportation and equity goals. For example, both CARB and Caltrans have explicit verbiage on alternative transportation modes and equity-focused improvements. It is already known that freeways and right-of-way displacements have been a major topic of large-scale gentrification well beyond the local urban scale. The intersections of environment and equity in the field of transportation are strong, especially in California. Just recently, there have been a lot of changes surrounding shared micromobility, including indicated promising recoveries after the COVID-19 pandemic in shared micromobility systems.

Finally, there's some evidence that suggests micromobility services have the potential to promote equity in the built environment. Thus, although there's no one-size-fits-all solution to climate change and equity concerns, integrated shared micromobility services could help guide California toward its goals. However, this may require a structural change from various urban scales and contexts.

Purpose

Despite attempts to address social equity concerns with our shared micromobility services, talking to professionals in the industry, here in California, out-of-state, and

abroad, has led me to the impression these platforms are not as successful in California as these could be. Therefore, I have posed the following question in this paper: *How can California's government agencies better assist the coordination and standardization of shared micromobility services through private sector companies to better meet the needs of disadvantaged, underrepresented, or historically marginalized, communities?*

Since the majority of this research is based on inductive and normative reasoning, this study will vary from most (quantitative) research articles in that it is less focused or narrowed down and rather a value judgment surrounding my topic. Nevertheless, I do expect to find that there generally needs to be better collaboration between various layers and scales of government. I also expect that more specific and measurable goals need to be set in timely intervals (for example: short-term versus long-term). Additionally, I also expect to find that there are no clearly defined or accurate data to support claims that current equitable and social programs in shared micromobility systems are indeed effective in the long-term in the state of California. At last, it may also be found that the definitions of what makes up equity, community, or how these topics are perceived by the participant will vary largely based on personal experiences and backgrounds.

Methods

This research will be conducted through the:

- 1) Empirical literature review and analysis of themes
- 2) Semi-structured interviews per theme
- 3) Personal participant observations (attached in the appendix)

Because of the complexity and variety of shared micromobility systems and the diverse policies, regulations, etc. affecting them, I focused predominantly on existing literature regarding the most common shared vehicles in California: bicycles and scooters. I then concluded some main concepts or re-occurring themes from the literature and utilized these to structure the semi-structured interviews with informed observers. The process of selecting the themes wasn't done by using coding software or other rigid means, but simply by analyzing trends through various publications and conversations with people in the transportation field.

The interviews served to gather qualitative data to better understand some of the "behind the scenes" of shared micromobility and in particular its equitable, or non-equitable, components. I interviewed 13 individuals from varying backgrounds, careers, and types of involvement in facilitating or understanding shared micromobility services, of whom 10 agreed to have interview transcripts appended to this thesis. These individuals included urban planners, service operators, and professionals from the public sector, private sector, and non-profit realm.

I selected the interviewees through a snowball process emphasizing key stakeholders who attended professional conferences on this topic, outreach on social media, word-of-mouth, and by cold-calling potential participants. In the process, I was careful to include interviewees from diverse backgrounds and disadvantaged communities. Overall, I aimed to include people with varying personal backgrounds, ethnicities, and sexualities, as it is crucial to draw on multiple perspectives when conducting research and advocacy.⁴⁰ Nevertheless, this relatively small sample of professionals is of course limited in its scope.

The interviewed participants were chosen on a completely voluntary basis. Each participant is anonymized, was free to deviate or skip over the semi-structured questions, and has been provided the opportunity to see the questions ahead of time, if desired. The interviews are a summation of opinions and experiences from high-profile professionals in the shared micromobility and transportation sector and some of the participants have identified themselves as marginalized groups based on race, gender, sexual preference, or other factors. These persons are all familiar with California's political environment and have been active in capacities that give them the opportunity to share details on our social climate that are difficult to gather from

⁴⁰ McCullough et al, 2019

existing literature. Due to the sensitivity of some of the conversations and with respect to their public profiles, all participants are anonymized and labeled “Guest 1 through 10”. The full, but redacted, conversations are available in the appendix to provide complete transparency in the process.

Finally, the personal participant observations (attached in the appendix) were meant to test some of these themes through attempts to utilize shared vehicles in trips that would otherwise have been completed by car or other modes. Not only can these trips provide supplemental information, but they are also a testimony to a genuine approach to equity components of shared micromobility. It is my personal opinion that the gap between research and the field is often too large. Therefore, I have selectively replaced my own “conventional” trips with micromobility services so that I could understand real-life contextual factors or nuances in the system and its environments.

Materials and Data

The materials used contained mostly digital audio and written documents which were processed on an Asus GL552vw laptop with graphic software and Microsoft Office products. I created semi-structured interview questions in advance for conversations that took place either virtually or in-person. The interviews were recorded and stored in a secure space, anonymized, and transcribed with all important identifiers removed. The unedited (but anonymized) transcripts have been attached in the appendix upon completion of the interviews to provide access and transparency. For the participant observations, photos and notes have been collected during the travel experiences.

Empirical Literature Review

My review of the literature around shared micromobility, summarized in the Background section above, yielded certain themes and trends that are crucial to understanding some of the complexities of making shared micromobility truly equitable. These main themes are listed below:

- 1) The Nature of Micromobility Users
- 2) Barriers Beyond the Cost
- 3) Transit-Integration and Network Thinking
- 4) Data Opportunities and Limitations
- 5) Regional Context (& Housing policy)
- 6) Local Context (& Infrastructure)
- 7) Funding Structures and Opportunities
- 8) Defining Shared Micromobility and its Operators

The Nature of Micromobility Users

Active transportation mode shares have seen a significant rise in the past few decades as cycling to work more than doubled in Chicago and Portland, while cities like San Francisco and Minneapolis saw similar increases during the 1990s.⁴¹ Amidst the findings of increased ridership, research still finds that women and racial minorities are

⁴¹ Golub et al, 2016

overall underrepresented as cyclists in North America.⁴² A report from the National Institute for Transportation and Communities (NITC) concluded that consistent patterns of fear, anxiety, and stress were reported by both women and minorities when navigating public spaces.⁴³ Meanwhile, it is equally important to note that not only white men remain the predominant group of active transportation users. Between 2001 and 2009, the Latin population saw the highest rates of bicycle commuting and African Americans grew their rate of bicycling by a factor of two, while the white population of commuters only rose by 22%.⁴⁴ Meanwhile, it is safe to assume that the actual situation is much further out of proportion as low-income and Black, Indigenous, and people of color (BIPOC) populations are likely to be systematically underrepresented in transportation datasets.

When planners look at shared micromobility systems, it is hard to determine who is riding as the demographic data is not uniformly collected or standardized by shared micromobility operators.⁴⁵ There are some organizations, like the North American Bikeshare and Scootershare Association (NABSA), which have started early structures for data centralization and standardization in an effort to create more equitable and

⁴² Lubitow, 2017

⁴³ Lubitow, 2017

⁴⁴ Golub et al, 2016

⁴⁵ NACTO, 2019

sustainable transportation ecosystems.⁴⁶ There is more information about this in the data section of this paper. However, one important aspect of shared micromobility services is that although urban planners love to see users replace car-trips with scooters and bikes, in some cases these services are used more commonly around the world for leisure trips, mostly in the evenings and during the night.⁴⁷ Of course, this will vary case-by-case, system type, region, and city.

Research on public bike share systems in Canada has shown that program members tend to be male, Caucasian, employed, and have higher educations and incomes compared to the general population in those cities.⁴⁸ In the Netherlands, research also highlights that these users tend to cycle a lot, use a car below the average, and are younger and higher educated.⁴⁹ This has also been supported by NACTO as they reported that surveys conducted in the cities of Santa Monica, CA, San Francisco, CA, Minneapolis, MN, Baltimore, MD, and Austin, TX suggest that the user base of scooter share trends overall younger, and male than the general population.⁵⁰ There also have

⁴⁶ Mobility Data, 2022

⁴⁷ Geržinič et al, 2022

⁴⁸ Hosford et al, 2018

⁴⁹ Geržinič et al, 2022

⁵⁰ NACTO, 2019

been indications that those who have used shared modes previously are considerably higher than the ones for those who have not.⁵¹

There have been general concerns that public bicycle share programs are potentially further disadvantaging populations that may already experience inequities in our built environment.⁵² From a local city level, it is hard to determine trends based on ethnicity due to the different build-ups of cities. For example, scooter usage amongst Baltimore's Black population is in proportion to the overall population of the city and disproportionately higher for White residents. Meanwhile, in the DC-region scooter-usage is less common for Black residents and consistent with the population share for White residents.⁵³ However, as McCullough highlights, aside from inviting BIPOC or other members of marginalized groups to the table, there's a need to recognize that they have created their own tables, too.⁵⁴

Bike share has alternatively also been argued to have the potential to benefit disadvantaged communities by providing new mobility options.⁵⁵ This has been demonstrated in recent surveys that have indicated that although lower-income

⁵¹ Rojas, 2021

⁵² Hosford et al, 2018

⁵³ NACTO, 2019

⁵⁴ McCullough et al, 2019

⁵⁵ McNeil et al, 2018

populations and people of color (POC) are not represented in the current bike-share systems compared to higher-income white residents, they have been found to be just as interested in using these shared services in the future.⁵⁶

Aside from using terms like “income” or “race” in the analysis of shared micromobility services to determine which communities need to be better served, there are many more marginalized communities and factors. We also need to understand that the issue for public policy is not whether race or class is responsible for the current plight of blacks in the United States, but how race and class interact to undermine the well-being of this group.⁵⁷ It was very hard to find any literature on the effects of, for example, pilot programs providing shared micromobility services to a community and potential positive or negative outcomes when the pilot has ended, let alone long-term outcomes. In some cases, the definition of marginalized may also be different than is initially assumed.⁵⁸ This is where researchers or professionals involved in shared micromobility systems seem to vary with definitions. It is also concerning that some researchers are not always aware of how they phrase important equity concepts or components. For example: *“... E-scooters are not an active travel mode since no*

⁵⁶ McNeil et al, 2018

⁵⁷ Massey, 2019

⁵⁸ Golub et al, 2016

physical effort is required to go around..."⁵⁹ Although this may be an arguably "small" mistake, as the researcher for this particular article later on argues the importance of equity, it is extremely important to understand that researchers have a large responsibility to reflect nuances and complex equity components of shared micromobility.

Barriers Beyond the Cost

The first issue is that although docked shared systems (predominantly bicycles) have been decently analyzed in the United States, there's just a limited number of studies focusing on equity problems for dockless systems.⁶⁰ It has been reported that for such docked systems, there has been a lack of stations in disadvantaged areas and that the employment rates and job opportunities are low in these areas, which negatively affects ridership.⁶¹ In general, it has been studied and argued that reducing the costs of memberships, offering cheaper single-trip rates, and allowing for free trial days could reduce the barrier for non-users and lower-income communities to try public bicycle share.⁶² This primary focus on cost can be argued to be appropriate as

⁵⁹ Alberts, 2021

⁶⁰ Qian et al, 2020

⁶¹ Qian & Jaller, 2020

⁶² Hosford et al, 2018

researchers at the TU Delft have found that in shared micromobility services (bikes, scooters, mopeds, etc) the travel cost is more important than travel time.⁶³

Operators often also get requested by local jurisdictions to offer programs to disadvantages communities in order to receive a permit in their region. For example, the 2018 Denver micromobility pilot required operators to file equity plans outlining how their services will be available to those without smartphones or those who are under-banked or un-banked, as well as to outline rate structures and discount programs for underserved populations.⁶⁴ Other operators, like Indego in Philadelphia, directly focused on attracting a diverse ridership from the outset. Of their 600 bikes in the bikeshare system, a third were placed in low-income neighborhoods when they launched in 2015.⁶⁵

Interdisciplinary scholarship on women and POC suggests that mobility in public spaces is constrained not just by the built environment, but by racial and gender inequalities.⁶⁶ There are also multiple barriers discouraging low-income individuals from securing memberships may result in the rate of trips made by annual members

⁶³ Torabi et al, 2022

⁶⁴ Murphy et al, 2021

⁶⁵ Smith et al, 2015

⁶⁶ Lubitow et al, 2019

ultimately being lower in disadvantaged areas than in other areas.⁶⁷ Most major micromobility providers offer company-wide equity programs, which are often available even in areas where they are not explicitly required.⁶⁸ Of course, one could speculate this may be due to the wide variety of requirements by local jurisdictions and the possible need to simplify corporate standards for effective operations.

However, this standardization is helpful as access to discount programs is often tied to enrollment with large national public assistance programs such as SNAP, Medicaid, or HUD Section 8.⁶⁹ A great example of the incorporation of such programs in California is the Bay Wheels program from the service provider, Lyft. In this service, Bay Wheels offers "*an affordable, accessible, and fun transportation option*" for Bay Area residents who qualify for CalFresh, SFMTA Lifeline Pass, or PG&E CARE utility.⁷⁰

Aside from the availability of these programs, however, non-users of bike- and scooter-share systems need to be aware these programs are available to them in the first place. It has been argued that the bikeshare program needs to promote more widespread uptake as social marketing has also been used for other transportation

⁶⁷ Qian & Jaller, 2020

⁶⁸ Murphy et al, 2021

⁶⁹ Murphy et al, 2021

⁷⁰ Lyft, 2022.

modes, such as bicycling, car sharing, and public transit.⁷¹ It has been demonstrated that POC and lower-income groups are less likely to learn about bike sharing via friends and family or by using other systems.⁷² In-person outreach is important, as the SFMTA reported in September 2018 that 20% of total JUMP Bike trips were from in-person rentals, which suggests that even users with little access to smartphones, or the internet for that matter, are still renting a JUMP Bike.⁷³ This is where the concept of “human infrastructure” extends bike infrastructure to include social elements such as attitudes toward transportation, fellow road users, and unofficial community-based efforts to support bicycling in a politically-charged landscape where race, gender, class, ability, and migration status limit freedom of mobility.⁷⁴

Although the cost has often been a well-addressed barrier in equity programs, a survey in Canada indicated that this was only a deterrent to one-fifth of unlikely users.⁷⁵ Other deterrents included not having stations (for docked-systems) near destinations, weather, better alternative transportation options, lack of knowledge about how to use public bicycle share, the weight of the bicycles, and not having enough vehicles

⁷¹ Hosford et al, 2018

⁷² McNeil et al, 2018

⁷³ Qian et al, 2020

⁷⁴ McCullough et al, 2019

⁷⁵ Hosford et al, 2018

available.⁷⁶ Recent research from the ITS at UC Davis identified equity issues with respect to the station structure of docked shared bike systems and their accessibility.⁷⁷ Additionally, they found that there is a need for bikeshare planners to better understand travel mobility needs (e.g., work commute and shopping) in disadvantaged areas and to better address accessibility and financial barrier issues.⁷⁸ However, it is clear that commuting is an important trip purpose for bikeshare usage, especially for disadvantaged areas.⁷⁹

Some Dutch research suggested that when users can select a variety of vehicles, it seems that the demand for shared bikes is stronger and would be the first option at small multimodal hubs, even when increasing by 10% of its travel costs.⁸⁰ However, middle-aged users, people with low- to middle-level education, and women were said to be more likely to use shared e-scooters.⁸¹ Meanwhile, another Dutch article from the same region suggests that women show a more positive perception than men towards shared bicycles.⁸² Therefore, it is important to understand that variety in vehicle options should not be taken lightly and that usage does also not necessarily reflect

⁷⁶ Hosford et al, 2018

⁷⁷ Qian et al, 2020

⁷⁸ Qian et al, 2020

⁷⁹ Qian et al, 2021

⁸⁰ Torabi et al, 2022

⁸¹ Torabi et al, 2022

⁸² Rojas, 2021

vehicle preference. In California, transportation professionals do not yet seem to have many conversations about vehicle variations, based on conversations I have had. Neither policymakers nor operators seem to fully understand the issues surrounding legal implications on vehicle choices or services provided as they are paired with age restrictions. In my participant observations, I found that a major, yet undiscussed, barrier is the requirement of ensuring "*...that all of your guests are at least 18 years old....*".⁸³

There are jurisdictions that go beyond the standard financial incentives in a means to remove barriers and some cities require or provide cash payment options, materials in different languages, non-smartphone access, low-income discount programs, and geographic distribution to underserved areas.⁸⁴ For example, the city of Oakland made adaptive options a requirement for its e-scooter permit program in 2019. Lime, the operator, has provided e-scooters with a seat, intended for riders unable to use standing e-scooters.⁸⁵ In addition to direct program-based solutions, interventions that create opportunities for women and POC should also be integrated around the

⁸³ Lime, 2021

⁸⁴ Murphy et al, 2021

⁸⁵ Murphy et al, 2021

programs to allow for representation in all of the various spaces in which biking occurs, such as bike shops, volunteer organizations, etc.⁸⁶

Although there have been previous studies focused on understanding users of public bicycle share programs and their motivators and deterrents, decision-makers and transportation professionals need to better understand what marginalized users experience. For example, women are typically more likely than men to experience barriers accessing transit that meets their distinct travel behaviors.⁸⁷ Users can also experience multiple factors that increase their barriers to shared micromobility services. This is where the concept of *intersectionality* has yet to be introduced into the literature on TJ in shared micromobility services. It has been suggested that those with multiple marginalized identities face intensified barriers when interacting with transit systems, as many are confined to ethnic niches and experience additional language barriers.⁸⁸

At last, barriers do not only occur on the user-level of shared micromobility services, but also at the organizational structures of the transportation services. I have not found

⁸⁶ Lubitow et al, 2019

⁸⁷ Lubitow et al, 2017

⁸⁸ Lubitow et al, 2017

any articles addressing the concerns of equity conversations and the relationship to both representation and tokenism. However, it seems that operators do think about and comment on such concerns. For example, during the CalBike 2022 Summit in Oakland, Colin Hughes from Lyft summarized: *"...I think we have to acknowledge that there remain to be big challenges... even right now... this is not a very equitable panel in terms of its representation... we all felt a little uncomfortable about that.."*⁸⁹ Such awareness is positive, nevertheless, bike advocates have also been found to tokenize cyclists of color in their own attempt in trying to make themselves respectable in the eyes of their white, middle-class, culture.⁹⁰ This is an example of where there's space to explore best-practices in avoiding underrepresentation of marginalized communities and POC, yet, avoid misrepresentation, ingenuine approaches, or tokenism. Given the diverse population of the U.S., those interested in promoting cycling or micromobility should develop relationships with individuals and groups who occupy a different social identity than their own.⁹¹

⁸⁹ Lyft, 2022

⁹⁰ Golub et al, 2016

⁹¹ McCullough et al, 2019

Transit-Integration and Network Thinking

The relationship between bikeshare and transit is complex and highly dependent on trip types, building environments, and other factors.⁹² However, agencies have seen benefits with implementing and managing bicycle parking on their properties as reports have found that over 50% of docked bike users frequently linked bikeshare and transit trips.⁹³ It has also been reported through participant self-reports in 2021, 18% of all shared micromobility trips were for the purpose of connecting to transit in the US.⁹⁴ The MTC recently concluded that in 2022, Bay Wheels would be the 8th largest transit operator in the Bay Area and was 11th in 2019 in terms of trips.⁹⁵ Although that might also cause concern amongst transit operators in fear of competition, research at the TU Delft suggests that the presence of shared modes enhances the first and last-mile legs of public transport trips, hence improving overall coverage and accessibility of the public transportation system.⁹⁶ It has also been said that if multimodality with transit and shared mobility is encouraged and facilitated, complementary relationships would be expected to occur at a higher extent than if they are not.⁹⁷ An analysis of public transportation in Seattle also concluded that there

⁹² Jaller et al, 2023 (Unpublished Manuscript UCD ITS)

⁹³ Murphy et al, 2021

⁹⁴ NABSA, 2021

⁹⁵ MTC, 2022

⁹⁶ Rojas, 2021

⁹⁷ Rojas, 2021

is a considerable benefit to integrating public transit and shared micromobility services as it can address the gaps in first and last-mile connections and boost transit ridership by attracting more riders to the system.⁹⁸

When it comes to shared micromobility, the concern of the "*here today, gone tomorrow*" state of the industry has to be addressed as it creates an uncertain presence for the transit user, which makes it hard to rely on shared mobility and choose this as a sustainable mode.⁹⁹ Additionally, research from the ITS looked at the San Francisco region during the pandemic and indicated that bikeshare can substitute for public transit for various trip purposes.¹⁰⁰ Thus, legitimizing some of the basis of concerns of transit operators. That said, this confirmation of the viability of these systems makes it arguably more urgent for agencies to adopt these services. Some research in the Netherlands has also suggested that a large substitution impact may also help alleviate crowding problems in transit and can be considered as an extra service offered to increase the accessibility of the city.¹⁰¹

⁹⁸ Beale et al, 2022

⁹⁹ MTC, 2022

¹⁰⁰ (Unpublished research ITS on SF in pandemic)

¹⁰¹ Van Marsbergen et al, 2022

So far, some data suggests that e-scooter rides are replacing walking and biking more than they are replacing driving.¹⁰² In addition, it has been argued that e-scooter trips are approximately as active as auto trips, supporting the assertion that frequent e-scooter use that replaces other, more active trips could negatively impact the physical fitness of users over time.¹⁰³ Although on one hand problematic, this could be a positive indication if it meant multi-modal users are exploring the option of replacing their walk to- and- from transit hubs and using shared micromobility vehicles to supplement their overall trip.

There's also a need to consider the opportunity for connections with various types of micromobility vehicles as such connections including free transfers with public transportation have been viewed by marginalized communities as a program change that would make them more likely to use bike share.¹⁰⁴ This means that increased bike share interoperability with transit may be a path to improving bike share's attractiveness for these underrepresented communities.¹⁰⁵

¹⁰² Handy, 2020

¹⁰³ Sanders et al, 2022

¹⁰⁴ McNeil et al, 2018

¹⁰⁵ McNeil et al, 2018

It is also important to mention that specific transit combinations are more likely to succeed with shared services. The metro and train are seen as likely potential modes to be combined with shared modes, while the bus and streetcar seem to be less-likely in combination with these services.¹⁰⁶ Another aspect is that although professionals often refer to “first and last-mile” to observe or understand the potential for shared micromobility services, research from the Netherlands indicated that a majority of urban public transportation travelers prefer not to use a shared mode in the last-mile and rather walk.¹⁰⁷ Although this may not be the case for California, this particular view on shared micromobility may present some alternative thoughts on this transportation service. With recent announcements of the US federal investments in public transportation, researchers urge us to not only look at the potential for shared micromobility integration but also recommend transit agencies prioritize the integration of public transportation with active transportation networks.¹⁰⁸ Lastly, this has additionally, as previously, been mentioned to be important in integration with TODs. Research at UC Davis has investigated the feasibility of using bikeshare services

¹⁰⁶ Rojas, 2021

¹⁰⁷ Van Kuijk et al, 2021

¹⁰⁸ Beale et al, 2022

to bridge the gap between Affordable Housing Communities and transit services to help improve accessibility of the residents to different points of interest like healthcare, restaurants, or recreational destinations in the Sacramento region. Their multi modal simulation demonstrated the potential of minimizing the total travel time by introducing bike share stations in the network, although the share of bike and transit trips alone were not significant until at least 100 bike share stations were introduced.¹⁰⁹

Data Opportunities and Limitations

Public agencies typically seek some level of data reporting from micromobility providers operating in their jurisdictions. These can range from periodic ridership summaries to near-real-time records and GPS traces of individual vehicles, and can also include user surveys and information on other aspects of program participation.¹¹⁰ However, a report by the NITC stipulated that in our urban context with deep-rooted systemic inequity, transportation professionals must understand the contextual factors and approach data collection with sensitivity.¹¹¹ Despite the fact that shared micromobility systems have the great potential of increasing our knowledge about our transportation systems, health, carbon emissions, and other imaginable factors, there's a lack of a lot of basic data. The claims pro- shared micromobility based

¹⁰⁹ Jaller et al, 2023 (Unpublished Manuscript)

¹¹⁰ Murphy et al, 2021

¹¹¹ Lubitow et al, 2019

on potential environmental, economic, and health benefits of the systems actually have very little scientific evidence and studies to date to support them.¹¹² Some research also suggests that there's a need for greater access to user profiles, such as demographic information, as this would refine comparisons and provide additional resolution on travel behaviors for users from communities of concern.¹¹³

Currently, there are no requirements for micromobility rides to be included in National Transit Database (NTD) reporting.¹¹⁴ However, there are organizations like NABSA that have recognized the need for data centralization and many cities do require the General Bikeshare Feed Specification (GBFS) for use in navigation and trip planning apps.¹¹⁵ Just very recently and after a three-year partnership, NABSA has transferred the GBFS to the non-profit organization MobilityData.¹¹⁶ MobilityData now facilitates changes to two internationally used mobility data standards: the General Transit Feed Specification (GTFS) and the General Bike Feed Specification (GBFS). The transit data is used by over 10,000 transit operators in more than 100 countries. For shared micromobility, GBFS is used by over 30 operators in more than 40 countries.¹¹⁷ This

¹¹² Pelechris et al, 2017

¹¹³ Qian et al, 2020

¹¹⁴ Murphy et al, 2021

¹¹⁵ NABSA, 2021

¹¹⁶ MobilityData, 2022

¹¹⁷ MobilityData, 2022

data is also used by Live Transit Updates, a Google Transit service providing real-time transit updates to users of Google Maps.¹¹⁸ This potential for data to be used in a person-centered approach through these centralized dashboards does allow for transport planning aimed at providing sufficient accessibility to all ‘under most circumstances’ and implies analyzing the accessibility levels experienced by each person, following this person-centered approach, as argued to be an important component of Transportation Justice.¹¹⁹ However, the government could take more steps to require more large-scale integration with operators' data or regulating platforms like the GBSF or GTFS to ensure equity in the systems, rather than the laissez-faire approach.

Data has also previously been useful in determining whether the system is designed to operate in an equitable manner. For example, the city of Detroit found that micromobility operators concentrated their services in affluent areas, leaving traditionally underserved communities with service gaps in the services.¹²⁰ Another example is the LA Metro micromobility equity plan, where staff planned to monitor

¹¹⁸ Google Transit, 2022

¹¹⁹ Martens, 2016

¹²⁰ Murphy et al, 2021

metro stations in disadvantaged communities to determine if they were underserved by shared micromobility operators.¹²¹

There are some other concerns about the types of data collected and the purposes of the datasets. For example, the Los Angeles 2019 micromobility pilot program received critique as information collected was argued to generate revenue, rather than assist travelers, as critics found that the program offered a revenue share of \$1 per ride per day to cities.¹²²

Regional Context (& Housing Policy)

TJ movements have been found to point to the unfairness of both the production of the transportation and land use system in general and the organization and planning of transit services.¹²³ Higher densities and urban areas are a must for a profitable shared micromobility system. However, people from marginalized communities do not have good access to the shared micromobility systems, and it is also argued that they need these services the most.¹²⁴ Adding to this paradox is the direction of poverty concentration as it has been increasing in U.S. cities over time, with pernicious

¹²¹ Murphy et al, 2021

¹²² Dot.LA, 2021

¹²³ Vanoutrive et al, 2019

¹²⁴ Pelechrinis et al, 2017

consequences for minorities.¹²⁵ Housing and transportation are simply inseparable, especially when especially planners look at the urban environment through a social equity lens. That's why a lot of TJ & EJ work has focused on raising awareness around various structural issues, such as our job-housing imbalance and the lack of community involvement in transportation decisions.¹²⁶ This is necessary because, although urban planners understand this important relationship, scholars have noted that although transit planners in many urban areas respond effectively to the needs of commuting populations, this often also goes paired with the exclusion of low-income, disabled, or other marginalized riders.¹²⁷ Lastly, the segregation of neighborhoods and entire jurisdictions by race and class is largely invisible to the public agenda.¹²⁸

As argued by Stahl, public officials have enormous discretion and leverage over landowners, the political economy of land use decisions, the interaction between land use and climate change policy, and questions about racial segregation, gentrification, and displacement.¹²⁹ In California, urban planning from a land-use narrative is often done at the local level through our state-mandated general plans. However, looking at the scale of "the urban" and where the shared micromobility systems operate arguably

¹²⁵ Massey, 2019

¹²⁶ Vanoutrive et al, 2019

¹²⁷ Lubitow et al, 2017

¹²⁸ Wilson, 2006

¹²⁹ Stahl, 2021

well, one could find that especially large-scale systems operate well in dense metropolitan areas and large cities.¹³⁰ Simultaneously, this larger urban scale has also been argued to be important to address spatial racism as the regional dynamics allow for a better analysis of historical patterns of intentional segregation, trends of urban sprawl, privatization of public space, gentrification, devolution of federal government power, and increasing municipal fragmentation.¹³¹ And although I argue that land-use and transportation are undeniably linked to one another at a regional scale, transportation issues are found to be largely neglected in the existing land-use curriculum in the United States.¹³² So where does that leave California in transportation planning practices?

The Metropolitan Planning Organizations (MPO) are essentially development intermediaries for federally funded programs.¹³³ MPOs, therefore, do have a lot of leverage in dense urban or metro-region directions. It has already been argued that through these agencies, the government can address spatial barriers for disadvantaged communities by creating access to jobs through flexible (multimodal) mobility strategies, reducing costs of new infrastructure, creating positive spillovers,

¹³⁰ NABSA, 2021

¹³¹ Powell, 2009

¹³² Stahl, 2021

¹³³ Phillips & Pittman, 2014

and more sustainable development, such as through transit-oriented housing.¹³⁴ However, the relationship between land use and transportation gets messy as various planning-related organizational functions and responsibilities overlap between California's various MPOs.¹³⁵ Concurrently, as some local governments are understaffed, they have been argued not to adequately supply information that the MPOs need to evaluate progress.¹³⁶ Additionally, California's MPOs have been found to be limited by jurisdictional fragmentation in efforts to monitor land use developments and often refrain from using their knowledge of local land use for activities that local jurisdictions may perceive as scrutinizing local land use choices.¹³⁷ Meanwhile, TJ advocates contend that low-income communities and communities of color impacted by California's regional transportation planning agencies and investment efforts have been missing from the table.¹³⁸

From a legal perspective, California state law requires MPOs to develop regional land use plans for reducing automobile-focused development. However, the state does not give the MPOs any type of authority over local land-use for plan implementations.¹³⁹

¹³⁴ De Souza Briggs, 2007

¹³⁵ Sciara, 2020

¹³⁶ Sciara, 2020

¹³⁷ Sciara, 2020

¹³⁸ Vanoutrive et al, 2019

¹³⁹ Sciara, 2020

Meanwhile, the Federal Transit Administration (FTA) found that approximately 40% of Portland's transit-dependent households lived outside of the most transit-accessible areas of the metro area and about 10% of transit-dependent households lived in areas that ranked as lowest in accessibility.¹⁴⁰ Government organizations like the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG), and the Bay Area Housing Finance Authority (BAHFA) work together to plan for more affordable housing in metropolitan regions like the bay area with their 3P long-range strategy.¹⁴¹ MPOs like the MTC have simultaneously supported Bikeshare Capital Grant Programs, like Bay Wheels, but are meanwhile found to lack some powers to resolve local conflict. For example, a very recent operations committee update from the MTC argued that *"... MTC made a concerted effort to coordinate for a systemic roll out, however, a disagreement on contract terms among the participating cities led to separate agreements and e-bikes only launched in San Jose and San Francisco, and not on the same terms"*.¹⁴²

Research has shown that Latina women in Southern California experience more barriers on a metro-regional scale and that transportation initiatives are needed based

¹⁴⁰ Lubitow et al, 2017

¹⁴¹ MTC, 2022

¹⁴² MTC, 2022

on the needs of low-skilled workers, the intra-metropolitan division of labor, and affordable housing policies that enable workers to live closer to jobs.¹⁴³ If MPOs develop regional-scale land-use plans and transportation or equity needs are directly related to land-use, density, and the metro-region, it would naturally make sense to have an implemental component attached to these efforts. Unfortunately, as mentioned earlier, the state recently concluded that researchers have not yet thoroughly examined the potential of bikeshare to solve the accessibility gap between affordable housing and transit.¹⁴⁴

Local Context (& Infrastructure)

A pattern with local governments is to issue contracts for docked bike systems and to issue permits or licenses for dockless systems, while it is argued dockless systems have proven much more popular.¹⁴⁵ In addition, a lot of local governments are said to be hesitant about the potential impacts of dockless bikeshare systems, even though they are argued to provide improved mobility options, and possibly address equity barriers for disadvantaged and underserved communities and communities of concern.¹⁴⁶

Many jurisdictions continuously seek to limit the impact of micromobility by placing caps on the number of vehicles that can operate and requiring that deployed units see

¹⁴³ Joassart-Marcelli, 2009

¹⁴⁴ DRISI, 2022

¹⁴⁵ NITC, 2020

¹⁴⁶ Qian et al, 2020

a minimum level of utilization.¹⁴⁷ This is likely due to the “*ask for forgiveness, not for permission*” mentality of some operators. In response to e-scooters often appearing without governmental approval, cities acted swiftly and banished e-scooters, citing the lack of a business permit as the legal justification.¹⁴⁸ Some cities also issued cease-and-desist orders based on the municipality’s internal development of comprehensive regulations for the devices.¹⁴⁹

However, researchers at the ITS have argued that local governments should cooperate with bikeshare system operators to find a balance between equity and economic feasibility and to find the mechanisms to address the needs of the operators and the community at large.¹⁵⁰ The NITC has also concluded that regulations of the public right-of-way, including the street, the curb, and the sidewalk, are often in desperate need of updating after seventy years of local regulation primarily focused on the movement and storage of private automobiles.¹⁵¹ Thus, rather than solely focusing on the enforcement of vehicles and operators, updating the approaches of local government.

¹⁴⁷ Murphy et al, 2021

¹⁴⁸ NITC, 2020

¹⁴⁹ NITC, 2020

¹⁵⁰ Qian et al, 2022

¹⁵¹ NITC, 2020

Observing this from a safety aspect in shared micromobility systems, exposure of sufficient AT users would arguably increase road safety, following the concept of “safety in numbers”.¹⁵² Therefore, questioning the need for a cap is it would only delay that desired outcome. Thus, from a safety lens, potentially becomes a self-fulfilling prophesy of a “broken system”. Additionally, efforts to engage low-income communities and communities of color in bike sharing need to recognize that regardless of race or income, there need to be safe routes to nearby destinations, or bike share is not likely to be seen as reasonable or safe by the users.¹⁵³ Key findings from the literature on community engagement have also pointed out that local communities have invaluable expertise for bicycle projects and that well-executed engagement processes center community concerns and build on local assets, including community leadership and residents’ long-term commitment.¹⁵⁴ Surveys in Alexandria VA indicated that 53% of scooter users said that they prefer to ride in designated bike lanes over trails, sidewalks, and streets, and 88% of surveyed scooter users in Hoboken, NJ said they would ride in the street if protected bike lanes were present.¹⁵⁵

¹⁵² Jacobsen, 2015

¹⁵³ McNeil et al, 2018

¹⁵⁴ McCullough et al, 2019

¹⁵⁵ NACTO, 2019

Infrastructural barriers and social factors, such as one's experience biking, the associated costs, or one's perceptions of risk related to biking, impact cycling Behaviors and limit cycling trips.¹⁵⁶ Cities have been urged to broaden their policy aims beyond just micromobility to take a more comprehensive approach to ensure access to public rights-of-way.¹⁵⁷ There's a need for investment in appropriate infrastructure to support all AT mode shares. To support this further, research has already proven that adequate infrastructure supports local businesses and the utilization of the streets. For example, the addition of bike lanes on Magnolia street in Fort Worth has been reported to have increased restaurant revenues along the street by 179%.¹⁵⁸ E-scooter programs have also been argued to increase restaurant spending by approximately 4.4% representing an additional \$62 million in restaurant spending across the 298 cities operating shared micromobility in 2021.¹⁵⁹

When it comes to the well-known issue and argument of parking, some observations established that the vast majority (99.2%) of parked bikes and scooters did not block pedestrian access; while in contrast motor vehicles impeded access 24.7% of the time across the five case study cities.¹⁶⁰

¹⁵⁶ Lubitow et al, 2019

¹⁵⁷ Brown et al, 2020

¹⁵⁸ Pelechris et al, 2017

¹⁵⁹ NABSA, 2021

¹⁶⁰ Brown et al, 2019

The conversation gets more complicated when one looks towards gentrification as less affluent individuals and POC continue to experience displacement but under the guise of environmental improvement.¹⁶¹ Some studies have indicated that there is a clear positive impact of bikeshare on housing prices.¹⁶² Thus, this is a negative relationship with the equity aspects of our built environment.

Funding Structures and Opportunities

Because most transit services in California are public, many of the transportation justice efforts have focused on our fair use of public funding in public transportation systems.¹⁶³ However, a lot of the current shared scooter and bike services have been provided through the private sector by venture capital funds. The number of public and nonprofit systems represented only 42% of systems in the United States, which was a decrease from 2020.¹⁶⁴ Transit agencies have limited operational funds to invest in new service types, but some capital funds have been used to support micromobility infrastructure such as dedicated parking and bikeshare docks.¹⁶⁵ For example, Ford

¹⁶¹ Lubitow et al, 2019

¹⁶² Pelechrinis et al, 2017

¹⁶³ Vanoutrive et al, 2019

¹⁶⁴ NABSA, 2021

¹⁶⁵ Murphy et al, 2021

GoBike was originally funded by public funding from sources including the MTC and the Bay Area Air Quality Management District, which is public money.¹⁶⁶

If shared micromobility systems were to use state funds like the ATP from Caltrans (DOT), this system would have to comply with its strategy on equity and inclusion: "...Ensure that disadvantaged communities fully share in the benefits of the program".¹⁶⁷ Although much smaller in nature, funds like SACOG's Mode Shift program seek to further racial equity through projects and programs that directly reach and engage low-income, disabled, and/or communities of color to address their community's transportation needs.¹⁶⁸ However, simultaneously, as organizations like the FTA consider micromobility improvements to be "functionally related" to transit, it considers their eligible capital investments for FTA funding programs without the requirements that would go paired with transit services.¹⁶⁹

Government funds are sometimes allocated in the form of favor-type deals. For example, operators that meet certain performance requirements, including hitting vehicle utilization targets, providing vehicles in every part of the city, or demonstrating

¹⁶⁶ MTC

¹⁶⁷ Caltrans, 2022

¹⁶⁸ SACOG, 2022

¹⁶⁹ Murphy et al, 2021

a commitment to recruiting users or employees from disadvantaged communities, are rewarded with higher fleet caps, lower fees, or other incentives that help them reduce operating costs and boost potential margins.¹⁷⁰ For example, in Chicago’s scooter pilots, operators were required to rebalance at least half of their devices to both the south and west side “priority areas” daily, as many of those vehicles tended to end the day in more centrally located (and more affluent) commercial and entertainment districts.¹⁷¹

At the time of writing this paper, MPOs like the MTC are considering funding structures to continue supporting bikeshare capital grants like Bay Wheels (which is near the end of the contract). The MTC agrees that strategic public investments could assist the Bay region in better understanding what will be required to achieve a financially sustainable system in 2027.¹⁷² It is important for the government to continue exploring such collaborations as they may be of particular importance when defining integrated transportation systems with competing or overlapping services.¹⁷³ Additionally, there’s a need to continue the exploration of federal or state funds to support shared micromobility services as the benefits go well-beyond the more

¹⁷⁰ Murphy et al, 2021

¹⁷¹ Murphy et al, 2021

¹⁷² MTC, 2022

¹⁷³ Qian et al, 2022

obvious or direct benefits, such as an increased number of users. A study conducted by Colorado State University found that bikeshare systems in the United States result in \$111 million in health-related economic savings per 100,000 users.¹⁷⁴

Defining Shared Micromobility and its Operators

Arguably one big issue in successfully addressing equity concerns in shared micromobility platforms may be due to the general lack of understanding and legal description of both operators and vehicles. The State of California was the first to classify companies offering ride-hailing services as “transportation network companies” and designated TNCs as a separate classification under its Public Utilities Code, thereby retaining the state’s power to implement laws regulating the TNCs.¹⁷⁵ According to the California public Utilities Commission: “...*Transportation Network Companies (TNCs) provide prearranged transportation services for compensation using an online-enabled application or platform, such as smart phone apps....*”¹⁷⁶ Although that definition may seem fit or similar for micromobility service providers, this definition is from a legal stance reserved for car-based platforms. Meanwhile, there are also various micromobility operators, such as JUMP Bike, which are or were owned by TNCs such as Uber.

¹⁷⁴ NABSA, 2021

¹⁷⁵ NITC, 2020

¹⁷⁶ California Public Utilities Commission, 2022

Municipalities adopted broad definitions of “micromobility” and “shared micromobility” that regulate based on the impact of the transportation device, including low carbon intensity, accessibility, and safety.¹⁷⁷ Agencies often refer to shared micromobility in their transportation policies, but only sometimes refer to it in equity or public health policies.¹⁷⁸ Additionally, the definitions pertaining to shared micromobility are often broad and widely vary per jurisdiction. Aside from the ease of being able to define systems based on their operating platform or service, a specified legal description would allow the state government to create specific policies and legislation for this segment of the transportation sector. However, it remains to be seen how long this will take. For example, of the thirty-one states in the US that define e-bikes, only eleven have adopted a three-tiered speed limit classification for just the vehicles as the remaining nineteen states have not even distinguished e-bikes from other motorized vehicles.¹⁷⁹

In the public eyes, people tend to view bikeshare and scooter share systems as public services. For example, the California Bicycle Coalition identifies Bikeshare as “... a type

¹⁷⁷ NITC, 2020

¹⁷⁸ NABSA, 2021

¹⁷⁹ NITC, 2020

of public transit that gives the same mobility as individual private transport, without the public or private costs."¹⁸⁰ In the Netherlands, people have seen shared micromobility services since back in 2004 through its government-owned railway corporation and hosted from its train stations. This was implemented with the intent to increase the number of train riders on the Dutch railway system.¹⁸¹ *OV* is a Dutch abbreviation for *Openbaar Vervoer*, meaning public transportation, and *fiets* means bike in Dutch. This Dutch concept is literally a *public transportation bike* platform. The service was deployed in the Netherlands. Researchers have previously recognized the *OV-fiets* both as a bike-sharing system and as a hybrid form of bike share and bike rentals.¹⁸²

In California, micromobility services such as Spin, Bird, Jump, or most other platforms, tend to compare themselves to the local Herz, Budget car, Enterprise, or any other automobile rental corporation. This is also evident when using software applications to access transportation systems, as they require rental agreements with included waivers for the operator. For example: "...Operator requires that You ("Rider," "You," or "Your") ... agree to all terms and conditions in this Rental Agreement, Waiver of Liability and Release ...".¹⁸³ From a legal perspective, public transportation needs to

¹⁸⁰ CalBike, 2022

¹⁸¹ Grol et al, 2015

¹⁸² Grol et al, 2015

¹⁸³ Bird, 2022

comply with federal regulations like Title VI of the Civil Rights Act of 1964 (Title VI), 42 U.S.C. § 2000d et seq., and DOT Title VI regulations at 49 CFR Part 21, which are designed to ensure that no person in the United States, based on race, color, or national origin, is excluded from participation in, denied the benefits of, or otherwise subjected to discrimination under any program that DOT financially assists.¹⁸⁴ Transit agencies are federally required to ensure equitable access to their public transportation. As of now, there are no specific guidelines from the FTA on what exactly that means for partnerships with micromobility services.¹⁸⁵ The FTA does not interpret micromobility, including public bikeshare systems, as public transportation whatsoever.¹⁸⁶ Although programs may receive money from the government on both state and federal levels, this ultimately gives them the flexibility to deviate from federal regulations like Title VI.

Semi-structured Interviews

The previously mentioned themes were used to analyze the interviews and compare the findings to the conversations with the respondents. The following pages present

¹⁸⁴ US DOT, 2019

¹⁸⁵ Murphy et al, 2021

¹⁸⁶ Murphy et al, 2021

core messages through paraphrases that came through in lengthy conversations with each respondent (full transcripts are available in the appendix).

The Nature of Micromobility Users

1 (government, program manager)	We want to do deeper engagement and co-planning, co-creation, with communities to find out what they want.
2 (for-profit, service provider)	There has been much recent effort on involving disadvantaged communities. The successful programs have deep roots in their communities. However, there has also been a more recent trend to be recreational rather than utilitarian.
3 (for-profit, consultant)	Different users on vehicles can cause friction with other AT users. Students and tourists seem to be the predominantly interested parties in the systems. It is not certain if people are making a shift or if the vehicles draw from ride-hail users and pedestrians.
4 (for-profit, service provider)	Services did actively exclude marginalized communities or failed to serve them, but they did not have the explicit intend to do so. People at various levels of the organization were very much in favor of social equity in transportation. It was clear that lower-income people often used the service to earn wages with courier work. The variety in users (and use) is necessary for a self-balancing or regulating system. Wealthy individuals did not like the vehicles' image and use

	of space in the streets. It is important to note that service providers hire POC as field technicians.
5 (non-profit, service provider)	With e-bike libraries, we see a lot of older users from marginalized communities. The types of users do not only depend on the shared systems, but also on other parallel-organizations and cultures. People are currently not really using shared fleets to commute, more so for leisure and recreation.
6 (government, policy director)	People treat the vehicles badly (especially in California), not necessarily because they cause gentrification, but because they represent gentrification. By the time the bikeshare gets there, it's already too late for the community.
7 (non-profit, advocate)	Both users and non-users do not seem to treat the vehicles well, either because they don't know how to use them, or on purpose. Users seem to treat the vehicles better than non-users. However, disadvantaged communities don't feel like the vehicles are there for them. There's a lot of bad press people get exposed to due to shortfalls. Some users will try to hide vehicles because they are otherwise not available.
8 (non-profit, advocate)	A lot of users are not necessarily residents.
9 (government, program manager)	Unintended users have in the past used these shared vehicles in some private shared programs for employees, causing attrition. Most use is likely recreational.
10 (for-profit, service provider)	Non-profits involved with shared micromobility tend to be linked towards wealthier communities

	where people live in a walkable, bikeable, safe place and have the money for these things.
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When these responses are compared to the literature, one could understand the role that these services may have in a recreational rather than a utilitarian function, as discussed by Geržinič et al (2022). The use of these services is important as urban planners try to connect these services to local populations and local functions.

Additionally, the responses indicate that tourists may represent a significant group of users. This is important as local needs may not be accurately represented or reflected by users that are temporary in nature. Perhaps more important than understanding factors such as ethnicity or sex of users, income, and place of residence could better-reflect the effectiveness of transportation equity of these systems.

Regarding the concerns of shared-micro mobility potentially further disadvantaging populations, as argued by Hosford et al (2018), one could on one hand these services may indicate or highlight the disadvantages as they go paired with gentrification, as expressed in some conversations. However, on the other hand, it is not realistic to point to these services as a cause of these negative effects. As Lubitow (2017) argued, women and racial minorities are overall underrepresented as cyclists in North America. Comparing this to the responses, one could understand that trying to address equity in shared micromobility services amongst ridership may not be successful in the grand-scheme of social equity unless parallel organizations and cultural contexts surrounding these platforms also reflect the change.

Barriers Beyond the Cost

<p>1 (government, program manager)</p>	<p>We negotiated a free, low-income program for users and lower per-trip costs. At the standard low-income program, app users pay about 25% of the regular rider fees. Providers are trying to piggyback off of community events that are already happening to help get the word out about the low-income programs. We're hoping people would also get a discount for returning bikes to particular stations, but the operators switched ownership too often for that component. Agencies need to be more descriptive about where they want devices deployed to prevent over-deployment in certain areas.</p>
<p>2 (for-profit, service provider)</p>	<p>The further evolution and removal of barriers beyond the equipment led to various membership programs. Libraries are supposed to lower the burden on communities. Membership cards are used to provide easy cashless access, the mobile apps have taken over the means of access. Companies in the industry would emphasize everyone needs access, but are not able to. Need for rallying from local organizations to support access to the systems.</p>
<p>3 (for-profit, consultant)</p>	<p>Lack of proper infrastructure and investment is a large barrier from the provider side. Complaints from the public in public forums have been a driver for changing systems. Improvements in systems may be more reactionary than proper outreach or</p>

	consultation. Overall, there's a lack of communication as even people in the industry do not get informed. People need more ownership over the systems.
4 (for-profit, service provider)	Communities with higher rates of theft were excluded from service. Some wealthy areas are excluded from the service to avoid a "wealthy user image". Lower-income communities had more towing and parking citations issued by the local government. The service provider did not want to address concerns with government agencies unless they had to. Fares were raised during covid-19 pandemic and stayed high. Operators were very tolerant of violations of users.
5 (non-profit, service provider)	No discount rates for any specific users or disadvantaged communities as removal of income verification is supposed to lower barriers. Prices need to be low for all users to be effective systems. E-bike libraries are supposed to help more communities without existing bikeshare systems. Outreach in communities is done through farmers' markets, social media, video campaigns, and giving away annual passes at a 95% discount. Operators seem to be focused on improving language to lower barriers, but if these programs are not long-term, they don't work.
6 (government, policy director)	It is the regulatory framework that's not allowing for community input. Barriers mostly come down to larger-scale housing issues. With all these large-scale

	barriers, you're better off giving money to young people.
<p>7 (non-profit, advocate)</p> <p><i>"...People are not going to spend the time to fill out a survey ...and unfortunately, that's also just not the best way to be inclusive or equitable..."</i></p>	<p>People cannot rely on these systems because there are situations with a lack of vehicles. The vehicles in disadvantaged communities are often found broken, damaged, abused, and stored in improper places.</p> <p>We need more vehicles, but we also have issues with the creation of barriers to non-users by blocking sidewalks, etc. Communities do not remotely get involved enough. Communities currently don't have any ownership or at least a sense of ownership. Contact the pastors, community leaders, and business owners. We also need to take a closer look at the lowest and highest-paid employees of the systems and keep money in the community. Pilot programs should be free and no sign-up required. More important than initial contact and surveys is the follow-up and people will give equally important responses about other items as well. We need to be able to process less directly related content of surveys for the equity component.</p>
<p>8 (non-profit, advocate)</p> <p><i>"When I go through more disadvantaged"</i></p>	<p>We often don't know the quality of community outreach because we often only record outreach has been done. We may not be able to communicate true barriers if gentrification is a fear in the community. Some municipalities in California are charging people to park their bikes or scooters in a designated area (not specific to shared-use vehicles). Storage and cost shouldn't theoretically be</p>

<p><i>neighborhoods, I don't feel the same from the drivers, I just don't feel the same hostility...."</i></p>	<p>such an issue, but it is due to the larger scale barriers. Not everyone can easily become less car-dependent. The electrification of bikes and scooters is very positive for less bodily-abled people. Some of the police and privileged community members are not aware of current laws, causing confrontations with users. Users are very exposed to their environment. This can be a concern with racial discrimination. Hostility and entitlement of other road users may even be more of a barrier than infrastructure.</p>
<p>9 (government, program manager)</p>	<p>We neglect people's mobility if we don't change the infrastructure. Electrification makes the playing field more equitable. We use programs like Cal Fresh, PG&E low-income programming, and Pell Grants to qualify those who are disadvantaged. People don't know a lot of decisions on shared systems are discussed in a type of public forum through government (city council meetings, coalition government meetings..). We need to communicate with people through different methods than the typical government meetings with public comments. For example, playmaking.</p>
<p>10 (for-profit, service provider)</p>	<p>Generally they all include a discounted membership and usage, and for people who meet a low income or other disadvantaged qualification. We offer lessons to learn how to ride a bike or scooter safely. And sometimes there are other special programs aimed at this population to make the bike and to</p>

	<p>make the micromobility more useful and more accessible to them. Often funded by the service provider. We see bike advocacy groups tend to kind of stay out of a lot of the bikeshare discussion even though they ask for it at the same time. It's an unhelpful opinion that working with a for-profit partner is bad. There are also operators who don't understand the common goals with non-profits. There just isn't a group that's representing the low-income community at least very well or that wants to deal with bike share. Just putting a low-income membership or putting a bikeshare station in a neighborhood does not equal a successful program. We have definitely also seen resistance to bike share because it is a harbinger of gentrification and to bike infrastructure, second tax, etc. There's a persistent image of bike share as not being for some black and brown communities. People see bike share going, but they don't really know anybody who uses it. Whereas, if you have some people who are willing to try it and they like it, they tell their friends it builds momentum. Infrastructure and physical barriers are the main concern here.</p>
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In this section, I conclude that there are a variety of initiatives meant to lower barriers to users. However, as argued by Hosford et al (2018) the communities may not even get within reach. The library programs often came up in these conversations, but it could be argued that this option only successfully reaches a small subsection of the

total underserved population. Conversations were never about vehicle options, although Torabi et al (2022) highlighted the importance of varying preferences by sex and age groups.

Throughout the conversations, interviewees often talked about the lack of community input, ownership, and infrastructure. These were all factors that were harder to find throughout the literature as most barrier-related research on shared micromobility seemed to focus on equity programs, discount programs, or other cost-related components. This may indicate that although professionals try to actively increase ridership, there are more systemic foundational barriers in California that prevent people from being able to use and enjoy the benefits of these systems. Additionally, it could be argued that the “ask for forgiveness, not for permission” business mentality of some operators, as mentioned by the NITC (2020), goes perpendicular to the receipt of community input. This, along with the responses, could indicate why it is so difficult to have true community input.

Transit-Integration and Network Thinking

1 (government, program manager)	It can be a good connection to transit in urban areas and can also provide an option for people who might be driving downtown or taking transit into downtown areas and then can get around on bikes or scooters.
2 (for-profit, service provider)	Recent rise in transit agency fare integration. Some agencies are now owners and operators, which is

	considered positive. The limitations of transit, such as operating hours, are good for the shared services.
3 (for-profit, consultant)	We need a combination of transit and bike routes. This could be a better solution than the number of vehicles in a system.
4 (for-profit, service provider)	Bus systems may see the service as a threat and collaboration can be contentious. The scooters were faster than the bus in dense areas. Parking at the transit stations was very limited, causing local irritations with other multimodal travelers. The devices at transit stations are used very often.
6 (government, policy director)	We need to look at complete systems, not just shared micromobility services.
7 (non-profit, advocate)	People are predicting the death of public transportation as we know it, and shared micromobility can survive and potentially even land on the top. It should be treated more like transit as non-users also benefit (indirectly).
9 (government, program manager)	Public transit has limitations that shared micromobility services can fill. They are a wonderful addition as people can live further away from stations of stops.
10 (for-profit, service provider)	The busiest location for shared services, in a center city, is always the transit nodes and the transit stations. We know that lots of people use micromobility to get to transit, and we know that basically, it's a mutually beneficial relationship. we've approached many transit operators with ideas such as discounts when people take the train. Transit

	<p>operators sometimes have a false sense of competition with micromobility. Sometimes transit unions don't want to do it because it takes away money that could go to their workers. There are examples where transit stations had to be geofenced out because transit operators saw a chance to get some revenue from shared micromobility operators. From a regional scale, collaboration is lacking and not understood from the micromobility service providers' perspective. Micromobility is argued never to be competitive with regional rail, but rather complimentary, as nobody can ride a bike share bike 30 miles.</p>
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The interviews indicated that there is a large potential for shared micromobility services to fill the gaps in current public transportation systems. There has also been some expressed concern that there has been a false sense of competition. Research from the literature review would complement these thoughts of mutually beneficial opportunities, as expressed by Rojas (2021). Additionally, both respondents in the interviews and literature like the 2021 annual report from NABSA have suggested that systems already heavily rely on one another.

As expressed by some of the interviews, planners need to be more intentional about how these shared services are incorporated in or run parallel to (mass) public transit. As McNeil et al (2018) concluded, this better-coordinated role may improve the attractiveness of the shared micromobility systems to underrepresented communities.

There are some legitimate concerns with the “here today, gone tomorrow culture” of some shared micromobility systems. However, as both respondents and the literature suggested, we may also seek this transit integration in the physical connections of active transportation infrastructure and think about regional networks as a strategy.

Data Opportunities and Limitations

<p>1 (government, program manager)</p>	<p>Data has the potential to be utilized more if there’s more staff capacity. We do have enough data to look at where we need more infrastructure investments in order to actually make it feasible. Some municipalities are working on using data to identify locations where they want to install more parking. There is aggregated data and anonymized trip data to see where people are traveling, but it has not been correlated with car trips.</p>
<p>2 (for-profit, service provider)</p>	<p>There’s hesitation in the community to provide financial information. NABSA has centralized data into GBS which is used by the industry. Heat maps allow us to improve areas with better infrastructure.</p>
<p>3 (for-profit, consultant)</p>	<p>Real-time data and geofencing have been used as a parking solution. ID numbers on vehicles have been used to identify riders in conflicts. It can be hard to make changes in the public sector without data. May use data to make informed decisions for the design of urban spaces, if it is readily available.</p>
<p>4 (for-profit, service provider)</p>	<p>Did not use or gather as much data as some people may think. Data was often incomplete and</p>

<p><i>"...if I actually tried to use it [the data], I would be making some pretty bad managerial decisions...."</i></p>	<p>the dashboard did not reflect situations on the ground well. Using bad data can lead to poor managerial decisions and lead to wrong conclusions.</p>
<p>5 (non-profit, service provider)</p>	<p>Typical data includes GPS information, tracking of vehicles, and surveys. However, there are questions surrounding surveys as a means of data collection as we have a history of over-surveys marginalized communities and not being transparent about data. Data is mostly used to have reporting metrics that keep the funders interested.</p>
<p>6 (government, policy director)</p>	<p>Pilot data tends to be focused on the longer-term effect and metrics based on a short-term program. That doesn't work and is problematic. Often times pilot programs were trying to solve the issue that we weren't doing pilot programs. In the end, it doesn't really matter what data says if we don't have a political movement behind it for change.</p>
<p>7 (non-profit, advocate)</p>	<p>Instead of being so focused on research and data, we need to look at how other places and countries are doing this.</p>
<p>8 (non-profit, advocate)</p>	<p>We should not evaluate a project based on how many times disadvantaged is mentioned. We also need to include local people and organizations more in the data collection and outreach.</p>

10 (for-profit, service provider)	It is like a very governmental approach to just throw supply at a problem without understanding demand.
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Responses in the interviews have suggested that data has the potential to assist planning and transportation decisions, which is concise with the literature. However, it has also become clear that the data gathered lacks purpose other than proving the ridership numbers to sponsors and government organizations. The general tone of the data usage was not what I would have expected from the respondents, but it does reflect the limited literature available on data collection in shared micromobility systems. As argued by Pelechris et al (2017), this may support the notion that often pronounced claims pro- shared micromobility based on potential environmental, economic, and health benefits of the systems have limited scientific evidence and studies to date to support them. Additionally, this also may support the claims of the NITC (Lubitow et al, 2019) that transportation professionals must understand contextual factors when utilizing the data and may also suggest that this deeper level of contextual understanding is missing in shared micromobility data analysis.

Regional Context (& Housing Policy)

1 (government, program manager)	We have funding, federal and state funding, that flows through our organization. And so we have a bit of a carrot in that way where we can put some parameters around, but some of those ultimate decisions in what gets built first are prioritized and are going to be at the local level. I would say we
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	have some influence, but not implementing the authority necessarily.
2 (for-profit, service provider)	There are a lot of opportunities to grow systems on a regional or metropolitan basis. Some areas, like San Francisco, have too many agencies and transit entities. Service providers don't always know who to reach out to. There has been a focus on physically deemed "safe" regions for expansions of programs.
3 (for-profit, consultant)	Housing and land use were brought up as linked to shared system challenges. There's a need for a more bottom-up approach to each.
4 (for-profit, service provider)	Silo mentality of government is hard to work with. People in government do not understand the challenges. Density is needed for profit and a lot of smaller-scale systems were not profitable. Dense metro areas are more interesting.
5 (non-profit, service provider) <i>"... I think for a lot of disadvantaged communities, commutes are really far. It's not really realistic to travel by bike for commuting..."</i>	[participant talked about this category in another part of the conversation, but was less direct about this context]
6 (government, policy director) <i>"...We're fooling ourselves into thinking that.. because</i>	These shared services are just a small item in a much larger context. People need to be located closer to their destinations and transportation is the glue between housing, jobs, and other resources. We have a lot of information, but not enough

<p><i>we put bikeshare in black & brown neighborhoods, that somehow makes up for the fact that people can't buy homes..."</i></p>	<p>decision-making. There is a lot of force that is greater than these programs on larger scales. Low-income, black & brown people are too forced into certain regions. We need much more affordable housing near transit for shared services to work for disadvantaged communities.</p>
<p>8 (non-profit, advocate)</p>	<p>Current equity components of grant applications are in disadvantaged neighborhoods of poche areas. Some people from the public involved in rating grant applications (that can involve shared micromobility) on a regional scale have no clear image of who they are working with due to the wide variety of agencies and jurisdictions.</p>
<p>10 (for-profit, service provider)</p>	<p>Regional governments often work out deals among the many transit operators in the region for transfer fares. However, some MPOs have not actively assisted in combining shared micromobility services with mass transit, rather the opposite in California.</p>

According to both respondents and the literature analysis, MPOs seem to have some influence over transportation and housing decisions. However, it also appears that the MPOs seem either isolated or hesitant to interfere with local decision-making when it comes to the smaller urban scale and implementation of policy. It is also important to note that both the respondent and literature suggest that there is an important role for the regional (and state level) scale when it comes to transportation choices in relation to housing. As argued by the MTC (2022), there are records of serious efforts to address and coordinate programs like bikeshare. Yet, agreements and terms on such

systems are decided at the municipal level. The respondents also clearly indicated that this type of decision-making is a large area for improvement. Responses varied from having to communicate with too many agencies to not receiving concrete resolutions or answers.

Local Context (& Infrastructure)

<p>1 (government, program manager)</p>	<p>Infrastructure and parking are still some of the biggest challenges, especially in residential lower-density areas that are part of the service area geography. For our region in particular, we have a lot of infill sites that would be great locations for development, but they need investments in sewer and water upgrades and utility upgrades. Service providers could not support those large infrastructural investments.</p>
<p>2 (for-profit, service provider)</p>	<p>There used to be more resistance to systems in communities due to a lack of infrastructure. This is still an issue today, even in cities like San Francisco. We need local partners to develop, expand, and evolve equity programs. Car-centric communities can be very successful when they invest in their community to connect bikeshare. Operators can get involved in local, municipal, and business plans. The competition in the market has caused a scattered short-term approach for providers. We are now going through a consolidation of the market in smaller communities. Designated zones for operators could provide long-term success.</p>

<p>3 (for-profit, consultant)</p>	<p>There's no need for special infrastructure for bike or scooter services compared to other types of AT. We need more space for AT in general. Bringing vehicles in before infrastructure has been problematic. Municipalities need to be challenged more to go beyond minimum standards. Municipalities also tend to pass off responsibilities to service providers.</p>
<p>4 (for-profit, service provider)</p>	<p>Fear of approaching the city due to increased exposure and potential for heavier regulation by the government. Cities don't have to regulate electric mopeds much due to DOT approvals, which may make it an easier vehicle type. The operator did not have to listen to anyone if they didn't want to. Local issues often came down to parking and street cleaning. Street cleaning is said to happen more frequently in poor areas of towns (requiring shared vehicles to be moved). "theft" is not just from the communities, but from the city itself.</p>
<p>5 (non-profit, service provider)</p>	<p>You can only get so far without the proper infrastructure and lack of parallel organizations promoting bike culture. Services are often placed on a local scale in communities without taking the time to build connections to the community and doing this with planning in mind.</p>
<p>6 (government, policy director)</p>	<p>Cities resisted a lot of the shared mobility movement because of large companies in an unregulated industry. Now policy reflects restriction</p>

	<p>rather than growth. If you give people bike lanes, you also need to give them bikes. Municipalities also didn't see that pilot programs were more like marketing campaigns and demonstrations than actual solutions for their communities with social equity budgets. They are trying to squeeze money out of the operators to flow into their communities.</p>
<p>7 (non-profit, advocate)</p> <p><i>"... We can have micromobility devices free for everybody sitting on every street and corner.... But if people aren't comfortable using them and our infrastructure doesn't support it with safer places to ride... it's going to be a hard sell, period."</i></p>	<p>The cart before the horse. We need to have safe places before we can actually use the systems. Pilot programs can't be done if there's no support with infrastructure because people won't see how the system can work with the local environment.</p>
<p>8 (non-profit, advocate)</p> <p><i>"...it doesn't look like they are really trying to promote cycling. But if they did, they</i></p>	<p>There's a concern when it comes to local context communities are not asking for improvements because of the fear of gentrification. This results in situations where municipalities that actually listen well to local residents implement the poor physical infrastructure. People are possibly intentionally not requesting from the local government what they</p>

<p><i>could have even more business...”</i></p>	<p>may need due to housing concerns. However, by the time the infrastructure comes, they are already getting gentrified. Some municipalities are going to great lengths to discourage people from parking on the sidewalks or in undesignated areas. The focus is more on the prevention of unwanted behavior instead of encouraging alternative transportation modes. We need to have more infrastructure to promote scooters and bikes.</p>
<p>10 (for-profit, service provider)</p> <p><i>“... cities then kind of came up with a quick and easy way to allow that [shared micromobility] with some rules. But I don't think they updated anything and it is isolated from their infrastructure plans.”</i></p>	<p>There's a lot that bike share can't do. There are a lot of big issues like safety and bike infrastructure, or physical safety and crime. Those are things that no bike share operator can solve, but they are necessary to have a successful equity program. For low-income areas, you want to make sure you're impressing the city with your service. And one of the best ways to do that is with an equitable program. Where the cities failed to pick up the momentum is that they did not invest simultaneously and think about how to sustain the momentum, causing shared micromobility to be this isolated service provided.</p>

When it comes to the local scale of shared micromobility systems, there has been a lot of emphasis on the enforcement role of local government from both the respondents and the literature. Where it was easier to understand the regulations placed on operators by the government, such as vehicle caps, the interviews indicated that the infrastructural component has also been a large constraint on the success of shared

micromobility systems. This is where findings from the NITC (2020) would support the argument that local government should place more emphasis on the general approach to these services. This could include looking at city-wide infrastructural investments that would coincide with bikeshare or scootershare fleets.

Most interviewed respondents argued that the infrastructural component would be a precedent for the implementation of a shared micromobility system. The respondents also indicated that governments resorted to more reactive approaches rather than proactive or innovative solutions. Although this response could be argued to be “natural” for a local form of government that is potentially over-burdened, limited in funds, or following the rapid changes in the private sector. However, it is overall clear that plans for sustained and parallel upgrades for the built environment could have been made, rather than local government seeking short-term plans and permits to directly profit from the shared micromobility services.

Funding Structures and Opportunities

<p>1 (government, program manager)</p>	<p>Funding comes in the form of sponsorships and it's not publicly funded necessarily, but It's not self-sustaining on its own. Have not found any bike share systems that operate without any kind of public subsidy or a partnership of some kind that involves a sponsorship. There may be contributions with local funds through general funds and others go after federal grants or subsidize the system. When it</p>
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	comes to the state level for funding to catalyze infill development, it makes sense to have the regions and MPOs across the state give out those funds because we know our regions and we know where there are going to be those corridors and broader areas that will unlock more investment.
2 (for-profit, service provider)	Grants from the federal and state level are often limited to capital equipment funding. There is no funding path to cover the cost of operations and maintenance. We rely on philanthropic communities and corporations to fund programs in less-dense communities. Rather than throwing more money at services, the state and local government need to facilitate business connections for providers that establish sponsorships.
3 (for-profit, consultant)	Tourist bubble concentrations are where service providers earn profits.
4 (for-profit, service provider)	All funding is done privately in large quantities. Operators are not honest about the actual cost of operation, which is much higher than reported. Less-profitable systems continued to run to show investors market shares and raise more funds. Covid may have served as an "out" in some cases.
5 (non-profit, service provider)	Affordably priced services are not going to be profitable. Rely heavily on program sponsors which include, for example, health insurance companies and hospital systems. Affordable shared bike systems need similar investment to buses and trains. In California, CARB funding and other cap & trade

	money for clean transportation seem appealing for shared micromobility systems.
6 (government, policy director)	Current operators are not making money and our expectations of these firms are too high. The government should be paying for the free rides in the area through grants. One of the underlying hurdles California deals with, and other states don't, is the attrition of units and vandalism.
7 (non-profit, advocate)	We see for-profit systems go under. Non-profits are benefitting from donations of vehicles for their own fleets and selling the excess. Funding needs to be a mixed financial model with money from the government as all people, not just users, are benefitting from shared micromobility (hints to emissions reduction and health). Funding from grants needs to have the flexibility and we need to work on reducing the cost of research and planning.
8 (non-profit, advocate)	There is an opportunity or space to include shared micromobility services in grant applications for municipalities or counties (from regional and state levels). However, it does not seem to happen often.
10 (for-profit, service provider) <i>"There's really two reasons you serve a neighborhood. It's got financial value or it has political value. If you're not generating financial</i>	Micromobility is stressed right now to a point where the venture capital is withdrawing. low-income neighborhoods are almost never profitable to go into. Oftentimes deeply unprofitable to serve. While that neighborhood is not profitable, we think it's required as a whole system since there's value in having a more equitable service provides to our partner, the city. There's going to have to be a

<i>capital, you generate political capital.”</i>	subsidy for any city in California. New York may be the only place in America where the density and the wealth are there to support the costs of running a highly equitable, highly affordable system.
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From the literature, it is clear government funds have been used to support or set up shared micromobility services in various places. It was also indicated in the literature that resources may also be allocated as favor-type deals or other incentives, such as Murphy et al (2021) described. What is prevalent from the interviews is that although there is interest to invest in disadvantaged communities to generate “political capital”, more sustained funds in California are needed to effectively support equity programs.

As recent developments on the shared micromobility market seem to have stretched sponsorships thin, more structural funding is possibly needed from federal and state levels of government. This funding could, for example, be directed through the region or MPOs in assisting their enforcement powers related to land use. Similar to the literature, alternative incentives seem common in the relationship between operators and local government. Operators have said to welcome more creative types of support, such as business introductions.

Defining Shared Micromobility and its Operators

1 (government, program manager)	We should be thinking about these services as a form of public transportation. The services are not
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<p><i>"...it's not all that the operators aren't necessarily doing what we ask. It is partly us needing to be more descriptive about here's exactly where we want you [the operator] to be deploying these devices..."</i></p>	<p>always treated that way, but we're starting to see more interest from the public sector now.</p>
<p>2 (for-profit, service provider)</p>	<p>Nobody used to understand bikeshare, but that has changed. Service providers view their service as public transportation. There is a disconnect as the services do address the needs of the public and the community's transportation needs. Looking for a point in the future where it is seen as public transportation. Asking if this is public transportation is a huge question that needs to be addressed.</p>
<p>4 (for-profit, service provider)</p>	<p>There will be more attempts from government organizations to run the services. Nobody in government knows the actual cost and complexity of operations. Government, from a philosophical standpoint, should be more involved. However, the government is seen as predatory in disadvantaged neighborhoods. People from disadvantaged communities themselves and POC should run the systems bottom-up.</p>

<p>5 (non-profit, service provider)</p>	<p>Bike share is public transportation. Even if these are not run by transit agencies, they work with the agencies regardless. Seeing the service as public transportation can make more rationale for sustained public funding.</p>
<p>6 (government, policy director)</p>	<p>If the industry had champions, they could have been successful. Older forms of bikeshare were more like public transportation, but the public didn't want to pay for it. In its current form, shared micromobility is not public transportation because the public has no control over it. Meanwhile, communities are asking for the service.</p>
<p>7 (non-profit, advocate)</p>	<p>This is not new to the government. The US military had its own large shared bike fleet a long time ago for those who worked in the U.S. military and everyone on the base had access. In an ideal world, this is absolutely public transportation. The library system is a potential gateway to making this "public". Public agencies are stretched too thin to take on these systems.</p>
<p>8 (non-profit, advocate)</p>	<p>The government needs to continue to be more involved since citizens only have control through the government and not private entities. However, there's also a lot of distrust in the communities due to gentrification and other abuse of power. Historical events like the Chinese exclusion act and systemic racism in government and society make it hard to create trust in governance and society.</p>

<p>9 (government, program manager)</p>	<p>For these services to be considered public transportation, we need at least more coordination with public agencies.</p>
<p>10 (for-profit, service provider)</p> <p><i>“...A lot of California cities have been doing like these one-year permit programs. And let me tell you, you can't. The operators take on an immense amount of risk. You can't even rent a warehouse for one year... You can't invest in your partnerships, because you never know if you're going to even be able to service next year...”</i></p>	<p>Shared micromobility provides and gets to the same goals as public transit. In the U.S., people tend to focus a lot on public transportation as modes that are publicly provided by the government, which is a misunderstanding. People with certain disabilities can't use bike share, but there are adaptive bike share programs in some cities. There's a concern that five or ten years from now, we're going to look at this as a massively squandered opportunity and the funds we had have not been sustained. To see these systems succeed, especially where the industry is now, we're going to need government support in some way. Government can not stay on the sideline and see a successfully shared micromobility platform.</p>

To much surprise, the participants of the interviews could see shared micromobility as a form of public transportation and in some cases even owned by government agencies. At a minimum, it is said that operators need to work closely with agencies, whether that be through ownership or champions. What really stood out here was that from both the public and private sides, participants agreed that government needs to

be more precise on its expectations. In return, operators argued to be willing to follow procedures and directions for guarantees of support, whether that be through long-term contracts or designated service areas.

Comparing these findings to the literature, one can see a pattern in the reactive rather than the proactive role of government. The state needs to better define the legal definitions and classifications of shared micromobility operators, systems, and various vehicles. California was the first to classify and regulate TNCs, as argued by the NITC (2020). Whether the future of micromobility lays in the private sector or moves toward government agencies, all participants of this interview indicated a need for clear policy and direction. We can then expect a trickle-down effect of the expectations of these platforms at the local level, whether or not this involves, for example, Title VI of the Civil Rights Act of 1964.

Discussion & Recommendations

When I looked at the users of shared micromobility systems through the literature and interviews, there seems to be a pattern of shared micromobility systems serving a recreational rather than, perhaps preferred, utilitarian use thus far. This is important to recognize, especially when we connect these services to populations and local functions. If tourists, or other types of temporary visitors in a given geography, are overrepresented in the data, the equity-focused measures may not accurately serve a local population or community. Shared micromobility was also said to be linked to

gentrification, but through this paper, I found that it is likely not the direct cause of it. Additionally, it has become apparent that parallel organizations, such as active transportation-focused NGOs, could promote and transition along with shared micromobility services to support equity programs in order to make a change in the community. Without the input of the community and the mentioned “champions”, operators may likely not effectively address the needs of underrepresented individuals. The interviews pointed out that local communities feel shared micromobility services are not “there for them”. On one hand, we need to amplify, for example, black and brown voices in these collaborations. Yet, agencies and municipalities need to be aware and actively avoid ungenune efforts or the creation of environments that promote tokenism.

Many of the already addressed barriers in shared micromobility systems focus on the incomes of users and promote their use through financial incentives. However, minority communities may not be reached effectively in the first place. This goes back to the importance of relationships with NGOs and community organizations. Vehicle options and a variety of modes were also not discussed in either the literature or conversations in California (or the US for that matter). However, in the EU this has been argued to be important as each user may have different preferences. Again, data does not always reflect preference but rather the choice of users, which also goes back to the importance for decision-makers to understand the urban context.

There are a lot of improvements to be made in the connection with transit and shared micromobility services. However, a false sense of competition, the temporary nature of providers, and a lack of understanding of how shared micromobility services connect to transit networks has made it challenging to integrate the services. It has also been highlighted that this integration would be mutually beneficial. Overall, focusing on regional networks and active transportation infrastructure could assist agencies and operators in coming together without having to worry about the "*here today and gone tomorrow culture*" in the shared micromobility industry.

One of the most important findings on data in this field is that it overall lacks purpose. Aside from providing marketing advantages to venture capitalists and municipalities (through showcasing pilot programs, etc), the professionals in this industry need to understand the context behind the data and create clear expectations and standards. The efforts to standardize the data through NABSA have shown potential and it is argued more planning decisions could be made based on the information. However, we also do not yet have enough scientific evidence to support the potential environmental, economic, and health benefits of the systems.

On a regional scale, the MPOs have been found hesitant to interfere with local land use decisions in California. This decision-making process for the agencies is said to be a point of improvement that may prove most vital to the success of equity efforts as the respondents pointed out how housing concerns overshadow the entire industry. The

literature has also demonstrated how large the scope of gentrification is in the state of California and how important the focus on addressing issues at this larger urban scale may be. If we want to effectively address social equity concerns, shared micromobility options should be discussed on a metro-regional basis. The long-range planning and integration of transportation or housing elements through the MPO could be enforced through funding channels and processes (carrots & sticks approach).

Through mostly the interviews, it seems that the infrastructural elements for active transportation need to be a precedent for the implementation of a shared micromobility system. Additionally, local government needs to be more proactive rather than reactive through parallel investment in order to support the long-term success of shared micromobility systems. However, to achieve these private-public relationships, they should improve simultaneously as operators would need to ensure long(er)-term services. The operators did express that this would be mutually beneficial.

When it comes to funding, there is a need for larger funding sources from the state and federal government (potentially through the MPO). Local government can assist operators by making business introductions or other alternative incentives for the operators, including exclusive operational zones. Not just the government, but operators too, have expressed concern about the “here today, gone tomorrow”

culture. Having long(er)-term contracts instead of yearly-basis agreements could support countering this culture as well.

Lastly, the interviewees expressed that they could see shared micromobility as a form of public transportation. Participants also agreed government can take a more direct role, which would help operators with fulfilling equity program expectations. The state also plays a role here as it needs to better define the legal definitions and classifications of shared micromobility operators, systems, and various vehicles. Although the EU is different when it comes to the urban environment and active transportation, we could learn from existing systems such as the Dutch OV-fiets. This can aid in the creation of California's shared micromobility policy.

In the short term, it is advised that municipalities think more holistically about the integration of shared micromobility and create long-term plans and contracts. Infrastructure investments are needed for these systems and their users, while plans should also be made to prevent displacement for local residents. Throughout this process, communities can provide feedback before systems are integrated. Ultimately, we should see advocacy groups or NGOs become part of this process, especially since the majority of these groups may not represent marginalized populations. Therefore, operators will need to make larger investments in the community. Municipalities could place such contingents prior to system implementation to provide continuous collaboration throughout the contract duration.

In the long term, we need to continue to close the gap between housing and transportation in California. One large focus here could be the MPO as a major player in shared micromobility systems. Transit integration and network thinking have to become a focus as this collaboration has already proven to be realistic. Additionally, the state will have to better define the legal definition of these “TNC-like” operators and platforms. This will allow for a better and most importantly specific policy that will guide the future of shared micromobility in the state.

Conclusion

I reviewed how California’s government agencies may better assist the coordination and standardization of shared micromobility services through private sector companies to better serve our marginalized communities. It has been found that shared micromobility services will not aid any disadvantaged community in a meaningful way without structural changes to our large-scale housing issues and integration of these systems to other (mass) transit services on a state and/or regional rather than local scale. Comparing this to the responses to the interviews, we can confirm that both urban planners and shared micromobility operators should seek long-term plans to better incorporate micromobility services in our built environment.

Both government agencies and operators in California expressed concerns about the *“here today and gone tomorrow”* culture. Many of the operators interviewed believed

that without designated operational zones or changes in funding structures, they will be unable to make long-term guarantees or investments in communities. I also conclude that MPOs need to play a much larger role in the development of shared micromobility throughout the state. So far, despite equity programs in shared micromobility systems, there is no evidence that shared micromobility is effectively supporting disadvantaged communities or aiding POC in any sustained way.

It has been most surprising that respondents in the interviews seemed open to pivoting these services towards a “true type” of public transportation service. This could mean the operators ceding control to the government in exchange for guarantees of contracts and funding, and ending current practices under which municipalities sometimes make only short-term commitments of as little as one year, with operators essentially asked to perform ongoing public services. More research could be done as it may indicate an upcoming change in the industry.

For future research, it would also be suggested to look at general plans or long-range planning documents of MPOs to analyze where shared micromobility is mentioned and what specific measures are taken in terms of equity components. Additionally, it can be interesting to analyze the relationship between TODs and policy that specifically combines affordable housing with shared micromobility. However, it is clear that although shared micromobility falls under transportation, any realistic equity efforts in California would directly relate to housing and its affordability. I want to end

with the conclusion that especially when it comes to the intersection of housing, transportation, and equity, professionals need to understand the historical marginalization of communities to prevent repeated or continued neglect of these communities as we explore the future of transportation in the state.

Appendix A: Transcripts of Interviews

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Guest 1 [00:00:33] So I'm the program manager for the Regional [REDACTED] at the [REDACTED] [MPO in California]. And as part of that program, we do have a low income program. And so that would be how it ties in to equity and to looking at how do we balance the system to make sure that disadvantaged communities are getting service and know about the low income program and can access it easily.

Researcher [00:01:10] Okay. And then what role do you think these shared micromobility services have had in our urban environment in the past? And what role do you think they'll play in the near or far future?

Guest 1 [00:01:26] They provide a transportation option for shorter trips. On the bikes, we see an average of 2 to 4 mile trips, usually two miles. So it can be a good connection to transit in urban areas and can also provide an option for people who might be driving into a downtown or taking transit into downtown areas and then can get around on bikes or scooters. So they don't necessarily need to have access to a personal car to go to meetings and lunch appointments, etc. And they also serve for the [REDACTED] region [location in CA] just outside of the urban area in downtown. There's also some residential areas that have access and they serve as a public amenity. And then also for people who don't have as many transportation options. It increases access to get around for people who maybe are near transit, but it doesn't come as frequently as they need. Then they have a transportation option with bike share and scooter share.

Researcher [00:02:53] Yeah. And then before I'm going to ask the question about public transportation, do you know if people are using these trips more utilitarian or more kind of like a leisure activity?

Guest 1 [00:03:09] So the information we have is actually mostly through survey work that [REDACTED] [university] has done. And that shows that about a third of the trips that people have taken on bike share, were replacing car trips.

Researcher [00:03:25] Okay.

Guest 1 [00:03:27] We don't have as much detail about, I think they do have some detail, what people said were the trip purpose. So it was a mix, commute related, but could also be replacing a trip to go to a restaurant or a grocery store.

Researcher [00:03:49] Right. and then do you consider the shared micromobility services, whether that be scooter or bike share, a form of public transportation?

Guest 1 [00:04:00] Yeah, absolutely. I think we should be thinking about these services as a form of public transportation. They are not always treated that way currently. Right. It's been oh, the private sector is willing to do this. It's been kind of. How do I say it? It's evolved over time from where you only saw more publicly owned and operated systems or at least publicly owned and maybe contracted out for the operations. And then as the private sector saw an infusion of venture capital, is when we started seeing operators coming in and offering bike share for free and then shifted mostly to scooters and kind of pulled away from Bikeshare when the finances weren't penciling for them as well. And I think we're starting to see more interest from the public sector now in realizing that we have a lot of goals around equity and trip reduction that the private sector is not

necessarily going to meet without some form of public private partnership and subsidy for the system. And so shifting back more towards thinking about it as public transportation.

Researcher [00:05:29] Yeah, you're actually hitting a question I was going to ask later, so I'll follow up on that right now. You're talking about subsidies. Are you saying these are state programs or are they more on the federal level or is it a combination of both?

Guest 1 [00:05:44] Yeah, it really varies depending on the region and cities that you're looking at. And sometimes it comes in the form of sponsorships and it's not publicly funded necessarily, but it's not self-sustaining on its own. Just the ridership fees alone aren't going to fully recover the cost of operating the system.

Researcher [00:06:10] Right.

Guest 1 [00:06:10] And I think that's still a question mark in terms of the scooters. You know, some operators are saying that they are able to make those systems pencil, but we're also seeing the per trip cost. What you pay as a rider is continuing to go up. So, I think it varies on how much ridership you're getting and that will determine how much subsidy either in sponsorship dollars or public funds, is needed. And each region and city funds that differently. You might have some that contribute local funds through general funds and others go after federal grants or subsidize it in some with some other type. So there's not one way of funding the systems. But for Bikeshare in particular, I have not found any bike share systems that operates without any kind of public subsidy or partnership of some kind that involves a sponsorship.

Researcher [00:07:30] Yeah. And then so for your organization, specifically, talking about bike share and scooters... How involved are you in in these facilitating these systems and actively including disadvantaged communities?

Guest 1 [00:07:50] So we say [REDACTED] [MPO in California] are managing the regional bikeshare contract and the scooter operations are managed just by the cities where companies come in and pay fees for a certain number of devices and trip fees. And so we don't manage the scooter side of it at all. But as a bike share, we do. We have negotiated a subsidy revenue sharing deal with [REDACTED] [company], who is our current contractor. And it's just for the bikes. But we negotiated a free, low income program. So anyone who qualifies for a low income in another program like Cal Fresh or a utility electric low income program, they can show evidence that they've qualified for that. And then they qualify for our low income program. At the standard low income program, I think app users still pay 25% of the regular rider fees. And so we are getting a better deal because we're subsidizing the system. And we also negotiated lower per trip costs and some monthly ride passes that bring down the per trip cost for the bikes specifically.

Researcher [00:09:28] Okay.

Guest 1 [00:09:30] And as far as working directly with community members, [REDACTED] [company name] partners, with local entities. One example is the [REDACTED] [public group] is pretty active here in [REDACTED] [location in CA], and so they will partner with them to be out at events and they will go to the events and promote the low income program. Or they work with the bicycle advocates to be at some of their events. So they're really just trying to piggyback off of community events that are already happening or was areas to help get the word out about the low income programs.

Researcher [00:10:13] And do you feel like that's after implementation or is that really before and or part of the decision making of the system?

Guest 1 [00:10:21] When we did, I was not involved in it, but it was prior to my time managing the program. when we were planning where we would install bike parking and have stations, so to speak, there, you know, it's a dockless system so people could still leave their vehicles wherever. But for the locations where we wanted to rebalance bikes, we did do a lot of outreach and collecting input from communities in the area about where we should be siting those stations.

Researcher [00:10:57] Right. And are they geofence the dockless system?

Guest 1 [00:11:03] They are in the sense that they're in the app as far as parking locations that people can find. We originally envisioned the system to be more of a hybrid system than it really is now, where we were hoping people would get a discount for returning bikes to particular stations.

Researcher [00:11:31] Yeah.

Guest 1 [00:11:32] But as it's implemented now, those incentives aren't currently there, so it's really.... You don't get any benefit by returning to one of those racks.

Researcher [00:11:44] Do you know why that was?

Guest 1 [00:11:47] Just because of the change in the marketplace as we originally procured [REDACTED] [company name] as our bike share vendor. And then they sold to [REDACTED] [company name] and [REDACTED] [company name] did have a few specific stations where they were giving a dollar off for returning to those. And it had to do with that they were locations that that were easy for [REDACTED] [company name] to get to, to collect bikes and recharge them. And then when it transitioned from [REDACTED] [company name] again after that, it was just something that they didn't have as a technology in their app. It's not that it's not possible. It's just wasn't in their current model.

Researcher [00:12:35] Yeah, so mostly big changes in operators.... Yeah. And then so aside from that, what are some of the biggest challenges that you encounter with these shared devices and services, whether it's the scooters or the bikes?

Guest 1 [00:12:58] Yeah. Yeah. I think, you know, one of the big things continues to be how to manage parking and how do we make it clear to people where they are supposed to be ending their trips? We want [REDACTED] [municipality in CA] in particular has a requirement that you need to be walking to a bike rack or parking in a drop zone, which is just a painted area sometimes. So there might not be something to actually lock to. So we do continue to have challenges, particularly in the more residential lower-density areas that are part of the service area geography. There just aren't that many locations for, you know, there aren't that many bike racks. And so people end up parking them on the sidewalk. And we have talked about piloting something like maybe people could park the bikes perpendicular like a motorcycle in the street. I think that's one of the other big challenges is getting the operators to rebalance in the areas where we want them to rebalance, which can include equity zones that have been identified. And also just for maximizing trip reduction, so your transit stations, or where people would be commuting. And of course, a lot of the travel patterns have changed during the pandemic. And so

we're now in a space of trying to figure out, well, we have identified some areas that are those the right areas that still make sense? And so it's not all that the operators aren't necessarily doing what we ask. It is partly us needing to be more descriptive about here's exactly where we want you to be deploying these devices. And then with multiple operators in the space, I know there have been challenges with over-deployment at certain bike racks that end up with a whole bunch of devices that are going beyond the footprint of that actual parking area. So I know that's been a challenge for [REDACTED] [municipality in CA] in particular.

Researcher [00:15:34] And then do you feel like you have enough data that's being gathered to see those new travel patterns and some of the parking issues?

Guest 1 [00:15:44] We do have good data on where people are beginning and ending their trips to inform, you know, should there be parking installed in some places where we don't have parking? And so [REDACTED] [municipality in CA] is working on using that data to identify locations where they want to install more parking. We do have data aggregated and anonymized trip data to see where people are traveling. And we haven't correlated that with where are their car trips happening now and how is that different? And that's just the staff capacity issue. And so we hired a consultant recently to help us dig into that data a bit more and think about how we should design our system as we move forward and sort of the next generation of bike share, if you will, because post-pandemic, we had fewer bikes than we had pre-pandemic. So taking a look at how do we continue to expand that system and what number of devices and what's the right ratio of devices that we'd like to see?

Researcher [00:17:09] Right. And then the next question is, you know, how we can kind of move towards more inclusive and equitable systems and also blend blending the question about built environment, kind of looking at this from a land-use perspective. Do you feel like we could use some of the data that we are gathering currently, for example, to inform about some of the land-use that we're looking at, some of the housing densities that you were just talking about earlier, some of the density issues with these systems? Do you feel like we have enough there to relate to how the built environment is to the systems? Or do you still see that there's some gaps potentially there?

Guest 1 [00:17:57] I mean, there's probably always gaps in the data. I actually think we have a lot there in terms of that we know where bike lanes and bikeways exist and we know where people are riding. At least the shared devices. In some cases, we know we have bike count data for people who are just generally riding bikes. Right? And so, I think we do have enough there to look at where do we need more infrastructure investments in order to actually make it feasible, like we can put bikes in any number of communities, right?

Researcher [00:18:41] Right.

Guest 1 [00:18:42] If people don't feel safe riding those, then. That's not going to do it any good and that's unhelpful. And so we are continuing to think about that as well. Where and how can we use this information to help prioritize investments in for communities that have been disinvested and underinvested in.

Researcher [00:19:11] Yeah.

Guest 1 [00:19:12] Necessary work that's happening as part of the bike share. The bike share program was a grant to launch a bike share system, it's coming to an end of that project. And so now we're thinking about, okay, what's the future? What's the next 5 to 10 years look like for bike share and shared micromobility in the region? We have separate efforts happening at [REDACTED] [MPO in California] that are more global in scope but would still involve shared micromobility where we want to do deeper engagement and co-planning, co-creation, with communities to find out what do they want and make sure that we're bringing those things and not just assuming that, oh, they probably want bike share in it.

Researcher [00:20:08] And then based on that, I kind of have two questions because, you're looking at this from a kind of regional scale, right? How hard is it to match what you're looking at to the local scale? And since, you know, often in the United States do the land-use is done on such a local level, how do you relate those two together? And then the second question I had was when you were talking about infrastructure and feeling safe and kind of your take on what is appropriate, do we have to have infrastructure and then explore these options like a bike share system? Or do you feel like often we're asked to put in a bike share system and then once people start using it, we go: "Oh, now we see that there's a need for infrastructure". So that's being used to justify the need for more local infrastructure.

Guest 1 [00:21:08] Yeah. Well, let me take your first question.

Researcher [00:21:11] Yeah, the region.

Guest 1 [00:21:13] Yeah, Yeah. It's a lot of coordination and collaboration with our local cities and counties. They are the ones who have ultimate authority over land-use decisions. We have funding, federal and state funding, that flow through our organization. And so we have a bit of a carrot in that way where we can put some parameters around. These are the types of projects that we'd like you to invest in. And you know, we hold competitive funding rounds and then as part of our long-range transportation and land-use plan, we are working with our members to start prioritizing those projects and then getting into more of that equity side as well. Like how can we ensure that our plan is not.... yeah. We have a lot of great data and technical information behind it, but how do we make sure that we're bringing in voices from the communities that we're creating these plans for and make sure it really reflects what their needs are? And so, it's going to be a process where we're working with the local jurisdictions to collect that information and have everyone be part of that discussion. But some of those ultimate decisions in what gets built first is prioritized and is going to be at the local level.

Researcher [00:22:55] Yeah. So you don't have too much influence over that necessarily?

Guest 1 [00:22:58] I would say we have some influence, but not implementing the authority necessarily. And so we're looking we try to bring as much good information as we can. And recommendations on here are the types of land uses and infrastructure investments we need in order to meet our policy goals around greenhouse gas reductions and increasing equity and access to transportation, which is then an economic driver. Right? Making sure people have access to jobs and school and services and then thinking about how we also just involve our community members in that and prioritizing equity in all of our planning and investments.

Researcher [00:23:51] Right. So and so what I thought you were saying, and correct me if I'm wrong, is you're saying you have some leverage because you have grant funds available. Would it be helpful for you, because obviously you have long range plans, but you don't have the capacity to actually implement them on the local level...Would you say it's better for you as a regional organization if you would have more funds go through the regional scale to successfully be able to achieve those long-term regional plans?

Guest 1 [00:24:26] Well, we have advocated at the state level for funding to catalyze infill development. So for our region in particular, we have a lot of infill sites that would be great locations for development, but they need investments in sewer and water upgrades and utility upgrades. And so the private sector isn't coming in and go, yes, I want to put this here, because the fee, the impact fees and everything that they would have to pay in order to put something there, makes the project not pencil for them. And so that we have said, we need more funding for it and we think it makes sense to have the regions and MPOs across the state give out those funds because we know our regions and we know where there is going to be those corridors and broader areas that will unlock more investment and create a land-use design that's going to give people more options for transportation alternatives.

Researcher [00:25:50] Yeah.

Guest 1 [00:25:51] So. I think in that way. Yes. I don't know if that answers the question.

Researcher [00:25:58] Yeah, I was kind of wondering because we have so many, you know..... And I don't want to take up too much of your time because you said 2:00. Yeah.

Guest 1 [00:26:06] Oh. Went by best!

Researcher [00:26:07] Yeah, we have I know this topic is a is an easy topic to talk about in terms of the amount we could talk about..... Since there's federal funds available. State funds, and have so many different areas, and you talk about sponsorships, where we could potentially draw, for any plan, for that matter, right. Whether it's we're talking about infill, we're talking about operating a bikeshare system. I'm trying to find out if cities themselves would have more of a solid relationship MPOs... would that have better results on the overall local scale or context versus cities going to the state or going to the federal level for grants for their own systems?

Guest 1 [00:27:08] Yeah, I mean, that's a tough question to answer. Yeah, maybe.

Researcher [00:27:12] Yeah.

Guest 1 [00:27:13] I think we do a pretty good job of staying coordinated with our members. I do think for all of the federal like there's so many discretionary grants available at the federal level through the bipartisan infrastructure law that we are looking to be as coordinated as we can be competitive as a region. And so I think. Yeah. That sometimes we end up like..... Everyone's interested in going after that funding, right? So yeah, like a whole bunch of separate applications for your region. So, I do think that there is value in having more coordination as a region, but I think we also collectively, I think we're pretty good on that. But, it's always to be improved, though, right?

Researcher [00:28:14] Yeah. Okay. Yeah. Thank you so much. We're running out of time.

Guest 1 [00:28:21] You.

Researcher [00:28:22] Yeah. I'm so sorry. Um. I will stop the recording.

Guest 1 [00:28:29] We can set up another time too, if you need more

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Guest 2 [00:00:50] We are a bike share company. And so my occupation, my activities, are directly related to the shared micromobility industry. And, you know, in the very early days, at least here in the United States, there was not a deep understanding of what exactly micromobility was. And what the shared services programs were. So over the last 10 to 15 years, there's been an educational process that has taken place here in the United States and really, I would say, across the entire hemisphere in terms of these various services. Initially, in the very early days, I think we were much more focused on the delivering of product, which then, of course, delivered the service of a shared vehicle that people could use to move around in their communities. And our vehicle, in our case was a bicycle, and that has now evolved to an electric assist powered by bicycle. But over the last 10 to 15 years the access to the broader community has been much more of a focus. And so today, a lot of the programs that we put together not only provide the equipment and the service itself, but look for ways to connect with the local community and to provide access to these vehicles for people. Where initially, a lot of the focus was in areas of communities that were potentially underserved by other transit options. And so it's purely putting the equipment into those areas. But then we also found, as we did that, there was a need to evolve the ability for people to access the program. Many people either did not want to share their financial information or were looking a simpler way to access the program. And that led to a number of different membership type programs, different fee structures, and more recently, there's been a number of programs that have made access to a shared micromobility product as simple as going to the local library. So in a number of our communities, you can check out an e-bike, just the way you could check out a new book that you want to read and then use that particular vehicle in this case to move around the community. And different libraries have different periods of time that you have access to that particular product. So it's really been, you know, I think over the last again, 12 to 15 years, this has been my focus starting with bikes and educating different communities on what the shared-economy is like. And then as we've gone along this journey, it has provided a number of unique opportunities for us to engage with the broader community.

Researcher [00:04:21] Yeah, and you talk about shared-economy and it goes into the question three as well. Do you consider the service that you provide a form of public transportation?

Guest 2 [00:04:33] And I you know. I'm kind of chuckling. Because I think any of us that are in this industry, we do view the work that we do as providing public transportation to our communities. And then from an official, or governmental, standpoint..... You know, today, whether it's bike share or scooter share, these are not really viewed as a form of transit in the community. And so there's a little bit of a disconnect. I personally do feel it is a way that people are moving around the community. It is a public service that is being provided. And so if you put together public access together with transportation..... To me, it's pretty simple. It is a form of public transportation. But in the more structured way that some organizations look at it... We you know, we look for a point in time where these services are seen as a form of public transportation, officially.

Researcher [00:05:45] And where do you see that that disconnect lays?

Guest 2 [00:05:51] You know, it's largely, I would have to say, from a government and a transit authority. Many transit authority organizations are focused on rails and are focused on busses, more conventional vehicles that make up a transit system. And bicycles and

scooters are not typically seen as forms of transit. I guess, I should measure my comment there, because we have recently seen a number of transit agencies become much more involved in providing fare integration so that access to a bikeshare or scooter share program, that there is an attempt to kind of seamlessly provide access across all different platforms. So it's getting better. I mean, but, you know, it has been a slow process to get where we are. Outside of the transit integration, we're also seeing some transit agencies actually be the owner and operator of bike share programs in communities. And so that, you know, that's a very, very positive sign as well, because it means that those communities are looking at bike share systems as an additional means of moving people around their particular jurisdiction. So my earlier comments being as negative as they were probably has really been tempered when you see the some of the changes that occurred over the last couple of years. And I think COVID did play a fairly significant role in that. In as much as the early days of the pandemic, all of us saw a dramatic drop in the ridership. But within about 4 to 6 weeks, as people still needed to move around their communities, they looked to the ability to ride a bike in a fresh air environment for transportation, but also for just some recreation and relaxation for what was a very, very, very difficult time for all of us. And this was really a global phenomenon, not just specific to North America.

Researcher [00:08:21] Yeah. And I think overall, talking about COVID, I think those drops were relatively low compared to the drops in actual traditional forms of transit. And then, kind of going into the equitable side of these shared micromobility services, does your organization actively facilitate equitable services specifically in these shared programs?

Guest 2 [00:08:56] I guess the short answer is yes. We're somewhat unique in the industry in as much as we have two different operational platforms. One of our more traditional platforms is where we are an equipment provider. We provide the hardware and we also provide the software that provides the functionality of our program. And in those examples of those situations, we actually look for our local partners to develop, expand, and evolve those equity based programs. Because while every community may have a lot of similarities, we believe every community is unique and you really need to develop programs that reach those and design to meet the needs of the clientele that make up those markets. And so we've built in a number of different features to our administrative or our software platform to accommodate different fare structures, different reporting structures. But we do look and work with our partners for developing kind of the broader program.

Researcher [00:10:22] Yeah.

Guest 2 [00:10:22] So outside of being an equipment provider, we are also an equipment provider and an operator. Where we directly own and operate programs in communities. And again, a lot of similarities with the unique challenges of those communities. But we have a number of lists of solutions that we can provide. In in the early days, it was very simple, it was a cashless means of accessing bikeshare program. And in the early days, we used a membership card that could be provided to people and that became their means of access. More recently, we've seen the adoption of, struggling to say here, of mobile apps. You know. Basically smartphone access to bike share and basically all shared platforms. And we've evolved our platform to allow us to do that. We're working with local organizations, whether it's a community library or local non-profits or advocacy organizations, again, to open up the ability to access these services across all types of people that make up that community and the like.

Guest 2 [00:11:43] And then do you feel like, and this is in your personal but also professional opinion, that these communities get involved enough in the implementation decision making of these systems?

Guest 2 [00:11:57] Absolutely. Whether it's an owned system or, more specific, when we're just strictly the equipment provider. The really successful programs, and this is across all different companies that are providing these services, I believe, are the ones that really have grown very deep roots in their communities. They're touching all different areas. They're touching kind of traditional downtown businesses and they're there in the neighborhoods. And those are the ones, I believe, that have the right secret sauce for the for the future of continuing to expand these programs. And, you know, I was in [REDACTED], [REDACTED], yesterday, which may clearly give away who you're interviewing here. But, you know, they've been extremely successful. It's in the middle of the United States and is very different from the West Coast and the East Coast. And it's a very car centric type of community. But they've done a lot of things to develop and to really connect the bike share program with the community. Both at the corporate level, as well as in the neighborhood level. And I don't think that's something that's unique just to [REDACTED], [REDACTED]. It is kind of what I would call a formula for success. You know, whether you're New York City or you look at what's happening in Boston now, where that program hubway started primarily in the city of Boston. It is now reaching out into the suburban, the greater metropolitan area. And, you know, again, deep roots in the community, you know, kind of an understanding of the unique challenges and the differences that a dense city, such as Boston provides, but then contrasting that with a more suburban environment. But there clearly are opportunities to grow these programs on a regional basis or a metropolitan area basis.

Researcher [00:14:18] Yeah. And then going from opportunities into some of the resistance you encounter. What are some of the largest challenges with these shared services? We know some of the typical ones that people talk about, like parking, etc., but maybe also when you're talking about car centric communities, or providing a system to the community... What are some of the challenges there sometimes?

Guest 2 [00:14:49] It's a great question.

Guest 2 [00:14:51] I think from my perspective, having been fortunate enough to be in this industry from when you would go to a community and nobody understood what bike share was. And look at where we are today. You know, in the early days, there were many communities where there was resistance because they said: "well, you know, we can't get a bike share program in this community because we don't have the infrastructure to allow for that". There were no bike lanes.

Researcher [00:15:29] Right.

Guest 2 [00:15:30] And that's just more paint on the street. The concept of having a protected bike lane, that was beyond any comprehension and you fast forward now to where we are today.... There are still some communities that are concerned with the lack of infrastructure. Which needs to come first? Is it the bike lanes that need to come first? Or is it a shared mobility solution?

Researcher [00:15:59] Yeah.

Guest 2 [00:15:59] And this is still a challenge that's being impacted. We're seeing this, just today I'm picking up an article about scooters in the city in San Francisco and people are not feeling safe to ride on the city streets. So they're riding on the sidewalks, which is apparently illegal. And you can be fined, but they're also not being fined. So, you know, some of these problems have continued. We believe that you certainly don't want to put these programs into very dangerous traffic areas. And as we've developed our network of programs, whether it's directly owned, that really, you know, gets more into the areas where you're going to start from and then build a program. And so certainly the infrastructure has been a challenge, I would also say that funding is a very difficult challenge and I think there have been a number of government and federal government and state funding solutions that have been provided. The vast majority of those that I've seen really addressed more of the capital equipment.

Researcher [00:17:24] Okay.

Guest 2 [00:17:25] And so you're just getting the programs on the ground, which is not insignificant, it's great. But kind of I think, one of the missing things is they really have not included a path, you know, for additional funding to cover the operations and maintenance of these programs. So many of our systems and that of others have had to come up with sponsorship dollars to help cover those costs. And so that's been a challenge. You know, some communities are much more philanthropic than others, just purely based on the size and the number of corporations that might be in a city like New York versus a small community like gosh, you take your pick on a smaller communities.

Researcher [00:18:15] The city of Davis could be a could be considered a small community.

Guest 2 [00:18:21] Exactly. And so funding has been a challenge and how the funding pots are being created and. Well, and then I think also the whole connection to transit, you know, shared mobility is still not really seen as a form of transit. But I think any of us in this business could make a strong argument that we do address the needs of the public and we do address the needs of the community's transportation. So if you put those two together that speaks to, you know, what transit authorities are trying to do in any communities that they're serving. So, yeah, I guess it's the infrastructure, it is the funding, and then it is the concept from an industry standpoint where does the shared micromobility fit in the, you know, the greater public transportation sector.

Researcher [00:19:20] Yeah. And this also kind of goes into the age question how the built environment plays into this. You're saying it's kind of a chicken and the egg problem where on one side you're trying to have the demand or the service, and sometimes maybe you're asked to have demand before infrastructure gets created, but from what I understand, from what you said, is it's better to have a "build it. And they will come" approach. You need to have infrastructure so that people don't get confronted with dangerous situations?

Guest 2 [00:19:57] Yeah, I think, that's, you know, so our organization and many large cities, at least here in in the United States, had already selected an equipment provider. And this speaks back to the early days of Bikeshare in in the United States. And so we as an organization focused on smaller, small to medium sized cities. We did have some success in larger metropolitan areas, but we were really focused with our development in areas that were safe, that had either some traffic calming situation that was in place, or

maybe even had a few bike lanes. But it provided the ability for people to ride in a comfortable manner.

Guest 2 [00:20:50] What we saw and have seen over the last ten plus years.... Is even a small system that may start with only five or six stations. They all have expanded and they all grow as the infrastructure is added in the community. Also, there's been a more recent trend for these programs to be recreational in nature. And so, yeah, it's, it's been kind of it's been an evolutionary process, that's what I'm struggling to say here.

Researcher [00:21:28] Yeah, and then so, you know, that some of our of our challenges in our built environment have been also the disparities between, you know, some communities having infrastructure and having access to transit or other forms of transportation and some communities not having any of that due to redlining and some of the malpractices in planning in our history. How do you see that plays into trying to serve a community that might not have any of the infrastructural components that they might require to have such a service? This is where we also see some pilot programs getting implemented, but if there's no infrastructure to support the service, you know, what would you suggest there?

Guest 2 [00:22:23] Yes. That's really tough and I mean, you know, infrastructure is it's a pretty broad category. I think a lot of times when we look at things, we look at we look at a street, we look at hopefully a bike lane or some paint maybe on the street to create some sharrows. And that there's a lot of a lot of portions of communities that don't have sharrows or don't have bike lanes, you know, a bike lane painted onto them. And the condition of the streets may be less desirable to ride a bike on compared to being in a type of a central business district. So that that's certainly a concern. You know, one of things we've learned over the last number of years is that there are, and this gets back to the to the transit component, there are many communities around this country where their transit services operate between a certain hour in the morning and a certain town evening.

Researcher [00:23:34] Yeah.

Guest 2 [00:23:35] And where we've been able to help in these communities. If somebody is living in one of these underserved areas or unserved. All of a sudden bikeshare can become a means of getting, if they don't have the means to have their own vehicle, bike share has been really a key driver in providing them with means of access to get to a job. And then, when that job ends and sometimes that may happen after midnight. People are able to get home or where they are living. So, I believe it fulfills a very vital part of the overall solution. And, you know, we we've started in the early days of bike share, as I kind of alluded to you, looked for kind of the nice areas in the downtown, the central business district where you might ride to an entertainment area to grab lunch and then ride back to your office. All these different examples that have been out there and as we got involved in many municipal business plans, some of that kind of went out the window. It became, and it's still important to address those areas where you're going to get higher levels of usage, but the process began to become: Are there areas in the community that would truly benefit from having access to a mobility service?

Guest 2 [00:25:17] And, you know, the short answer to that is yes. And in the early days, unfortunately, many times those areas got overlooked. But I think, you know, we as an industry really over the last 5 to 10 years have begun to look at ways how can we engage with the community? It gets back to that all of those equity things that we talked about, putting stations into areas where it provides access to a neighborhood for people to get

there because the bus stops around 1:00 in the morning. And people still need to return to their, you know, their place of residence. So is kind of a long winded way to answer your question.

Guest 2 [00:26:00] No, that's okay. And then who is asking for you to do that as a service provider? Is that the communities themselves or is it their local governments?

Guest 2 [00:26:12] It's probably all of the above. I think I also think it's the industry, too. I mean, I think there's a there's a high level of recognition that a program that goes into a particular community needs to.... There's kind of two objectives. Number one, you do want to develop a program that's going to be financially sustainable. And to be financially sustainable, it's all about the number of trips that you get on that device on a daily basis to generate revenue. But I also believe, you know, speaking for ourselves and many other companies that I know are in this industry have the same opinion. We also recognize that it's very important that these need to be forms of public transportation. And when you referenced public, that's everybody. And so you need to be strategic in terms of placing stations or placing equipment, so that from the operator or the equipment provider. But you're also going to be a number of neighborhood organizations. There's also a number of departments within city governments that are all trying to solve the puzzle of how do we move people more effectively to community. How do we get them access to the program? And then how and how do we do that safely? And how do we make sure that these services are not here today and gone tomorrow because the service provider just cannot achieve a financial situation, or even a break even, you know, they can't continue to bleed dollars. And there's been a lot of coverage over the last several days on a number of organizations leading different markets. And, you know, the key driver there is how are they doing financially in those markets?

Researcher [00:28:24] And this is what you mentioned earlier, too, that there is some government funding. I don't know if that was at a federal level or state level, but you said that there's a need for more government funding?

Guest 2 [00:28:39] Yeah, I mean, there's always a need for funding. I think how I would change my comment there is I think.... If funding is going to be provided, the there is the requirement to determine how are you going to cover the cost of the equipment, to put the equipment on the ground. And more or equally important, I believe, is how are you going to maintain that equipment and how are you going to operate that system?

Guest 2 [00:29:18] And because our entire industry has moved towards electric vehicles... How do you recharge that equipment and how do you potentially swap batteries or charge those batteries? And there's costs associated with each one of those things that you do. And my frustration right now is that the costs and the grants that are available cover the capital equipment. And really people don't think about, or may think about it but they don't really address the operations, and the maintenance component, which I believe is just as important as putting the equipment on the ground.

Researcher [00:30:02] Right. Especially if you're serving a community that might not generate the revenue. But you do serve that community.

Guest 2 [00:30:11] Absolutely. Absolutely.

Researcher [00:30:12] So where should that money, if you were able to pick up where that would come from, would that be at the state level or would that be from the transit agencies? How would you.....?

Guest 2 [00:30:30] That's..... That's a tough question to, you know, to really answer. I think in the traditional model, certainly at least here in the United States, our federal government has historically been funding source for infrastructure. It also provides funding support for transit. There's state government support for those. And then there's local city as well as county support basically that comes out of taxes. I think, you know, the challenge always becomes a "where in the priority list does shared micromobility fall in". And, you know, that's a really tough question. Come up with a perfect solution is.... There's a tendency sometimes to want to just throw money at things. To solve it. But it is unfortunate, and a little bit more complicated solution, I think one of the really fun things that we have seen is that state and local government can be very interconnected with the possibility of community support for different programs. And I think there may be, you know, potentially there's some way for introductions that would be made to kind of help provide some sponsorship support. And, when you when you look at New York City here in the United States, you know, that program, the concept, was really very unique. They wanted to put that program on the ground without any investment by the city of New York in that program. And through Citibank and MasterCard, that program got off the ground. And the density of that program, the level of ridership, it really is a model. And that was a kind of a collaboration of state government, corporate stewardship, and each one of those communities. Also Sponsorship. And, you know, that model may not work in every community again. You mentioned Davis earlier. You don't have the world headquarters of Citibank in Davis. But I do think there's an argument to be made that by getting rallying the support from different organizations within a particular jurisdiction, that's kind of the I think the secret sauce about how these programs can go forward. It's a little bit more complicated today because you do have venture capital funded businesses that are trying to make their way in this space. But I do think there has to be a solution. There's got to be some way to bring this all together, come up with a solution that's going to be sustainable for the longer term rather than the short term.

Researcher [00:33:58] Yeah. And then the follow up question on that is... Should private entities or government organizations enforce some of the components of these shared services on the users? So of course, there is the question of if the vehicles getting parked in an area where they're not supposed to. Who's in charge of that? Or as you actually use the recent article on San Francisco as a perfect example. How do we work out some of these kinks where perhaps, and it's not as easy as a public private partnership, it is really on the public side all these different government organizations involved, different departments as well. And from a as a private owned enterprise, as a service provider, you would have to contact each of those separate departments to figure out some of these kinks.... Where do you feel like some of the secret sauce is there if you were to make some of that work more efficiently?

Guest 2 [00:35:10] Yeah, I think, you know, I mean, the rules and regulations, I think, where it's working really well at least from my perspective is there has to be close collaboration. I mean, whether it's from the standpoint of permitting for where your hubs or stations are going to be located. There needs to be that close involvement with the governmental entity for that community. In terms of rules and regulations where you can ride in San Francisco. Is it in the bike lane where you don't want to ride or, you know, on the sidewalk? I think that needs to be collaboration there. You certainly don't want to put the public in in harm's way by forcing them on to a bike lane on Market Street in San

Francisco, which has gone through a lot of transformation over the last years. But, you know, but by the same token, if I'm a walking pedestrian on that sidewalk and somebody comes by on an e-scooter at, you know, ten miles an hour or even eight miles an hour, I'm going to be a little bit nervous. And especially if I'm a mother with young children, it becomes..... So I mean, you know, there needs to be a responsibility on the part of the equipment and service provider. To come up and potentially apply technology onto these onto these items, you know, to maybe slow them down if they are on the sidewalk. And then the city needs to come up with, I think, you know, more careful thought in terms of regulations and the like. You know, one of the things that jumped out at me over the last probably 2 to 3 years is the question of what is the right mix in terms of the number of service providers. And in the early days, it was typically, it was much like New York. It was one provider in the early days with Citibank. And now we're beginning to see, and this has been largely driven by scooter providers, there are other services that now are being permitted in greater New York City. And so you go from a very, very, close collaboration between City Bike and the City of New York and the Transportation Department to now kind of this multifaceted, and I believe more complicated, type of service. I'm not saying one's right or one wrong, but I think it is important to be careful that you don't have so many different providers because I believe you've got one pie in terms of the population that you're trying to serve. And you can make the case that the more service providers you have, you have the ability to serve the larger mass of residents and it is going to be more successful or more or available. But if I'm on the operations side, it is diluting my ability as a provider to operate on a financially sustainable basis. I don't have a direct answer of which is better, but that's one of the concerns. We look at if we go into Community X, are we an exclusive provider? Or there are two or three other providers there? And I say, you know, we're seeing some of that shake out now. I believe in the broader shared micromobility space.

Researcher [00:39:10] Right.

Guest 2 [00:39:10] As you know, certain organizations are saying: "we're going to withdraw from these markets" because it's just it's not economically viable.... They are typically saying that there's two or three other providers, again. And we'll see what the what, you know, the end result of all this is. But, you know, I think we are going through a phase of consolidation right now.

Researcher [00:39:36] Yeah. And would you say the main concern there with these complex situations is the lack of management? Or is it the competition that's making it very challenging? Because if we're talking about equitable services, some research, especially from France, has shown that providing different vehicle options, benefits all of the micro-mobility services, right? But then, like you said, if it gets too complicated, maybe we start to run into inefficiencies? Or services start to get a bad reputation, even though that's not always really..... Yeah. Well, what's your what's your take on that?

Guest 2 [00:40:27] I think markets that have three or four different micromobility providers.... You can probably make an argument that a city the size of New York or Paris or London just has the population scale and the density to support a larger number of service providers. I believe from an operational standpoint, it is vitally important to have a dense program in terms of your operations, because if you have a scattered approach, your operational costs are going to have a very negative impact on your ability to be profitable because of just the increased costs of moving across a much broader geographic area.

Guest 2 [00:41:34] So I think a solution, you know, the solutions that might be applied in a larger metropolitan area in some way are a little bit different than small to medium sized area. You know, if you look at the community of Davis, you can get from the East to the West side of Davis in the amount of the same amount of time that would it take you to go? I don't know, maybe a mile, maybe only a half a mile in New York City or Paris? It's just because whether it's depending on the area, whether it's vehicular traffic, whether it's just the number of people moving through the area. If you're taking a subway, just the time to it's necessary to do that..... So I think while there are differences, there are also similarities. And I think really having a denser program in a place like Davis, that may mean all of Davis. Just because of the ability to move across that community. Whereas I think, you know, in a larger metropolitan area, you know, what I'm trying to say here is maybe having some sort of a solution where there are, rather than putting three service providers into the central business district in Paris, maybe and this is not a market we serve..... So this is maybe a really stupid idea. But, you know, something where you establish zones that a different provider may be the exclusive service provider in that area. And then having the technological capability to maybe use the same mobile application to access brand A, brand B and brand C.

Researcher [00:43:31] Right. So you're sharing and you're allowing people to use different types of vehicles, but within that geographical boundary however that's determined...

Guest 2 [00:43:41] Correct, correct.

Researcher [00:43:42] The profit margin would go to that operator.

Guest 2 [00:43:45] Correct. Yeah, I don't know if that makes any sense, but it's you know.....

Researcher [00:43:49] I mean, it could, but then the system would have to be so that, you know, it's a well structured program and everyone's working together and then..... I think we're running out of time. But looking into the data aspect there. How was data being shared and do you see that? Do you see that there could be some more efficiencies on that aspect of collaboration?

Guest 2 [00:44:15] So I'm going to I'm going to come back to the question 12 here right. Now, I do want to go back to what we were just talking about. Because, I think, you know, what popped in my brain was that if you go to London. You have Transport for London, which provides a broad range of services from Subway, bus, Rail, and it's a single entity serving the entire community. And a single structure. And I think even in in London, some of the rail services are privately held, but they unction within the TFL network. And I think this gets back to the earlier question you pose in terms of public transportation. And I think this and this may be one of the things that, you know, we certainly have not figured it out here in the United States. And if you look in the greater San Francisco area, I think [REDACTED] where I first met you. Yeah, they talked about the number of.... it was a crazy number of transit entities. It was almost like 30 different transit entities in the San Francisco Bay Area. That's probably an area that you could put right down into Paris and you know... and then and that probably does not include all of the other micromobility providers.

Researcher [00:45:48] That is just agencies.

Guest 2 [00:45:52] It's it is what it is..... But to me, it's kind of crazy, you know, and so I think this whole transit and public transportation question, it is a huge question that really needs to be addressed. And it's not an easy problem to solve. But, you know, I think when you look at some of these dramatic contrasts, Tokyo, again, as I recall, of many of those different rail lines are independent, but yet they all function and they found a way to kind of function as one. And so there may be some lessons out there that we can learn from. But to go now to your last question in terms of data, the data that's currently gathered in the networks.... And so there are, and most of us here in the United States are part of the North American Bike Share and Scooter Share Association NABSA, and NABSA supports both the GBS, the global bike share information feed, and then MDS has become a much more vital platform.... I believe all of that now, all of those bits of information are now being channeled through a single entity here in North America. And that is being shared with cities. And there's a number of businesses that have been developed to kind of allow you to manipulate that data and the like.

Guest 2 [00:47:37] Could we be doing more with that? I certainly believe so. And, you know, but for the last 12 years, you know, we've been generating heat maps of where our vehicles are being ridden, where the you know, using the points of origin and where you overlay those with where the existing infrastructure may already be. There are new areas that people are finding for the future infrastructure to be improved on. So I think, you know, that's something that continues to evolve by putting more GPS type devices on these vehicles. And, I do believe many cities are taking advantage of that in their planning process.

Researcher [00:48:30] Okay. Yeah. And then I don't want to take too much of your time so i will stop the recording.

Guest 2 [00:48:37] Yeah.

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Guest 3 [00:02:40] Yeah. So I haven't really had any other positions that have related to micromobility. This is the first one for me. Um, yeah. So I've been with [redacted] [company name] for over two years now, and so I've worked on two projects where the client, the first being [redacted] [location in Canada], the second being [redacted] [location in Canada]. They've wanted us to do some research into micromobility best practices. So in that case, we've taken a research role, best practices, etc. More so on policy and enforcement is usually where we kind of focus our efforts because the cities want to know how they can prepare to bring in these kinds of mobility options. Yeah, I guess we do overlap as well with designing infrastructure, but we see that as very linked to cycling infrastructure. Like we don't really see that there's any special there's any need for any special infrastructure. You know, anything you can ride a bike on your right, a scooter or a shared bike on. So that's where we kind of stand in that, in that regard.

Researcher [00:04:10] And so you're talking about the overlap between [infrastructure and mode shares].... And of course, I'm also really looking at social equity there... Do you have a lot of experience with, for example, docked systems that need any specific type of infrastructure? Or is that not really something that you've experienced?

Guest 3 [00:04:41] That's not something that we've really that I've come across too much. Yeah. I guess like a concern would be finding space in the right of way for docks. But yeah, in terms of specific infrastructure, not too familiar with that. I do know of one city just from my research. I have no connection to them. I had no contact with them, but they were looking at docked, I think it was bikeshare, that was charged by solar panels. So that was just a neat thing. But I don't have any specific expertise on that.

Researcher [00:05:25] Yeah, that's okay. And for the second question, what does your profession with shared-micromobility or how does your personal experience inform you on what role these services have had in the past and or what role they might play in the future. Do you have any thoughts on that?

Guest 3 [00:05:55] Yeah. So I think. In the past, well past and present. I think they have a decent roll of shaping our urban environment physically just through infrastructure. I think they bring an awareness to the need for safe facilities, for cycling and for all kind of rolling forms of mobility. I think a lot of people, it's easy for people to say, since a lot of people don't bike or they're not interested in biking..... That there's no need for cycling infrastructure. But I think these shared services, specifically with scooters, I know in Ottawa, there's people riding them all the time. And just the fact that they're on the sidewalks, on the streets, and they're kind of all over the place.... I think it's helping to bring an awareness to the fact that we do need some dedicated spaces for these types of mobility services and just cycling in general because no one likes them on the sidewalks. People also complain about them on the streets. I think it's just showing that we do need this space and it's showing that to a broader audience of people. So yeah, in the future, I think it will continue like that. And I can see it being a positive in that sense of encouraging those spaces.

Researcher [00:07:36] Yeah. So you're kind of saying that these shared services, you know, allowing these vehicles to be in spaces where people are claiming nobody bikes or walks or, scooters uses any of that type of vehicle. You're saying we're kind of forcing those vehicles to be in those areas as a visual reminder of saying: "hey, we might have to

move away from focusing only solely on cars when we're designing our urban environments". So you as a consultant obviously would benefit from an environment where people realize that we need spaces for those vehicles. So really, you're saying micromobility is kind of coming in and forcing us to change these areas. Do you foresee any concerns with doing that with shared vehicles? Do you feel like it's forced too much? Or maybe, you know, there's some nuances in how we implement these services when we don't yet have the infrastructure for it in some cases?

Guest 3 [00:08:58] Yeah. I think bringing them in when we don't have the infrastructure has been problematic. Because there is that there isn't really a safe space for them and the fact that they're available for anyone to take, regardless of if you've ever used one before, I think that presents some difficulties. But in terms of their effect on encouraging these dedicated spaces for micromobility or cycling. I don't really foresee any specific problems [to shared vehicles]. I mean, the interaction between micromobility..... I know shared bikes are still micromobility, technically, but I tend to see micromobility as the scooters or other types of electrified transport of some sort. And I think that interaction with cyclists can sometimes present challenges in itself. I don't know if it's just speed or if it's experience and the user respect as they're using them. I've come across some scooter users on bike lanes and separated infrastructure that are fairly..... Reckless or aggressive in terms of passing and things similar like that. But I also think you can't have a separate space for every single form of mobility. So, you know, having them all in mixed together with cyclists and skateboards and rollerblades..... I think its a relatively minor conflict compared to mixing them with pedestrians or mixing them with larger vehicles.

Researcher [00:11:06] And that is an interesting topic you bring up. And, and I'm going to deviate a little bit from the questions because, you know, you have more experience with designing these spaces. And some of these questions are also geared towards service providers. Do you feel like some of those conflicts you encounter would derive from having not enough space as active transportation users and having still too much space designated to the car? Whether it's driving aisles or driving lanes, parking spaces, or having large turn radii that prohibit people as active transportation user from taking the space they might need? And is that limited amount of space is forcing some of those awkward interactions? Or do you feel like it's a lot of it has to do with it's just being "new" and people not having a lot of experience with all these different types of vehicles that we now have available?

Guest 3 [00:12:11] Yeah, of course I think it'd be a bit of both. But I would lean more towards the first point, just being a lack of space. If you have a cycle lane that's pretty much wide enough for one person then maybe there's a bit of space to pass if the person behind you is aware and if you're aware that there's someone behind you trying to pass. You can give them that space. But a lot of times the cycling lane is a meter and a half or 1.8 meters. Hence, it's not really comfortable for passing. And trying to get more space for wider facilities is definitely a challenge because of the whole issue of parking and vehicle lane widths and try to maintain a certain number of vehicle lanes total. So, I think in terms of designing the infrastructure, it is important that it is wide enough to accommodate for variable speeds in in these smaller devices. I'm not sure what the maximum speed is on some scooters, but I feel like it will be like biking. I mean, I don't know for sure for all vehicles, but I'm guessing they do 20 kmph an hour and then people are still flying by pretty quick on scooters. And I know there are a lot of more casual cyclists that will go much slower than that. So I think the speed discrepancies a little more interesting when you've got narrow facilities.

Researcher [00:13:38] Yeah. And that's something I think that also varies per city or municipality. What they what they do and don't allow. And in our case, we're also talking about, you know, two different countries. So maybe that varies in itself as well. Yes, that's an interesting point. And then do you feel like you as an urban designer... Do you feel like you have a lot of influence or do you have an important role in making that right? So when you feel like people are traveling at different speeds as active transportation users with different types of vehicles... What do you see your role there or how do you see that plays into all these different types of services that we have and all these variances and not always having.... We're no longer dealing with the standard safety bicycle frame as we as we used to know it, we're now dealing with engines and high tech vehicles that are also a part of our active transportation users.

Guest 3 [00:14:58] Yeah. I think I think consultants and designers have an important role to play because, especially from the consultant side, I feel like municipalities often need to push to do more than the bare minimum or whatever the standards state. And that's a big thing with [REDACTED] [company name] since we do try to bring that Dutch knowledge and Dutch influence over, often in Canada, I find that's probably similar in the States as well, where you have your standards manual or your guidelines and they're just focused on desired width and minimum width and they [municipalities] aim for the desired width. But, any time there's a conflict with fitting in parking or something similar like that, then they say: "okay, well... We can just drop it down to the minimum". But the minimums that we use from the Netherlands are higher. So we always trying to push municipalities to strive a little bit further. And I think ultimately we don't have the final say, but I feel like we have a valuable role in advancing that and just making people think, even if they're it's just making them think a little bit more about why they're making the decisions they make and think about the tradeoffs, I think that's where we as consultants can have a really valuable role.

Researcher [00:16:26] Yeah. And then we don't need to go too much into the organizational side [points to question] you're more coming in from the design and consultancy aspect in this. But you might actually see some of this, just let me know. And let me know if you don't.... Do you feel like communities get involved enough in the implementation and decision making of these shared micromobility services? And you actually might have some of the infrastructural side aspect here as well. And how might we get involved more?

Guest 3 [00:17:10] Yeah. So this is one that I would say actually might have less experience on the infrastructure side and more so on the policy and enforcement. Just from the research that I've done in the past for the cities that have done projects for. It seems to me that communities are.... Actually, are you referring to communities as like the municipal government or more like the community as a whole and public engagement?

Researcher [00:17:41] That is a really good question. I would say. The community as in the people you would reach out to if you're trying to implement a new piece of legislation or a project, depending on the scale.

Guest 3 [00:18:18] Yeah. Okay. so I think municipalities, I would say are like the actual part of government that are more involved here. It's not like they just say: "...you can you can operate your micromobility service here and have free reign". There does seem to be more consideration of policies and how enforcement is going to work and what sort of level of liability and responsibility that providers will have. I mean, I wasn't working in the field when micromobility first came out, but from what it sounded like.... It sounded like it was

kind of a bit of a free for all. Whereas now, it seems like there's a very strong effort to really rein it in and have more control over what happens. Whether it's the number of vehicles or who's enforcing and what measures they're taking. And then in terms of like stakeholders and the public, I'm I don't really know if there's a lot of involvement. I think for design projects, for general cycling infrastructure projects, there's always community involvement. I think that's also being seen as something that's really valuable. Like we were just working on a project in [redacted] [location in Canada] where they were evaluating three different cycling facilities for three different corridors. So we did designs for those and then they went out to the public and it was like an interactive website where they could go to and look at the designs for each of the different facility types and add comments and all that. And then there was like a workshop. So I think from a design perspective, it is very common to invite stakeholders in the public to give feedback. But I don't think that's specific to micromobility usually. Not that I've come across anyway.

Researcher [00:20:30] Right. You haven't come across that with any policy implementation?

Guest 3 [00:20:39] No, I don't think so. I mean, it's very possible that there was some background consultation. I guess some of the things like I think [redacted] [location in Canada] and [redacted] [location in Canada] have done is some good stuff for policy and micromobility and apparently they've been pretty successful. And I do think some of those things came out of complaints from the public. Complaints about user behavior, things like that, like speed, and riding on sidewalks. So they have implemented policies that aim to address that and I think they've done a good job of that. But I don't know if the public was really consulted. I think it was more reactionary.

Researcher [00:21:28] Yeah. So and in those instances. Well, I mean, if you were part of that community, you know, I'm not sure if there's is if there's been any projects in the area where you have worked specifically or where you live. If you wouldn't know about any community outreach, you know, you could. You could say. Well, since I wasn't informed on that. Maybe not. But. Yeah. Yes, that's a tough. Um, so and what's are some of the biggest challenges that you encountered with micromobility? And of course, we've talked about the speeds. We've talked about different types of vehicles that are being used. And do you have any other examples that you might have?

Guest 3 [00:22:25] Yeah. I think as always, I'm sure you're very aware and lots of people have brought this up as the parking issue and then being parked all over the street. I mean, I've encountered that myself, just walking on the street. And you just wonder sometimes why the person riding it even decided to leave it where they did. I guess it's just kind of a common sense thing that you wouldn't leave it [the vehicle] in the middle of the sidewalk. Parking is always a challenge. I know in [redacted] [location in Canada], and this isn't any specific project I worked on with [redacted] [company name], but I know they delayed rolling out the scooters again. I think they had [redacted] and [redacted] as one of them [service providers]. But they told the providers that they couldn't put out any of their scooters until they figured out a way to deal with the parking issue. They were trying to get for parking and riding on sidewalks. They were trying to get the providers to implement some technology that sort of like a geofencing where they could prevent the scooters from operating either on the sidewalks or being parked outside of certain zones. I'm not sure what they ended up coming up with, but the scooters are out again now. But they brought them out in July instead of May or something. So those are some of the biggest challenges and it seems like they're still figuring out the best way to deal with that.

Researcher [00:23:56] Right. So I'm thinking about the community outreach component. You talking about these different services being rolled out maybe at a larger regional scale where you are. It is interesting that you wouldn't know some of the background stories on these services. Being somebody who is really actively involved in these types of services, at least for the environmental aspect, and it also sounds like some of the policy aspect.... Some of the items that these services do interact with or rely on..... So... It makes me think about the outreach there.

Guest 3 [00:24:48] I think it was lacking a little bit. You're right.... I being in this world of mobility planning, you'd think I would have known a bit more and actually had people ask me when the scooters weren't out in June and asking me like: "do you know why that is?" And I had no idea. It wasn't until I saw just a news article explaining it. I didn't even know if they were bringing them back. I thought they just decided not to..... So there is, I think, a lack of communication on that earlier from the city's side.

Researcher [00:25:21] From the city, or you could say from providers as well. You know, it is interesting that you're somebody with, obviously, expertise in the built environment and you've seen a lot of different built environment concerns that have a lot of overlap with these new services. It'd be interesting to find out why either the city or service provider or whoever is involved for that matter may be reluctant to invite consultants like yourself or why you wouldn't be invited for something like a grand opening or the exploration of implementing one of these services in a local jurisdiction. That could be free..... Kind of like a free consultation almost is you invite all of these designers and people who know a lot about those environments. But I'm just kind of thinking out loud.

Guest 3 [00:26:41] Hmmmm.

Researcher [00:26:42] So that is interesting that you wouldn't know too much about the community outreach because if they did a lot of community outreach, I feel like people like yourself who work at [REDACTED] [company name] would be the ones to know.

Guest 3 [00:27:05] Of course.

Researcher [00:27:07] I would say more so than somebody who has nothing to do with any type of transportation related topic. That's just interesting.

Guest 3 [00:27:22] Yeah. And I would say that we have, I mean we have we don't do a ton of work in [REDACTED] [location in Canada], but we do have a close relationship. So the city is very aware of us as a company and knows us personally because there's only a few of us in the [REDACTED] [location in Canada] office. So yeah, you'd think that maybe there would be a little more communication since we have that close relationship.

Researcher [00:27:56] Yeah. So it's interesting. And then what I think was kind of funny is when you bring up some of the challenges with these shared micromobility services, one of the first thing you said was parking, finding spaces to park them and having people whether they are docked or dockless systems doesn't really matter for this example..... But if you have the case where people just kind of dump the vehicles in an area where it's not meant to be. You would say that you would need to find a way to address that very physical issue in how we shape our built environment. But then earlier, you also said, I don't feel like these shared services are much different from bicycles or other types of active transportation. So that makes me want to ask the question: "are they similar enough

are they that different since they are shared that you would need, as a municipality or service provider, and whether you're working for government or private party in this case, would you need to address some of these differences with consultants?

Guest 3 [00:29:23] Yeah. I think they're similar enough. That it's something that a municipality can address with the service providers. I mean, I understand the appeal of the dockless system, but..... I don't know. Yeah. I don't know. That's a tough question. Because like with cycling, you're not going to leave your bike anywhere..... Most people are not going to leave their bikes somewhere where they can't lock it and the places to lock it are always in a designated furnishings zone the streets. So..... You'd think there'd be a way to have sort of like a docking. Yeah. You don't want it. Don't necessarily want to be a dock because you want the flexibility of being able to drop them off wherever. Yeah, just to have something. I don't know. Maybe it's a trickier question, I guess, because I can't really think of anything. But it seems like it should be something that.

Researcher [00:30:39] You feel like it should be similar enough, these issues. And I will tell you this, there are some. Scooter services, for example, where you are asked to lock it with a physical cable to type of fixture. Aside from signing off on your app, you're asked to actually attach it somewhere. It depends really on the jurisdiction. A lot of people are doing different types of programs for different types of vehicles, and they all have their own nuances. But the funny thing is that they all share the same problems in a way. They just address them differently. So you're saying..... No matter what the situation is, no matter how you have your shared device, docked or not docked...We should be at a point where we are able to be treat this similar to somebody who owns their own bicycle and stores that away for X amount of time. We shouldn't have to design our built environment differently just because those vehicles are being shared. It's more in the actual use of them [the service] than in the physical environment.

Guest 3 [00:32:08] Yeah, exactly. I think that's a really good way of summarizing it. It's like the main difference is the ownership. If done right, then you're more likely to take care of it and put it somewhere that's not going to either get stolen or be a nuisance. But yeah, just the fact that it's not owned by you and the fact that you have the ability to leave it wherever, that seems to be the distinction. And if there's a way to kind of make it feel like people have more ownership. Yeah. You should be able to fit it within the existing built environment without any extra or too much of an offering.

Researcher [00:32:55] Which could also go back into the communication aspect when you as a local consultant working on all different types of projects and working with a lot of international people probably as well. You know, you have a really kind of broad view on these types of topics. If you don't get asked about your opinion, whether it be as a user or somebody who is involved in the shaping of our built environment in one way or another. You know, maybe that also doesn't help with that type of interaction happen at. So that makes me wonder again..... Does this come back to outreach? Does this come back to making people feel like they're part of this system? If companies also don't get approached in the first place.

Guest 3 [00:34:15] Yeah. I think developing a sense of ownership or involvement from a, I don't want to say lower, but like a broad sense.

Researcher [00:34:29] More a bottom up versus a top down approach?

Guest 3 [00:34:35] Yeah. I think that that's really important for not just micromobility, but for all kinds of urban issues, housing, land use, other forms of land use. All of that I think is very important to get people involved and not just feel like a government, whether that be the municipal government, is doing whatever they please without any feedback from like an individual who is using them.

Researcher [00:35:02] And then kind of going to the next question..... So we talked a little bit about the physical built environment. This next question goes into how it plays a role in the success of shared micromobility services. But maybe we can talk a little bit more about land use, or densities, and this also goes into the equity component. What factors work against shared micromobility services in disadvantaged communities? So here in the United States, we have had redlining and other urban planning practices that historically have marginalized people and really, simply pushed people into corners. And I'm trying to find out what the interaction is when we're implementing these new services with some of those practices that we have seen. Are we only putting these high-tech vehicles in certain areas, or are we only aiming for a certain type of user? And what's your view on that?

Guest 3 [00:36:23] Yeah. I don't have a ton of experience with that, but I think land use and density very much seem to be a driver of where these systems are implemented. There is a target group, I would say. Just from my observations, there seems to be a target group such as younger people, urban-like higher density urban spaces where there's a lot of young people, a lot of students. Like student towns tend to have a more have more interest in this kind of thing. And also tourists and tourist districts. I know the city of [REDACTED] [location in Canada] also, when they asked us about micromobility, they were asking us about it from like a tourism perspective and its ability to provide tourists a way to get around the city without needing a car. And needing to have less familiarity maybe with the city. This kind of explore-by-Scooter service. So yeah, I guess when you think about it, and I see the value in having a target user, I think that's very important for the success of micromobility. I also definitely see how that would lead to kind of a lack of equity. It wouldn't be as available to people that actually need it, whether that's by community or some other kind of aspect. Like economic class and economics or something similar. The ability to pay for these services.

Researcher [00:38:36] And do you feel like, so obviously you have seen a lot of urban transformations, so you've been mostly involved in physical built environment rather than policy pieces because you're really designing spaces as well, right?

Guest 3 [00:38:56] Yeah, I would say more so designing spaces. Not for micromobility specifically, but designing spaces in general for alternative forms of mobility. The research I've done on for couple projects has been policy and enforcement. So it's like I kind of have a more detailed understanding maybe of of designing and shaping the built environment. But specific to micromobility, it's more in the policy side.

Researcher [00:39:34] Okay. So. I'll first go to the question and let me know if you're running out of time. Do you feel like micro these micromobility services can maybe kind of bridge a gap where you are making physical changes for alternative vehicles, where otherwise people would rely on the more traditional forms of transportation? if you're redoing a boulevard and you're removing lanes and you're taking out some of the parking spaces and converting those into more active spaces. You know, people still need to get to the destinations where they were traditionally using an automobile before. Do you feel like for those people who cannot afford to have alternative types of transportation, shared

micromobility services and play an important role there? Or do you feel like It's not necessarily shared micromobility services that we need to bridge that gap.

Guest 3 [00:40:50] Right. Okay, I see what you're saying. Yeah, I don't think it's necessarily shared micromobility that needs to sort of take on that role, I think. I'm not super familiar with like their cost to a user. Just from like personal experience. I haven't used them myself, but I've heard people say that it's expensive. Yeah..... I don't really know. I'm still kind of on the fence about whether micromobility is a good alternative to people. And for well, it may be a good alternative, but I don't know if that's the shift that people are making. I don't know if it's people that would traditionally drive and now deciding they would want to use a scooter. I feel like it is drawing more from people that would walk or take public transit or potentially to take people away from using Uber or something similar, which I think is a good thing. But I don't think that that's what we should be focusing on to make a shift. Right. I think it'd be a greater especially from an equity perspective and like being able to access it. I think just focusing on like cycling because it's so cheap and accessible, anyone could pick up a bike for 50 or 100 bucks, and have it for several years. I think that's the route we should go and focus on shaping the built environment, of course to accommodate all forms of mobility, but encouraging cycling more. It doesn't necessarily have to be the shared mobility that makes that shift.

Researcher [00:42:36] Right? Yeah. And you're saying if somebody were to come from a more, you know, rural area to a very high dense urban area and. You know, if they don't have the means to get to that urban core, that is maybe, you know, starting to become more active transportation focused from their location that the issue is not the vehicles. The issue is that we need to design our spaces so that they have a bike path coming from all the way outside of the city into the core of the city. That issue is not resolved necessarily by having these services, because that's what some people are saying. Some people are saying for the time being while we're trying to focus on active transportation, realizing that there's people who have a lot of disconnects in their in their network. You could say we can have that public transportation substitute and there's those gaps that we experience where micromobility connects to that. But you're saying or what I feel like you're saying is focus on providing bike lanes, providing actual networks, aside from these different types of vehicles, that allow people to own their own bicycle and bike downtown.

Guest 3 [00:44:19] Yeah. Yeah. I think focusing on improving that sort of technology in the sense that we already have like..... Well, I guess it's not just technology, but it's improving transit routes and improving cycling routes. I think that would have a greater impact than providing more vehicles and vehicle options. Although, I do see the value of micromobility in providing that good last mile, first and last mile connection to transit. I could see that being valuable, but I think for the biggest bang for your buck you probably want to focus more on the transit and cycling infrastructure.

Researcher [00:45:07] Yeah and you were saying that they are different types of users from your experience? So you're not really addressing these issues regardless?

Guest 3 [00:45:20] Yeah, I know from some pilot projects too that have been in place..... They also do target users like one that just came to mind is in [REDACTED] [location in Canada], in the [REDACTED] district and have you ever heard of that? But it's very much a tourist area and the city of Toronto piloted micromobility scooters there. They really just concentrated it in this tourist Bubble. And that seems to be pretty common.

Researcher [00:46:00] That's really interesting. And then so you said you worked on some of the policy aspects, specifically on micromobility services. Could you talk a little bit about that? You talked about enforcement. That kind of bringing us to question 11, who is actually enforcing the regulations on the users? Does that kind of go into that?

Guest 3 [00:46:24] Yeah, definitely. Yeah. That's something that we've looked into a bit, is who's responsible for enforcing user behavior, ensuring they park in the right place, right and the right place, and do it safely. So it seems from my research that municipalities have taken a lead in figuring out who's responsible for that. So..... They often seem to be passing on that responsibility ... so they'll have a policy or some clause in their contract with the service provider that the service provider must collect scooters in different places and transport them to high use sites and they must move scooters off the sidewalks and in places where they're not supposed to be parked within like 30 minutes. I know some cities have, and I just have a report open here to remind me of some stuff, there was [REDACTED] [location in Canada] or [REDACTED] [location in Canada] where they did like a sort of, not licensing, but they would put ID numbers on the scooters so that the public could. If they wanted to complain, could give a time and give this ID so that they can trace the scooter use to a particular person and that could help with education and building awareness about how to properly use these devices.

Researcher [00:48:29] And then so say so in that hypothetical case where you have a scooter with some kind of license plate or some kind of identifier and somebody doesn't obey the whether it's the rules of the service or the law or the local jurisdiction. And people get X amount of warnings, then they get banned..... Do you feel like that responsibility of enforcing this or making people pay fines is that a public or more of a private issues that either the local government or the service provider needs to enforce? and then is it fair to ban people in these cases where they do get banned? Because that is something that happens. Is that fair to the user or is that part of a larger.

Guest 3 [00:49:40] Problem. Yeah. Yeah, I think. I had something for that first point and I forgot. Um, but in terms of, like, banning users, uh. Oh, no. Okay. So going back to. Oh, yeah, the responsibility. So I think I feel like it should be a private responsibility to enforce these things. I think municipalities should have policies in place and stipulations in their contracts, and that's what I've seen. They've had these requirements for the for the private service providers to follow. And if they don't follow it, then there'll be extra fees or fines to the company for not enforcing things. Um, and then in terms of enforcing on the user.... I don't really think it's. I mean, maybe in extreme cases, if it's like. It's like a very continued like it's determined that it's like the same user that is frequently, um, I don't say breaking these laws, but like, not like improperly using them.

Researcher [00:51:00] They're not complying for whatever the reason might be. Yeah.

Guest 3 [00:51:04] Yeah. I think if it's determined that it's a repeated thing and that person has been provided either educational materials or warnings or whatever it is..... I guess it would be okay to implement some sort of ban, whether it's a temporary thing or what. But I think that should be a pretty extreme case. I don't even know if there would be a situation where it would get that far. I think it would be more. The responsibility of..... If that was the case, the responsibility of the municipality to provide a solution for whatever the problem is. If it's a parking problem, if it's riding on sidewalks problem. If it's consistently a problem, then the private company, the service provider, is having to deal with then there should be like a communication between the municipality and the service provider to sort of recognize these issues that are coming up a lot. The service provider might say we've

done whatever, you know, X,Y, we've done this and that to try and address it. And if it's still becoming a still a very frequent problem, then I think there needs to be a greater dialog between the two to figure out how to address that. And then ultimately the responsibility should be on the municipality to provide some kind of solution. Well, not in all situations. I'm just thinking like a parking situation would be a private something that the service provider would do provide like docking or zones to park. But maybe it'd be something that municipality would address with, like, a cycling lane. So I think there needs to be a very close relationship between the municipality and the service provider. I think the service providers should take the main responsibility for addressing noncompliance with education and. Yeah. Just kind of like. Their own efforts, whether it's moving scooters or whatever. But in the end, the main responsibility is the municipality to provide like a safe environment for people to use these things for all users, road users, not just the scooter users, but also pedestrians and drivers like make sure that the whole road environment is safe for everybody.

Researcher [00:53:50] Which kind of goes back into the question of, you know. You highlighted earlier how some of these services showcase in our in our built environment that we still have items to address or work on. But it almost seems like sometimes it's like a circle, right? Is it the chicken or the egg? We're putting these vehicles in in areas that will highlight concerns. But then the question is, does our built environment need to change prior to the implementation of these services, or do we somehow need to find some kind of balance between. Having the service, working on our built environment and not being too harsh on enforcement because it's kind of what you had you said parking being one of the issues but also riding on sidewalks. Well, if there's no decent facility to use, you know, whatever type of vehicle you're using and you're kind of forced to use the sidewalk, even though that might be against law or regulation or whatever it is, you know who's to blame in that situation, right? Is it? The people that are that are involved more in the land use and planning side of things or is are the people that are putting in these services or is it the users or is the real answer? Something in between.

Guest 3 [00:55:23] Yeah, I think it's always going to be something in between. I feel like it can be hard to implement to change public space without data and without like observations. So I think micromobility offers an opportunity to collect data and see where it's being used the most. Maybe like where sidewalk riding is a major issue. And then the municipality can respond by saying, for example: "okay, this is a frequently used corridor. Let's do something about this. This is maybe a good spot for to put in a bike lane". It needs to get all needs to be linked. And you kind of have to find the balance.. You'll have people complain in the meantime, like the public, but sometimes there just has to be like a certain level of acceptance for these kinds of things.

Researcher [00:56:17] You bring up an interesting point because my question to that would be does the data get collected on the users expense or does the data collected on the concerned citizen who is dealing with these vehicles or a local business was dealing with vehicles that are parked incorrectly in front of their shop. Is that a desired situation? How else.....? And this kind of goes into the next question as well. You know what that is currently gathered. Do you feel like there would be alternative ways to gather this data?

Guest 3 [00:57:09] Yeah. I'm not too familiar with current data and data collection practices, but and I'm also a little bit on the fence about how much data we should be collecting. I just think I'm not informed enough on that from a personal standpoint about like people are as concerned about their personal data and like everyone knowing like with a micromobility service, knowing where they are going every, every time they use it. Some

people are concerned with that. I'm not really sure where I stand on that or like how to kind of mitigate those concerns, but. From a planning perspective, I think it's really important to collect data, to make informed decisions and. That doesn't maybe have to be. I guess the more you get into this kind of topic, I guess the more data you can see as useful. But from my level of expertise in this, I, I could see a very limited data being useful, like even if it's just like where trips are taking place, right? Maybe how long the trip is, the distance covered time use. I think from a planning infrastructure perspective, that is. Almost like the bare minimum. And we can I think we can make do with that to make decisions about where to place infrastructure in terms of personal data. It might be nice to have, but I don't really think it's necessary.

Researcher [00:58:48] And do you use any of this type of trip data that is gathered by these types of services as a mobility consultant?

Guest 3 [00:58:58] I haven't personally though.

Researcher [00:59:00] Yeah.

Guest 3 [00:59:01] I mean, I guess we've used not micromobility specific but in the past we've used it before I was with but we kind of know of some projects where they used origin destination data for to plan cycling networks. So I guess if we were to work on a micromobility project of some sort. We might use that data, but I haven't used it myself.

Researcher [00:59:26] So when it comes to other types of vehicles you're not comparing the scooter or bike trips side by side to be informed as a consultant on how you can design for bicycles or things like that?

Guest 3 [00:59:44] Yeah, not right now.

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Guest 4 [00:00:43] So I worked for a micromobility provider that provided shared electric mopeds and shared electric kick scooters or e-scooters which I call kick scooters. In our work we didn't directly address social equity. Our work impacted social equity by providing a fast, low cost alternative in certain neighborhoods that were not otherwise well-served by transit and other travel options. Or in some cases we failed to do that. Do you want to hear about how we could have done better. Or is that a later question?

Researcher [00:01:49] You can already ...you can dive straight into that if you want.

Guest 4 [00:01:54] As a for profit business, we failed to serve almost all of the neighborhoods in [REDACTED] [location in California] that were most in need, deliberately. And it wasn't because we were trying to exclude those people. The people at every level of our company were very much in favor of social equity and transportation, equity, and justice. The problem was that we experienced higher rates of theft and vandalism in those neighborhoods. And so one by one, we excluded them from our service area. And any time myself or anybody else on the supervisory team looked at our map and saw one of our vehicles in a disadvantaged neighborhood, we spat out our coffee and dispatched somebody as quick as we possibly could to go rescue it. We would call that a rescue. And there was a good reason for that because most of the time it would be vandalized or stolen. Also, parking enforcement was way up in those neighborhoods, so it was way more likely to be towed or ticketed, which is a whole topic in itself.

Researcher [00:03:37] Right.

Guest 4 [00:03:41] Yeah. So we ended up not doing anything for those communities in..... Well, I could list them all, but you would have to black them out. But in some of the hardest hit areas of the city. And so I always thought, what if we what if we worked with the city and said: "This is our increase in costs when we operate in such and such disadvantaged neighborhood. And we want to serve everybody. We want to increase our fleet size. We want to give more people the opportunity to quickly get to work or to do courier work". That's the other thing. You know, low, lower income people a lot of times are attracted to courier work or delivery work, but often they can't do it because they can't afford a car or there is no place to park it or it will get vandalized or broken into. So if they have, especially a moped, and they have a daily rate, then they can have a living and an income, but not if we exclude those neighborhoods. And so, I thought we should go to the city and get a small subsidy and show that it's to recover our costs. And if we did that, we could make our usual and customary profit. We could hire some extra people to take care of those vehicles. And the city would get a huge win because we would be serving an area very cheaply that would cost a lot to serve otherwise. Now, one of the problems with that is that there is kind of a silo mentality. A lot of times in municipal agencies, and so even though it would be a win for the city as a whole, a bus operating agency within a city might see that as a threat. Now in this particular city, I think we were too small potatoes to even see us as a threat or as anything to even worry about positively or negatively. But when you start talking about expanding into neighborhoods that could have expanded bus or train service, well, that could be a little contentious.

Researcher [00:06:26] So actually that kind of goes into the second question, too, just talking about competing with conventional, but also goes into the question of do you consider this public transportation, but you're talking about competing with conventional public transportation systems. Do you feel like... and I don't know if you had any data on

this? But do you feel like you were able to pick up customers that you could have picked up regardless of whether they used the bus system or not? Do you feel like there actually, aside from the size of the service that there was in that competition, or did you feel like you were supplementing something and it could work very well together?

Guest 4 [00:07:12] I think it was both and I don't know which way it tips and we didn't have data on it. We didn't have data on a lot of stuff that we should have had data on, but there were definitely people who were riders that I talked to and myself too, who had previously ridden busses. Not so much the train since the train is kind of a separate thing, but busses.... Once we saw that we could ride an electric moped at 30 miles an hour and split the lanes and park wherever we felt like it and not be tied down to a schedule and not have to worry about a vehicle being late. That we said: "oh, yeah, well, I'm never taking the bus again". Now there were other people. And this one one's more anecdotal..... it's not really anecdotal because it involves physical things..... But every morning all the motorcycle parking spaces in front of [REDACTED] [location in California] would be almost completely full of scooters. It would be this large row of death not death, of mobility.

Researcher [00:08:45] Yeah.

Guest 4 [00:08:46] And to the point where the privately owned scooter and motorcycle riders would get mad because we were taking up all the spaces. And I have been confronted multiple times and I had to tell them: "look, the city can designate carparking to more motorcycle spaces whenever they want". So, yes, it sucks when you get here and there are a bunch of scooters and you can't park. On the other hand, it's demonstrating that these spaces are being used and that they should designate more of them. I use that argument a few times and it never seemed to convince anybody.

Researcher [00:09:29] Interesting.

Guest 4 [00:09:31] And then and then throughout the day, those scooters would they would get ridden away and other ones would get ridden back. And then in the evening, every scooter that was within a block and a half of I guess I should say where it is.

Researcher [00:09:53] You can say it, I'll black it out.

Guest 4 [00:09:55] On [REDACTED] [location in California], [REDACTED]. They would all get ridden away. Right. So you would see this pattern of..... It's almost it's almost a transportation paradise where you have these self-regulating vehicles. They all go to the destination in the morning, but they don't sit there useless all day. They do get ridden. People get lunch and couriers take them, all kinds of stuff. They mill about and one gets ridden, another one comes back. You can see the battery levels as this all is happening. They'll be various levels. Some of them will be pretty low. And then around 1 p.m. or so one to three employees will come by and swap all the batteries for the evening rush and then those bikes will get taken from [REDACTED] [location in California] to way out in to [REDACTED] [location in California] or [REDACTED] [location in California]. Places that, if you got home by bus, it would not be a quick journey. You know, a scooter was able to do it in about 20 minutes and a bus would have taken at least 45 minutes, if not an hour, especially if there's traffic. Now, in terms of in terms of the magnitude of the effect, I would say it is a very small scale. It was tiny, tiny, tiny, compared to the bus ridership in [REDACTED] [location in California]. It almost didn't matter at all. Right. But if you. If you

scaled it up to, say, the amount of scooter ridership in a place like [REDACTED] [location in Europe]. Now it's a different story. Now, it actually matters.

Researcher [00:12:00] But you feel like they weren't able to provide you any funding because of that fear of competition? And that was funding through their transportation.....?

[00:12:13] No. Well..... It was just an idea. Nobody at the company wanted to approach the city about serving underserved neighborhoods.

Researcher [00:12:27] Mm hmm.

Guest 4 [00:12:28] They didn't want to approach the city at all unless they had to. At least, you know, that's just my impression.

Researcher [00:12:35] Because of that relationship being pretty complex from the start?

Guest 4 [00:12:42] They had a good relationship with the city, it's just that they didn't want to do a big ask that would involve somebody higher up the food chain that maybe they didn't have a relationship with, because then that person might start saying: "Hey, why aren't we regulating these guys more?" And that's speculation on my part. But what I do know is that the conversation never happened. And I don't believe they were..... I don't believe the bus operator was threatened by us because we were so small at the time. Right. I don't think they really noticed us at all.

Researcher [00:13:30] And so do you know about the funding structure that you guys were getting? Was there any funding through government, maybe at the state level or.....?

Guest 4 [00:13:41] No, no. It was all it was all private. Once the kick scooters came into play.... I don't know what the funding was like for [REDACTED] [company name] because [REDACTED] [company name] took us over. I don't know what their funding was like and I wasn't on the finance team, so I can't say explicitly. But my impression was that it was all. Well, I mean, it's more than just my impression because they did share details of our financial situation on the monthly meetings.

Researcher [00:14:21] Yeah.

Guest 4 [00:14:22] And so it was all private investment that was being raised.

Researcher [00:14:26] Okay. And then kind of going into their relationships. We talked a little bit about the relationship where the city how do you feel like the relationship with the local community was? Do you feel like..... So we talked a little bit about the inability to serve some communities. Do you feel like there was some communication in implementation or decision making where some members of the community?

Guest 4 [00:15:01] Not really other than just that we responded. Well, sometimes we responded as people complained. Other times we didn't. Not being a government entity and not receiving subsidies, we didn't really have to listen to anybody if we didn't want to. And usually we try to anyway, but sometimes we just didn't. One area that was always excluded from the zone was [REDACTED] [location in California]. And none of us really understood it. And it turned out that that was a decision that was made early on by somebody higher up because they didn't want it to just be a tool for wealthy people.

Researcher [00:16:10] Okay.

Guest 4 [00:16:12] And so they just said, okay, here is a really rich area. We're just not going to be here.

Researcher [00:16:18] Okay. So they actually did look at that image of the vehicle and the service and went: "we don't want this to seem like it's a wealthy person's toy".

Guest 4 [00:16:32] You know and I got why they wanted to do that. I sympathized with the overall idea. But I thought it was the wrong way to go about it. Rather than rather than "don't serve these rich people". How about "we do serve these disadvantaged people".

Researcher [00:17:02] Right. So you're serving you're trying to aim to serve everyone instead of narrowing down your target user.

Guest 4 [00:17:13] Yeah.

Researcher [00:17:14] But that might also have to have played into the overall strategy being restricted on funding etc..

Guest 4 [00:17:23] Right. Yeah. I mean, yes and no, but. You know, we could have added more vehicles. We just.....

Researcher [00:17:36] But it was beyond a pilot phase, right?

Guest 4 [00:17:44] Yeah. There was a there was a kind of a real reluctance to grow the fleet that I never understood. We had a contract with [REDACTED] [company name] and they could produce something like 40 vehicles a week or 40 vehicles every two weeks. And the person who told it to me said that in the context of, you know, so only 40 vehicles a week, that's why we never ordered more beyond the first and second orders. And I said, Yeah, but you know, at that time it was 2018. And I said, Yeah, but now it's been two and a half, three years. I mean, if we had had them cranking out 40 a week for years, then we would have thousands.

Researcher [00:18:40] Right.

Guest 4 [00:18:41] And then when we did grow, we, you know, we didn't go from [REDACTED] [location in California] to [REDACTED] [location in California] or [REDACTED] [location in California] to [REDACTED] [location in California]. We had [REDACTED] [location in California] and then we went into [REDACTED] [location in Europe]. And then we went into [REDACTED] [location in South America] with kick scooters only. And [REDACTED] [location in Europe] ended up working pretty well because people love shared electric mopeds over there. But there were definitely some challenges, and they stemmed from exactly what you might expect when a [REDACTED] [location in California] based company suddenly decides to expand to a place that's 6000 or 7000 miles away.

Researcher [00:19:35] Right.

Guest 4 [00:19:36] You know, there's no way to effectively train a management staff and supervise people who are eight or nine hours ahead. And so it worked. But there were growing pains. There were real growing pains. I don't know how I got on that, but.....

Researcher [00:20:06] Yeah, we were talking about how you got funded. And we were talking about how the company, you know, had some troubles growing and they did make a decision to grow, but just in a different way than just expanding on their own, their current geographical location.

Guest 4 [00:20:31] Yeah.

Researcher [00:20:33] But there might have been some of the politics involved in that too, that they said: "you know what, let's go all the way to Europe".

Guest 4 [00:20:42] Yeah.

Researcher [00:20:43] That might have been. Yeah. And of course. So this kind of also goes into the next question of, you know, some of the biggest challenges that are that you have encountered in shared micromobility. And I think here in the US context, the infrastructure might also play a really big role in that and kind of our image of the automobile because you're talking you talk about competing a space for active transportation users as well.....

Guest 4 [00:21:12] Yeah, although for the most part the infrastructure played to our advantage. Because, you know, an electric moped is already DOT regulated. All the components have to conform to a standard. There's no wiggle room or guesswork there. The city doesn't have to do anything to regulate them. They're already regulated by the state and federal DOT and then the parking spaces. It's all spelled out in the vehicle code, right. So versus other types of micromobility, it's actually a lot easier in that regard. Now, you do have some people and there are some angry neighbors. I don't know why they hated our moped so much. It doesn't make any sense. But they would go crazy, you know, or they were crazy already. We had one lady who used to put dog crap on our vehicles. We had people.... We had more than one person in [REDACTED] who would knock it over into their driveways so that they could call the city and say: "Hey, this vehicle's in my driveway. Come tow it". Yeah. I always said that we should we should do like a sting and have some legal consequences because that's illegal. You can't do that.

Researcher [00:22:45] So do you feel like you got that frustration from people was due to the limited space that active transportation users just get in general in the United States? It's like the sidewalks and the locations where you can bike or scooter or walk. They're already so limited and so small that people feel like they have to compete for that space?

Guest 4 [00:23:17] Yeah. Yeah. I think it all comes down to the limited amount of parking. And the people who do that kind of stuff are..... I don't want to make too many generalizations, but they're all very wealthy people who own very expensive homes, and they believe that that gives them the right to have extra parking and have everybody else pay for it. And, you know, and that belongs to them. And so if you come in and park a scooter or moped in one of those in their parking space, they'll go crazy and commit acts of violence. But if you park a car, that's normal and expected behavior. So even though a car has blocked five times the amount of a parking space, they go after the scooter.

Researcher [00:24:17] Right.

Guest 4 [00:24:20] So that's a huge challenge. And it's not all the neighbors. It's it's just a few people. But I don't know what's wrong with those people.....

Researcher [00:24:33] Do you feel like their way of life also gets threatened by you as a service provider? Because they're seeing these changes in transportation and they're like, I don't want to have to do this at some point myself, so let me just try to intervene.

Guest 4 [00:24:50] Yeah. I've never thought of it that way, but. But yeah. And also the people who work for us, you know, they tend to be blue collar, the field technicians, they tend to be blue collar and a lot of them are or were people of color. So that could be part of it as well. But yeah, part of it may be: "oh, one day we'll all have to ride these things and nobody will be able to drive an SUV".

Researcher [00:25:19] Right. But... yeah, that's just kind of speculation. But it is interesting that you said that the people who work in the field are often people of color. Because that. That is an interesting aspect I had not heard as a reason before.

Guest 4 [00:25:40] Yeah. Yeah. I can't prove that. That's part of the reason they go. They get so angry.

Researcher [00:25:47] It is definitely noteworthy at least. And then do you feel like, uh. So what. What do you feel like are some of the challenges in addressing truly inclusive or equitable systems? So you mentioned the government kind of working in silos. Do you feel like that's one of the biggest ones or something different?

Guest 4 [00:26:18] Yeah. You kind of have to get everybody on board. You have to have people in government who have worked with who have worked in this field because if they don't know anything about it, then they're not going to understand the challenges. And, you know, a big part of the problem is how predatory government and other powerful institutions are towards their own people in disadvantaged neighborhoods. It's one of the reasons why the neighborhoods are disadvantaged. So, and I mentioned it before, but if you go to a nice neighborhood you see street cleaning once a week or once every two weeks. If you go to a low income neighborhood, you see street cleaning three times a week or five times a week. And it's on Sundays. And it's all kinds of weird times. It's designed to entrap people. It's designed to disrupt what little wealth exists in the neighborhoods. And so that's one of the things that makes micromobility more expensive to operate. If you have something like a moped that has a license plate that can be ticketed and towed, it's way more likely to happen in those neighborhoods. So it's not just the theft and vandalism on the part of the residents. It's also theft, is what it is, on the part of the city itself.

Researcher [00:28:08] Right.

Guest 4 [00:28:10] And you know.... Well, you're also you're also with the riders.... Well, that doesn't have anything to do with it, but....

Researcher [00:28:32] Well, you do bring up a point that I haven't talked about too much with other people yet, being that it's really hard for a private operator to work in those communities because government, not the community necessarily, but more so the government side of some department in the government is somehow restricting you to be able to do so.

Guest 4 [00:28:59] Right.

Researcher [00:29:00] And then so that would come down to not just working with, you know, a department. That addresses health and saying: "hey, we can tie these e-scooters to some existing programs and we can focus on these communities that have been marginalized and help some of your current programs to accelerate through transportation". And you're saying you're really going to have to go through each department to see how that would work with this privately operated and owned system.

Guest 4 [00:29:41] Yeah. Yeah. And then the main challenge from a private operator point of view is just that it's not profitable, right? Yeah. And you don't really have, until they've expanded everywhere else, they don't really have much incentive to chase that last bit of what could be profit when they can expand in places that are already profitable.

Researcher [00:30:09] And then how do you think the built environment in place are rolling into that success? So you kind of talked about some of the services that the city provides are playing a role on your service. But how do you feel like the infrastructure or density of housing, etc and things like that really play into the success story shared mobility services?

Guest 4 [00:30:43] Well, you need density. You need quite a lot of density. In terms of [redacted] [company name], because they operated in a lot of cities, what I heard is that most of those cities were not profitable. And the reason that they were there was that they wanted to show the investors that they had a big footprint and they were in a lot of cities, but that only the densest cities were actually viable. And so [redacted] [location in California] was one of the only profitable ones, even though all of the challenges of working in [redacted] [location in California], you know.... It's almost impossible to find a place to park. You have to pay the field techs way more. The city is more difficult to work with and will impose more constraints on any business. But when the pandemic hit, they pulled out of most of those low density cities, almost all of them. And it wasn't just that they were trying to not go out of business, and you might have to blow this whole part out, but right before the pandemic hit they raised [redacted] [amount of money]. And then when it did, they laid off [redacted]. And so, yes, they had to go into bunker mode, but they didn't have to shut down as many as they did because they had a lot of cash they could have and their expenses were way down. Right. If they saw a future in those cities, they could have hunkered down, but they had their excuse not to be in those cities.

Researcher [00:32:53] So basically, they pulled out as like a strategic decision to still make a profit. Do you know what happened to that money?

Guest 4 [00:33:05] Well, I don't think they burned through all of it or even all that much of it. Now, I wouldn't be privy to hearing any anything further as to what they raised and didn't raise. You know, unless it made the public investors news. But as far as you know, by my calculations and now it's been so long, I can't remember what those calculations were, but I thought as with as many people as they had laid off, I thought that they could last at least three years, 2 to 3 years on that money, even if they didn't make any profit during that time. So they should still be flush.

Researcher [00:34:06] So do you think they're just waiting for the right opportunity to come back and let some other company figure out some of the kinks in the system in the meantime?

Guest 4 [00:34:17] I don't know..... I've never been particularly impressed with their business acumen. They're ruthless, but they were never very smart.

Researcher [00:34:35] Okay. So it was more you feel like it was more about. The market coverage than the actual.....

Guest 4 [00:34:47] Yeah. I think they were just, you know, they were trying to ride out the pandemic. They didn't know what was going to happen. During the pandemic, they and other micromobility operators figured out that they could raise the prices through the ceiling and people would still pay. Now I think that that's going to go away if we have a recession. I don't think anybody's paying \$9 for an eight minute scooter ride or whatever it costs. Who knows? We'll see.

Researcher [00:35:20] Right. So and then then the next question is kind of go into the future of micromobility and how disadvantaged communities play a role in its success. It seems like you're saying they're not going to be involved, those communities, until these private entities have worked out their misalignment with government organizations.

Guest 4 [00:35:51] Yeah. Although, you know, there are certain community-based operators. I do think that those operators are underestimating by a factor of ten, at least, what it takes to run one of these fleets. But, you know, after the first belly flop or two..... I think that I think that in general, people from disadvantaged communities can run a micromobility services a lot better than any of the current operators. Frankly, I don't know anyone who couldn't run a fleet better than any of the current operators. I mean, all I've seen.... either directly or by reputation, from other people who have gone to work for them..... These people don't even know what a scooter is, much less how to run a company with them. So, you have people from disadvantaged communities who really have a strong incentive to make things work and who don't have this top-down approach.... What do you call it, tech bro attitude of like: "Everybody needs to listen to us". You know, if you have somebody who's listening to the people who are doing the actual work, they're going to have best practices that are ten times better. They'll serve as twice as many scooters in an hour with the amount of equipment. And that is not difficult to do. You wouldn't believe some of the inefficiencies at these operators.

Researcher [00:37:51] Okay.

Guest 4 [00:37:52] I mean, if they weren't getting hundreds of millions of dollars on a regular basis, it wouldn't matter what they charge. They would go out of business overnight.

Researcher [00:38:02] Yeah. So it's really about the funding structures that they were able to secure more so than the actual operation of the system.

Guest 4 [00:38:09] Yeah, I don't I don't believe that they.... and this is just my personal opinion. I don't think they ever wanted to operate these fleets. I think they just wanted to raise money. So they can have fancy titles and big salaries and drive fast cars and ride and private jets and drink Cristal and all of that. Right. They don't actually want to operate scooter fleets.

Researcher [00:38:34] So do you feel like that's also kind of the doom of some of these operators that they don't really always care about or they're not really passionate about their own system or their service?

Guest 4 [00:38:46] Yeah. Yeah. I mean, you know, I've given up predicting. I can't believe that any of these companies are still in business. Yeah, it's amazing to me. I don't know how you could run a business like that for a week and not go out of business.

Researcher [00:39:02] Right.

Guest 4 [00:39:04] But I've given up predicting when it's going to happen. But I do think that they're all going out of business and that it'll be the second wave of companies, in some cases using the same brand names. But, I think they all have to have some kind of bankruptcy restructuring. And then it'll be the second wave that actually figures out how to run this industry better.

Researcher [00:39:31] And then

Guest 4 [00:39:32] I haven't seen it. I haven't seen any confidence at all.

Researcher [00:39:35] Do you feel like government organizations will run this themselves?

Guest 4 [00:39:41] I think there'll be more attempts. You know, [REDACTED] [location in California] is putting together a shared bike. A docked bike for when the [REDACTED] [program name] contract runs out. And, from what I've heard, nobody who's involved in it has any idea what they're doing yet.

Researcher [00:40:45] So you feel like the second wave of micromobility is going to be.... This has maybe just kind of been the introduction for us to large scale shared micromobility services?

Guest 4 [00:41:01] That's yeah, that's my opinion. You know, I've been wrong before, but..... That's what I think is going to happen. I don't see how any of these companies can succeed as is.

Researcher [00:41:15] No, I think that's a that's a valid point. You said in terms of the government running these....

Guest 4 [00:41:26] Think they can run it. It's going to be expensive, you know? Yeah. It's going to it's going to blow the. Well, first of all, all the private operators are lying about how much it costs to run their service. So, when the government tries to do it and finds out the real numbers and nobody in government actually knows how to run one of these fleets. I mean, you know, I can talk negative about these companies, but they have been doing it for several years after all. I mean, they may not be doing it the way that I would, but they do know at least a few things. And when you're having the government do it now, you've got a clean slate where nobody knows anything and there's no profit motive to correct mistakes. I mean, they could, it's just that the cost is going to shock people. I think it will lead to voter revolt.

Researcher [00:42:33] Right. So a more balanced public private partnership would be would be kind of the ideal. The ultimate situation for these shared micromobility services in the future?

Guest 4 [00:42:50] Yeah, that would be the way to do it. Now, in my mind when somebody says that, I just hear, you know, corruption and self-dealing. But I grant that not every public private partnership is like that.

Researcher [00:43:08] Right. Okay. And how are you on time? And last two.

Guest 4 [00:43:20] I seem to be okay.

Researcher [00:43:24] Just let me know when we need to stop. Yeah. So we kind of talked about it. So one thing that you did touch upon that I that is also kind of covered in question 11 is the enforcement of these services. And my question to you is... should these private entities, given that some of these systems are completely run through private funds or the private service provider, should they have the enforcement side of these services and the regulations on its users?

Guest 4 [00:44:08] Should the private company chip in for the enforcement costs on users?

Researcher [00:44:15] Yeah. Or, you know, should they leave that to government? what is your what is your view on that? Because there's of course, there's the interaction of these vehicles in the public space, right. Where the government enforces. But then there's also the enforcement of the user who doesn't oblige by the regulations of the service that's being provided. And they get locked out, for example.

Guest 4 [00:44:51] Yeah. That's a good question. I haven't thought too much about that. There was..... Well, [redacted] [location in California] does charge and I can't remember how much, I think it was 100 bucks a scooter a year. And that is partly to pay for the increased costs of enforcement. And yeah, I think the companies should chip in a little. And I think the companies should also be expected.... And is indeed expected in a de facto way in [redacted] [location in California] to move vehicles that are parked. Like if a kick scooter is on a red curb or a moped is blocking somebody's driveway. You know, rather than use the staffing to send a tow truck or somebody to check it, it they go off and reach out to the company and say: "hey, come get your scooter". And the company does. And so that's actually an example of things working pretty well. There actually haven't been too many problems.

Researcher [00:46:32] Okay. And that is the enforcement in the physical, urban world. How about the virtual world? Do you feel like these companies.... say your user, you rely on this service, and you don't comply with the terms and you get banned or blocked from using the service. Do you feel like government should be more involved in that? And is there too much is too much power on the on the private entity side? Or do you feel like that's appropriate given the fact that this is a private service that's being provided?

Guest 4 [00:47:15] So philosophically, I would say, yes. the government should be more involved. You know, I don't believe that..... If you only have one good way to get around and the company bans you capriciously. And you don't have any kind of due process. That's no good. Now, I also don't know of any evidence that this was actually happening, or at least it wasn't happening at Company name, as far as I know. If we banned somebody, it was serious. If anything, we were giving people way too much leeway. I was actually arguing with some of the staff members that certain people should be banned. And they said, no, no, give them another chance. Right. So philosophically I would say yes. You should never have, well I shouldn't say never, but for a public service

that is important to a lot of people in society, you shouldn't have decisions being made opaquely, unilaterally, behind closed doors and without any of the protections that would be available for people to rely on if it were, say, the government making those kinds of decisions.

Researcher [00:48:56] Right. And do you know of any situations in other companies?

Guest 4 [00:49:03] Not to my knowledge. Okay. But I didn't really hear too much from other companies about that one way or the other.

Researcher [00:49:13] I feel like it's hard to find evidence of the virtual side, right? Because there's always apps attached to these services as well. How that completely works. The terms of use are often pretty strict, but of course, it doesn't have to mean that the enforcement is the same. And then the last question on data, you said you also mentioned that you were able to collect a lot more data than that, In your case, your operator didn't use. Do you feel like the data that is gathered through these networks.... do you feel like that could be used as a tool to help inform more equitable micromobility solutions?

Guest 4 [00:50:09] Potentially, it depends on what the data is. Right. Because a lot of it is wish-casting. So if you have data on the locations and movements and battery levels of vehicles, that's generally pretty good except for some GPS errors and things like that. But, if you're trying to use aggregate data. Revenues, costs, things like that. You know, everybody who is trying to analyze that kind of data should know that it's basically garbage. It's actually better to have no data because if you had no data, then everybody would know not to try to use it. But if you have really bad data, it can be used to lead to the wrong conclusions.

Researcher [00:51:17] Right, so you feel like it's limiting you from being open to what's actually happening on the ground?

Guest 4 [00:51:28] Yeah.... Like I had to....And this is [REDACTED] [company name] data may have been worse than the other companies. It was really, really bad. Okay. But as a as a supervisor, when I had to make the decisions, I would try to verify the data against some of the manual sources that we had. And I never could. It was always way off. Where if I actually tried to use it, I would be making some pretty bad managerial decisions, misallocated resources and all kinds of stuff. And so. So I had to basically send some people out when they're out in the field and say: "hey, can you just tell me how many, you know, scooters you see when you go down to two blocks?" And then I would just have a very basic Excel sheet and have just enough to make an educated guess, basically. Yeah. And so, you know, I think I think the data can be pretty suspect. Again, I don't know how it is in other companies. Maybe they were just doing a better job, but, you know, we had a data scientist. He had this dashboard for us to use. And every time I looked at it, the numbers would change, but they would change retroactively. And then I asked the manager about it and she said she said, well, I talked to our data guy and he says everything is fine. I said, well, everything can't be fine because last week's data is changing every time I look at it. And so there was this other guy who was a field tech, but he had taken some coding and data structures courses. And so he learned to use the software of the dashboard. And he went in there and he made a dashboard that was actually useful to us. And so what did the data scientist do? He felt threatened. So he revoked access and couldn't help us any more. So that tells you how good the data was.

Researcher [00:54:01] That is really interesting.

Guest 4 [00:54:06] And I don't know how it is that the other companies.....my impression is that..... The data and software people that worked for those companies were just as bad as the ones that worked at [REDACTED] [company name].

Researcher [00:54:22] So they had to rely heavily on the people who were out in the field.

Guest 4 [00:54:27] No, they don't. They should. Okay. Instead, they don't listen to the people in the field, even though those are the only people who actually know the business and have any idea of what are good numbers and what are not. So, instead, they rely on people who they're paying a lot of money to just state them nonsense.

Researcher [00:54:56] Yeah. And did you have a lot of people in the field who were doing the rebalancing and they're charging relatively to the people who were at the top of the firm?

Guest 4 [00:55:06] Yeah. Yeah. Although we never had enough. You know, we should have had a lot more. I mean, they were hiring. They were filling roles that did not need to be filled. We didn't need three or four people on the design team making 100,000 a year when we still had critical staff shortages on just the basic operation of our fleet. So it was just it was just mixed up priorities.

Researcher [00:55:44] Well, I won't take too much of your time. I'm already 12 minutes into your other meeting.

Guest 4 [00:55:50] No, it's okay.

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Guest 5 [00:02:04] Yeah, I work at nonprofit [REDACTED] [company name]. We're both an operator of bike share. And we also do consulting work with local agencies, transit agencies, municipalities working to set up community owned, usually bike share programs, but also other types of shared bike and micromobility programs. And really emphasizing the local control, the sustainable operations and funding models and equitable access to, of course. And I'm Project Manager and also doing operations planning.

Researcher [00:02:51] And then what role do you do you think you're maybe your shared scooter or bike system as had in our urban environment and what role might it play in the future?

Guest 5 [00:03:07] Yeah. So I guess from. I mean, my perspective, my organization's perspective, we really work in small and mid-sized cities. So cities that, you know, don't typically get this micromobility for profit company coming in. And if they do come in, they're kind of here for one or two years, then they're gone. And often the prices charged are very high. And as I'm sure you know. We had a scooter company that came to one of the suburbs nearby here. And they're charging \$1 to start and \$0.49 a minute. And that's works out to like \$30 if you're going to borrow it for an hour. Meanwhile, we are bikeshare here for a penny per minute to ride. And if you get an annual membership, that's pretty cheap as well. And for us, at least in [REDACTED] [location in New York], in a place that people don't really bike too much already. You know, it's not like Davis and or Netherlands, for that matter. People don't really bike very much already. It's a pretty you know, if you look at incomes, it's a pretty poor city and people that just aren't going to use these services if they're priced pretty high. So for us it's really important to have, it's just a pricing structure that is very low. And for everyone not having, and we don't have any kind of discount rate for people on food stamps or things like that, everyone really just gets a very low rate when they use our programs. And additionally, we have Bikeshare in [REDACTED] [location in New York], where it's rather than an annual pass of about \$50, the annual pass is \$1 made possible by some federal funding we got. So everyone in the [REDACTED] [location in New York] that wants to use the program, it's \$1 to try and they pay a penny per minute. And we found that that's a very good way to get people in. There's no income verification or anything like that because the reality is most people and [REDACTED] [location in New York] don't have a very high income. So we see that as the best way to get people, particularly in areas where biking is not really part of, you know, the predominant culture. And again, incomes are very low and you got to make it affordable for people to access that.

Researcher [00:05:53] Yeah. And then also, given that you get public funding, do you consider yourself or your system a form of public transportation?

Guest 5 [00:06:05] Yeah, I think absolutely. bike share is public transportation. It may not always be run by a transit agency, but we do work also with transit agencies as well and helping them to set up programs. And that that really seemed like a great model because seeing bike share as public transportation kind of makes more of a rationale for that public funding and sustained funding with the reality being that bike share, if it's priced affordably for people, is not going to be profitable. So it needs that similar public investment that public transportation gets for busses and trains.

Researcher [00:06:54] Yeah. You've kind of already answered the fourth question, which which goes into providing equitable services and how the funding is structured. So do you

know how much what the percentages of government agency or wherever that funding is coming from?

Guest 5 [00:07:14] Yeah. I mean, we kind of piece together different grants. We don't really get a part of the city's budget or anything. And or at least our [redacted] [location in New York] programs. And so we rely heavily on program sponsor. We usually partner with health insurance companies or hospital systems and a firm that's interested in promoting healthy lifestyles and wants their name on something, promoting healthy lifestyles. But without that, that that kind of seems like a key part for us for making these services affordable. And smaller mid-size cities.

Researcher [00:07:59] Yeah.

Guest 5 [00:07:59] And outside of our bike share work. We've also been exploring other shared bicycle programming models. Specifically bike libraries and e-bike libraries, to see what can be done to adapt bike share and kind of the ideas of bike share and really target them in marginalized communities and areas where there may not be an existing bike share or there may definitely not be existing bike culture. And how can we perhaps adapt shared bike programs to meet the need in these areas.

Researcher [00:08:48] Yeah. And then for your geographical region, you probably also do a lot with tourism and then especially talking about how the community gets involved in the implementation decision making..... Do you feel like the local community and the more permanent members of the community who are using these systems today... Do you feel like they get involved enough when those systems get expanded or when they get implemented?

Guest 5 [00:09:22] Yeah. I mean, on some level, you know, we see really great involvement and really great connections with different things happening in the community, whether it's bike rides or other events such as different farmers markets, things like that. You know, it's great to see people engaged with it. But the part of me that would love to see just a completely different landscape of like, you know, 50% of people riding bikes to work and things like that, that part of me gets a little disappointed. I think it's hard to engage people in bike sharing programs. And in places, you know, we can put out the bikes, we can do all the engagement around it. But if bike infrastructure is not built right, or if there's not a lot of other organizations in parallel promoting that bike culture. You're only going to get so far in reaching people.

Researcher [00:10:25] And do you know some of the ways you reach people? You talked about the library talk about farmers market and are there any other ways that you guys reach out to current or new users?

Guest 5 [00:10:42] We do, you know, all kinds of normal marketing and social media and video campaigns, things like that. Different promotions. A big thing that we do in [redacted] [location in New York] is we I think most of the times that the, you know, the outreach team is tabling, they are giving away like \$5 annual passes, which is a 95% discount because really we just want to see more people participating. And we have to cover our costs for sure. But the more people that kind of enticed to join again in this environment where, you know, it might be kind of a strange thing for people to try, the better we are at achieving our results.

Researcher [00:11:31] Yeah. So instead of more spending more money on those outreach campaigns or marketing budgets, you just allocate that towards people actually using the using devices.

Guest 5 [00:11:44] And then on the bike library side with those programs, we've been working to support community organizations to lead those programs and giving them the bikes, giving them kind of operational knowledge, helping them apply for a grants so that they can increase their own capacity to take on these programs. And in doing so, they're able to kind of handhold people as they become more ingrained in bicycling culture, specifically e-bikes too, since that's a new technology for a lot of people and it's been great to see. And when we talk about equity just getting old people to ride that and maybe normally wouldn't buy a car or participate any of that. But having the e-bike libraries has been a great way to engage older folks in bicycling with the pedal assist, but also a lot of these programs have orientations. So people joining it, they go to an orientation, they learn about how to ride an e-bike, kind of dispelling any conceptions they might have about the safety of it. And that's been a really great way to really build up dedicated riders, too. And this is happening and specifically in marginalized communities that really don't have many people biking already and there's barely any bike infrastructure. So it's a really big transformation.

Researcher [00:13:21] Yeah. And then you talked about infrastructure being one of those challenges. Would you say that's the largest challenge you encounter as an operator, service provider?

Guest 5 [00:13:35] Uh hmm. I think there's a lot of..... I don't know what the biggest challenges there's always a lot of challenges for us. And we specifically operate in a pretty unique space of doing this with the nonprofit model, doing both the operations, direct operations of bike share, as well as the consulting work different, specifically equity focused projects. And so it's we have a lot of different challenges. But that's definitely a major challenge the Infrastructure. I'd say also like just lack of bike culture. It's one thing to have a bikeshare and Davis go back to Davis as an example. You know, people are going to use that. Well, maybe everyone has their own bikes. But, in other cities where both the places we work and there's not really much biking happening. So do you put in a bike share? And is that the thing that changes people? Do you build bike infrastructure? But if you don't have that bike culture or individuals, organizations, group bike rides, things that are really kind of spurring people to bike in a place that's not really otherwise conducive to bicycling. People that wouldn't feel comfortable doing it. That, you know, the program is only going to be very minimally successful for people to participate.

Researcher [00:15:12] On that kind of goes into the question as well of what factors kind of work against disadvantaged communities specifically and then the infrastructure you know, not being..... Created completely equal throughout the entire urban environment. So dealing with situations where people just can barely ride a bike in the first place. Kind of keeps that loop going of.... Can you bring someone on a bike when there's no absolutely no place to ride one? kind of how to break that cycle. And getting the vehicles is probably more short term. Getting the infrastructure is a lot more long term. And you want to prove also to your municipality or larger jurisdiction that people are using these vehicles. So therefore, there is a need. But do you feel like there are areas for sure where people would love to ride these bikes, but they can't just because of like the infrastructure?

Guest 5 [00:16:31] Yeah, I guess. I mean, that's definitely part of it, but I feel like it's much more complex than that. It's like, I mean, land use is so spread out and particularly like, I

guess, you know what, what is the use case that people in disadvantaged communities are using? Bike share bikes are really anyone, especially in again the cities we work in, and the reality is like people aren't really using bikes or that much for commuting. I think a lot of time we'll talk about if you're talking about bike share as public transportation or an extension of that, like a lot of times these conversations are kind of predicated on are people replacing car trips with biking kind of things. And I think for a lot of disadvantaged communities, commutes are really far. It's not really realistic to travel by bike for commuting. Infrastructure would be great and probably would have some people. Kind of so far in reality we just see I think a lot of people are using it for recreation which, which is huge and I think should be part of the conversation, um, that people are having this wonderful recreational opportunity with bike share, whether it's pedal bikes or e-bikes, both for health, but also for coming together with neighbors and friends.

Researcher [00:17:58] Yeah. So earlier you were saying based on the kind of the funding structure, you would say this is public transportation. But based on the on the actual trips and on reducing VMT, you're saying it's not really because people are using these vehicles kind of as a gateway into being an active transportation mode, but they don't supplement their current trips. It's just more of a leisure activity?

Guest 5 [00:18:33] Yeah, I mean, that's my sense. I don't I haven't really looked into the numbers of it, but that's kind of what it seems like.

Researcher [00:18:40] Okay. Do you guys? Oh, well, we'll get into the data question a little bit. Um, are you so good on time?

Guest 5 [00:18:49] Yeah. It can stay on for like another 10 minutes.

Researcher [00:18:51] Okay, so there's just 12 total. So we're, I think we're going to be able to do all of them. So how much do you think the involvement of the disadvantaged community plays a role in the future success of shared micromobility? So talking about these larger problems and how the urban environments.... you talked about density, is such..... there are so many factors that contribute to this whole system. What do you think that the outreach or engagement with specifically disadvantaged communities can do for the success?

Guest 5 [00:19:43] Yeah. I mean, I guess if we look at success as like defined as just increasing participation. I mean, yeah, it's definitely a huge part. And, you know, if you're not engaging people in disadvantaged communities, people aren't going to use it there. And I think it seems like for me, I've seen a lot of times these services are just plopped down in disadvantaged communities without taking the time to build the community connections and understand how to engage folks in these areas, but also..... Doing it with the planning in mind. And, you know, often we work if it's a program that we're operating to partner with local organizations to talk about where to place new bike share hubs so that so that it's relevant for where people want to see it. And that we have a partner for outreach built into, you know, these new locations.

Researcher [00:20:52] Yeah. Okay. Yeah. You've talked about the structure already. Of the funding and it is only said this is only on the government side and nonprofit side. Right. There's no there's no private, large private investors that are seeking some kind of profit through your structure or how you're using this.

Guest 5 [00:21:22] Yeah. Yeah. It's grants and government foundation. Yeah. And we've had some success, too, with having the sponsored programs having a. A brand, a local health related brand that wants to put their name on this kind of program.

Researcher [00:21:47] And then do you feel like the others, the other providers or operators could benefit from a similar structure? Do you feel like the government should, on maybe a federal level, have more grants for these types of services?

Guest 5 [00:22:07] Yes. Like, I think what's happening in California right now with all of the CARB funding and other funding, cap and trade money that's going to clean transportation programs, specifically micromobility is kind of part of it. You know, it's great to see all this investment specifically with language targeted around disadvantaged communities, but it doesn't seem like in reality, these programs are working across the board. A lot of these programs have, you know, they bring in like spin or one of these companies that had a bike share and they're there, they collect the money and then they're gone. And they put in a service with pretty high prices as well. And they don't take the time to do the outreach. So at that point, you know. Is that it? That seems like a missed opportunity to me. I think it's something that we need, you know, back to. You know, bikes are being public transportation and a public good. Maybe if it's not even as you pointed out if people aren't always using it for, you know, utilitarian transportation. It definitely is a public good that we should be putting some kind of public money towards. But I think we need more deliberation on how that's going about. And maybe that should only be available for nonprofit models or programs run by transit agencies, things like that.

Researcher [00:23:53] Yeah. And then on the regulation side. Do you feel like the government should also be regulating these services? Whether that be enforcement of vehicles in the public spaces or through the applications on people's cellphones?

Guest 5 [00:24:18] Yeah. I mean, there's, there's a lot to that question, but.....

Researcher [00:24:20] Yeah. Okay. And then the last question is about data. So you mentioned some of the data you may be collecting. So what is some of the data, first of all, that you collect? And where do you think this could be used or what data should you collect and then use to be able to provide equitable services?

Guest 5 [00:24:48] Yeah. I mean, we collect the typical data and. GPS tracking on bikes and the bike share has various surveys of users. I guess it's kind of one thing I've been thinking about with this question is how you're talking about collection of data and marginalized communities because there's a history of over-surveying or people not knowing where their data is going and it being used for maybe nefarious purposes. So I think that's kind of an important part of building trust and in these areas we need an open dialog and being honest about what this is being used for.

Researcher [00:25:35] Yeah. Yeah. Especially if you're saying you're being funded by insurance or health care providers. Um, you know, being able to understand where this, where this information goes and, and how it's anonymized or not. So do you say here in discretion that you could gather more data from your users that you're currently doing?

Guest 5 [00:26:07] Yeah. I mean, there's definitely room to gather more data. I think it's not something that we're super focused on outside of having the necessary reporting metrics to make our funders happy. Pretty much. Yeah. We got we got to be able to show that this is a valuable service. We have the data to back that up.

Researcher [00:26:33] Yeah. Okay.

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Guest 6 [00:01:58] So my work has touched shared mobility in a number of different ways and in several different occupations. So even before shared mobility really took off, I helped design complete streets, which I would say is the sort of like backbone infrastructure that allows for safe riding of, you know, scooters, bikes share, you name it. Throughout, in my case, [redacted] [location in California]. When I was a senior transportation planner in [redacted] [location in California], my job was to create the policy infrastructure, if you will, the framework around how people should evaluate the efficacy of any of these sort of services: shared mobility, not just micromobility, but [redacted] [company name], [redacted] [company name], you name it. That included a number of sort of policy principles and then a full blown evaluation. Why do these meet our goals? If so, why not? Why not? And that served as the country's first sort of cross-comparative industry analysis. And that is kind of a backbone now of the way that most cities permit shared mobility. They start with their goals. They evaluate how they meet that. And then, of course, there's the operational aspects of the service as well. It's also how policy is made too, which is to say, like, do you like or dislike this thing and do we want this or not?

Researcher [00:03:56] And I think you had a lot of different views on how these different types of shared micromobility work through those different roles that you've had. And and what would you say, you know, this is kind of going into that first question, but also kind of leading into the second one. How has this evolved into what, you know, from when you first started working with micromobility services. How are [service providers] operating today and how do they, kind of like the second question, what role do they have in our urban environment now and going into the future?

Guest 6 [00:04:40] Yeah, that's a great question that actually speaks to the work that I do in the [redacted] [government office], which is like, what's the bigger picture policy and does this play into that? So I think that, honestly, shared-bike and shared-scooters, and other shared mobility devices have not had as prominent of a role in shaping travel behavior and lifestyle choices as much as they could have an or even should have for that matter. In a perfect world, and I'm speaking from a [redacted] [location in California] context and not from a New York context or even a DC context like capital bikes, are everywhere and they really are shaping the way people get around. I think that they should be prolific, equitably distributed, and frankly subsidized. If we, the government and the transportation planners, want people to be riding bikes more, taking transit, and basically driving less [then] here's this perfect opportunity for a public private partnership that you would think we would roll out a red carpet for. And again, speaking from a [redacted] [location in California] context and not from other places, that we just didn't. We made it really, really hard to work with us as the government and continue to. And I think that's because, and I think we might also get to this in a second, because some of it is that cities felt burned by [large corporations] like [redacted] [company name] and [redacted] [company name] lists and that the policy idea that that cities couldn't direct it at an industry that was regulated by the state, they just redirected at [redacted] [company name], [redacted] [company name], [redacted] [company name], and whatever [other corporations]. And what also didn't help is a number of the people who used to work at those companies took the same playbook and launched scooters, literally scooters and not bikes in this state, everywhere in a way that pissed a lot of people off. And I think that was the kind of seed that was planted like a poisonous bush, if you will. I don't think that government actors, and by extension community groups that were the recipients of the chaos, ever really healed from that. And so our regulatory framework

around these types of services is designed to restrict instead of grow this type of service. And I think that, which will be [addressed] in a number of your questions, is the mistake. We see this as a problem that needs to be managed instead of an opportunity that we can help support. So ideally, this kind of gets to like, what's the future, right? I don't want to see a world in which we can kind of take a step back and say, are we really like, is this really the path we want to keep going down? Right. Because a number of companies have consolidated a number of them have fallen and they keep moving in and out of cities. This system that we have right now is not sustainable in its current model. The companies know it, because they're losing money, and the cities, who give a damn, also know that like we're not we're not headed towards a successful situation. So much so that, and this is where equity is a really important factor here, I think that COVID has done a great job of highlighting that there are plenty of people who used to have a [redacted] [micromobility program name] pass and were like, I could just go buy an e-bike. I can just go and by this [pointing to bicycles in the background]. I bought this because I was tired of [redacted] [company name] removing bike share stations all over. And that's and that's the disconnect that is a product of a whole host of decisions, both {by} government, private, nonprofit, etc.. But then what we're left with is someone who has lots of privilege who can just go buy their own mobility and avoid the entire thing. It's like the thing that could have been so great, but we just really went down like all of the wrong paths and continued to go down those path.

Researcher [00:09:44] Right. And then kind of going into the question: Would you consider it as a type of public transportation? You're kind of going into the [fact that] it can be, but not being so permanent that you can rely upon it from a user perspective.

Guest 6 [00:10:05] Well I think in terms of public transportation in, and this is the issue that I think I didn't quite land on but it's important here, is that public transportation implies that the public has control over it, not just the regulatory space. It is not public transportation in its current form. It could be. But it isn't, right? If [redacted] [government department], [redacted] [transportation agency] [redacted] [government], or the [redacted] [transportation agency] said: "we want to run our own fleets of electric bikes throughout the city" then it in fact would be public transportation. Part of that is about who is it represented by, right? So it could be [public transportation], but isn't currently in its existence.

Researcher [00:10:48] Right.

Guest 6 [00:10:48] Really.

Researcher [00:10:49] Do you feel like from your positions that you have had, most of which being on the government side, do you feel like they [the government] were trying to create this equitable space or do you think it was just that people were kind of saying this is "doomed to fail from the start" while you're dealing with all these private businesses.

Guest 6 [00:11:14] Yeah. I think that if these services had a champion and they would be successful, but they don't. The champions should be the ones saying: "...we or I need to protect my constituents from this thing". The number of times that my boss [redacted] [person in government position] would say: "I get that I'm supposed to like scooters, but I hate them....." or "... everyone who calls me hates them" and "... I'm not going to hold this from the DOT, but I want you to know that, for me, this isn't working".

Researcher [00:11:53] And do you feel like government should be that pioneer? Or do you feel that if it's not coming from [the] top down, that maybe there's just no need for this [type of] service? What is your view on that? Should communities [themselves] be asking for these services?

Guest 6 [00:12:12] Communities are already asking for the service. Communities are asking for these services, but that's also where the disconnect is. Right now, there are lots of communities that are like: "Yeah, we need the support". "We need options to get around". And the companies are like: "Well, I can't make any money over there". [This is] because the existing model is based on private companies have an offerance whereas a public private partnership, the original form [of micromobility services] that we had with [redacted] [company name] and [redacted] [program name] bike share, that really was like public transportation. And we just very quickly moved away from that and nobody wanted to pay for it. You know, like you can't again, we can't have like ten cakes and eat all the cake and everything. And that's the thing that I think is so messed up is that you have the same regulators saying: "I want people riding bikes..". Meanwhile, I also am taking away or putting up barriers for them to to do that. I would say, frankly, that the issues that [redacted] [program name] or bikeshares, or whatever, and even the scooter companies are met with is really a symptom of a broader issue about our inability to commit to alternative modes of transportation other than cars. like, the fact that every bike lane has to be a fight is the same conversation just showing up in different places.

Researcher [00:13:51] Yeah. And so you said the communities are saying "we want this stuff...".

Guest 6 [00:13:57] Yeah, some.

Researcher [00:14:00] Do you feel like they are getting any type of input in these systems? Do you have indications that, in in the situation where we do listen to communities, we will try to make this work. Like we'll say: "...We'll get you a permit and whatever company it is that gets this chance [the operator] will come in for you and set up their program for you". That part, you know, with a direct relationship with the community in those environments where they do implement it and listen.... Do you think that does work? Or do you feel like, what you were saying earlier, they [the service providers] just always come in with this predefined program that works well in some areas, and not so much in the [redacted] [location in California] or in California, and that is just like the main part that disconnects as well.

Guest 6 [00:14:56] I think that our regulatory framework gives very little room for true community input. The permit model asks companies to tell us how they operate.... It is just not an iterative form of you know... it's not a collaborative spirit. However, our piece, that the [redacted] [government agency] released, as an example, is based on feedback from the [local] Bicycle and Pedestrian Advocacy Committee, which informs a number of community stakeholders coming together and saying: "We're looking for these types of issues to be resolved or goals that we want met". It also includes feedback from other advocacy groups that have also met with the permit staff and said: "Here's what we want out of this service". I think that [redacted] [government transportation agency] especially did a really good job of having this kind of round rock listening session of: "...Here's what the community groups want... Here's what the government wants..... Here's what the companies want..... And where can we all meet and work together?....". So I would say that our permit system reflects some of those goals, which is like we want you to operate some percentage in our equity priority neighborhoods, which is awesome.

And this brings me to your next question, which is that the challenge is that these companies are not getting financial support to locate their scooters, bikes, whatever, in those neighborhoods where ridership might be much lower, even though the need for the service is much higher. And those are two kind of interesting things. But the other piece is that one of the things that we judge or evaluated these services on with their ability to have a low income pass, which again, I think is awesome. And ,however, if you are a company that is hemorrhaging millions of dollars a quarter and giving away free rides.... Just at the end of the day, your ledger is going to tell you that you're not making enough money to do business. And so one of the areas of friction has been whether or not the government, on its own or through grants or whatever, should be paying for those free rides. We put on the companies to say: "...you're making profits... You do it...". And they're like: "no, we're not making profits... We're losing money...!". That is also a challenge... we want and have certain expectations of companies that are not solvent. And we and we regulate them like they are. And that's not how math works..... To be blunt.

Researcher [00:17:55] So going off of that.... If, say, we were to have more grants for that from maybe a state level and California says: " okay, we're going to do this. We're going to invest more..." So that these companies stay in areas where we need it [the services] most and whether it's successfully undoing some of the past malicious practices planning that we've done.... redlining and all those things.....

Guest 6 [00:18:19] For a second though.... and this is where I think where some of your questions are going to get to.... Since I can see your questions.... Scooters and shared bikes are never, and here's the quote of the century, these services are not a replacement for affordable housing. I mean, like I think that and this is the part that I just cannot stress enough..... Is that we are asking something so inappropriate of these companies, which is: "Can you repair our 100 years of racism?" And it's like.... no, I didn't do that..... Just no, that's not going to happen. And I think that we're fooling ourselves into thinking that ... because we put Bikeshare in black and brown neighborhoods, that somehow makes up for the fact that they can't buy homes. But you know... It's just not that issue on its on its own. That's just not how this works. That's like a tiny little hammer for a much bigger construction project. The combination of free transit, better infrastructure, etc., etc., etc. alltogether it makes a a complete system of restorative justice. But if you're familiar with statistics... Like the R-value in the in the change you're looking for ... is very small here. In terms of its power to affect change, the biggest lever is giving people home ownership. It is not the tiny little switch on and off of whether we have bikeshare.

Researcher [00:20:06] Yeah. So this is also kind of kind of goes into the next question... like the built environment being this giant mess of all the past issues that we have really created through urban planning. And now we're trying to say: "okay, well, there's these companies.... They're doing all these great things... And we can use that to our advantage to say, look, we're fixing some of the equity issues that we have had for so long". And this is going to save us. So you're saying this is. Well, you're saying that in itself.... This is way too small. It is s tiny little speck... Tiny little trip in the ocean. But would you say: "...It would be a necessary part of fixing things in our built environment that we do need to have that money allocated to those services".

Guest 6 [00:21:14] Yeah. So and let me kind of play off for you something that I positioned my department to do.... Because I know exactly where you're headed.... Have you read the children's book if you give a mouse cookie? No.

Researcher [00:21:29] No, well, I'm going to read up on it now.

Guest 6 [00:21:31] It's adorable, and I promise this will make sense... there is a mouse. And the joke is like, if you give a mouse cookie, he's going to want a glass of milk. If you give a glass of milk.. then he is going to want all these extra things so that he can enjoy a full meal... Right. So in the case of micromobility, shared bikes, shared scooters, they are like one of the last things that you need. But also they can feel like the first thing... Which is like... If the goal is to provide equitable, affordable, accessible mobility solutions for people who are locked out of these types of options, then yes, you will and should provide them with the physical mobility tools of a scooter or a bike to get around. And... you're going to need the safe infrastructure to get them there. And... And this is like I'm growing the problem here.. You're also going to need to locate people and provide affordable housing either close enough to other destinations, such that a bike or a scooter makes sense....or at least along such beautiful infrastructure that is so well protected that traveling for longer distances is not so challenging. And... This gets us to the biggest issue about the built environment that you just can't fix it with transportation. Transportation is the glue between jobs, housing, and resource accessibility, right? I can't fix the fact that you, not you, but... Y'all live so far away from your jobs along with your other community members... With a bike system like that. I have to build the housing next to the job.... I'm just putting it as simple as possible. And so..... One of the things that [REDACTED] [government transportation agency] has done and I think is really cool, is we have kind of done it all. I put in this policy and was like... Next time you put in a bike lane... You also have to give people bikes..... And so we created a program, and you can look this up, where we're just going to give away... well, it's [technically] a community bike lending program, but it's long term lending and you don't really have to give the bike back.. We were like: ".....cool, let's give people bikes and scooters and these types of mobility devices in the neighborhoods that we say we're trying to help and where we are putting bicycle infrastructure". So that these two things always come together in the same way, just to kind of draw similar comparison, if we're going to do a bus rapid transit line, we should also give people transit passes.

Researcher [00:24:28] Right. So that said, you know, do you think these privatized services that we're talking about.... Are they even necessary if you're doing the mass transit side and you're just having different types of programs that give people access to bikes and maybe scooters.... I don't know if scooters were part of that? Do you feel like [REDACTED] [company name], or [REDACTED], and all these companies... do they fit in that picture? Or would that moneyso say we were spending government money on this... would that be better spent on those long term bike lending programs?

Guest 6 [00:25:12] Mm hmm. I think you kind of need both. And, I mean, this is a question that everybody's kind of asking themselves right now, which is like: "... Where are we going?" I think that there's a world in which a competitive market with a lot of demand can be really successful. Scooters especially were really successful before Covid-19 and now they're falling apart. People aren't travelling the same way they used to. In today's market, where people work from home more often, I think that a long term lending makes more sense because you're not I don't think as many people are making the types of home to job trips that sustain these types of services. Whereas, I think one model that I would be interested in seeing is where a [REDACTED] [company name], [REDACTED] [company name], or whoever, loans you a bike or a scooter for more than 2 minutes at a time. Maybe you keep it for a few days or for the day and then you, almost like how Zipcar works, where you can park Zipcar in more secure locations, and then you go get it when you need it and then use it for an extended period of time. Which brings me, I think, to one of the underlying hurdles that makes shared mobility so expensive to operate is the

attrition of the units themselves. By the fact that we churn through scooters so quickly, mostly from vandalism, is in [REDACTED] [location in California] because other states don't have this problem, and that's why they're not losing money and to profitable. Like one of the major reasons at least my clients have told me that they pull out of markets is because

A) they're not making money.

B) They're not making money because their turn over is so much faster because of the way that communities treat these [services].

Which, admittedly is I mean, that vandalism I think is a is a symptom of, again, people feeling upset. Not the scooters and bike share cause gentrification themselves, but the people who they see riding them are the same people who are able to afford the homes that they'll never be able to afford. It's sort of like it would be a link between availability of affordable housing and like the success of bikeshare of certain cities or programs.

Researcher [00:27:54] That's a really good point. And then that kind of also goes into the question, you know, do we even serve the people who need this service at all?

Guest 6 [00:28:05] It doesn't. I mean, the data set out that it doesn't. Right. Not to the extent that we want it to at least.

Researcher [00:28:12] Right. And then that kind of goes into the question of a pilot program. So this research was first going to be a pilot program. But, I didn't want to go through with it because, you know, all the reasons that we could possibly imagine with pilot programs and we just didn't want to be another pilot program that comes into a disadvantaged community and says: "we're going to fix all your problems". Right. And we don't really know how long we're going to stay. We have funding for X amount of time. After that, we're not sure what's going to happen. If you happen to rely on this vehicle in that period and it disappears afterwards "I'm sorry". You know, we didn't want to do that. So that's why, you know, we're kind of doing this framework that then we may be using for programs. But do you have any experience with pilot programs? One with a focus on specifically disadvantaged communities? And do you have any specific views or anything on those?

Guest 6 [00:29:20] Yeah. I mean, I think that it depends on the type of pilot, right. So the [REDACTED] [type of pilot program] or just "give people money to get around and see how they use it". I think the issue is when you're trying to convince people to make, and this gets me all the way back to like the lifestyles, lifestyle, choice and stuff like a lot of folks are saying: "oh, are people going to sell one of their cars if we give them a bike?". And it's like... "Not if the bike is temporary". Right. Because you're asking someone to make a much longer term decision about short term perk. And so I think that's the issue of how pilots have a tendency to ask questions about long term decision making that are based on short term programs and a vehicle ownership is actually one of the most common metrics that researchers used to determine whether or not the program is successful. But people don't just buy cars and sell cars that quickly. We can't come to that conclusion overnight, like, "oh, I guess I don't need this car any more". They might keep it, especially if they pay for it. So I understand your concern of that, and I think others should share that concern, but it should not be the reason to not conduct the pilot. But to be honest with the community about the limitations of what the study is, because otherwise we will never know if these types of things work. So I think that giving people financial incentives to use other modes.... They're in the situation that they are in now, irrespective

of what a pilot is saying. I'm going to give you one more option. If you choose to use it, great, that's fine. And you get to study whether or not to use it. But if you're asking them to make a decision about their life, that has longer term consequences..... Based on your short-term study, then that's problematic.

Researcher [00:31:31] And do you see do you feel like that the companies that do these pilot programs, do you think they asked themselves all these questions before they start with them? Or do you feel like they just want to get started and they'll figure things out on the go? Or do you have some of those insights?

Guest 6 [00:31:47] I think that it depends on what the purpose of the pilot is. And I'll be honest with you, I think that when cities do pilots actually, when anybody does pilot, oftentimes..... And so let me take a step back..... I created a framework for pilots in [redacted] [location in California] and published it. And one of the main questions that I often ask people is: "well, what problem are you trying to solve with your pilot?". And can a pilot solve or at least evaluate what they want? And one of the things that I discovered in my interviews with staff and with politicians and with companies, was that oftentimes the problem that the pilot was trying to solve for was that we weren't doing a pilot. Right. Which sounds insane, and it it's hard to explain, but people were doing pilots for the purpose of demonstrating that they could do a pilot. And that there was like a cachet to saying: "we're partnering with the cities, look!". And the companies see pilots, frankly, I think as marketing and that they are good partners to cities. Like the thing I saw a lot with some of these companies, I won't name names saying: "oh, you know, we did this pilot with that city, see what we care". But... what did that pilot accomplish? Maybe not anything. But you got to say that you did that pilot. So it's almost like it's drawing from a marketing budget, not from some social equity budget. That makes sense. Yeah. So that is the problematic nature of pilots. But I don't think that even cities fully understand sometimes that that they are participating in someone's marketing campaign.

Researcher [00:33:37] That kind of goes into the data question, too, you know. Do you feel like you're actually gathering enough data on these pilot programs or is it, you know, that marketing tool and then afterwards we go "How did this go?". They have some data and that was it. And then they [service providers] go on to the next location.

Guest 6 [00:33:57] Well, I think it depends on what kind of data you're trying to get. Like, if the question is : "will people shift modes if we give them a new alternative that is free and accessible?". That's interesting. Certainly, and I think the thing that I'm skeptical of now kind of pingponging between all those different jobs, is that if ultimately, the policymakers aren't going to change the policy or practice based on that data. Then what is the data? You might be able to demonstrate perfectly well that, and I know you can because the data does exist, that if you put protected bikeways throughout the city, you would get more people riding bikes. Like, that's a fact. That's just a fact. And.... yet.. Do you see that many protected ways? You know what I mean? And so the idea that someone would say: "oh, we need a pilot to see if that's going to change my mind". Its like we, and I got into a lot of trouble saying that sometimes, it's like we have enough data and not enough decision making. I am reticent to suggest to people that they do more data research because at the end of the day, I'm like: "don't we know that already??". And better yet... Is this going to make you move to do something about that? If no, then it doesn't matter what the data sets say. You are going to do anything about it, right? If you could commit a policymaker to do something to say, like, if I can prove to you that providing that bikeshare in these three neighborhoods will change this outcome. Will you provide funding moving forward from

that pilot? If the answer is no, I'm probably not going to. No matter what. Then it just doesn't matter what the pilot says.

Researcher [00:36:00] Right. The next question will be why? Why is that the way it is? You've been with policymakers and you've been in those positions. Why? What would be one of the main reasons for them not to look at data?

Guest 6 [00:36:18] Because and I didn't say this...

Researcher [00:36:23] You can say anything you want.

Guest 6 [00:36:25] You know, the blunt answer is just because their constituents don't give a s#*^*. The people who make the decisions about our transportation modes are being yelled at by people who drive. And this is, in part, why I work with advocacy organizations to get them to stop yelling, not just yelling, but being like "...there's a whole group of voters who also care about traffic safety from a different mode choice". And at the end of the day, from just speaking politics for a second.

Researcher [00:37:01] Right.

Guest 6 [00:37:02] The only thing politicians ultimately care about is votes. Whether or not the number of people who are going to keep them in office care about X, Y and Z. And, to some extent, and this sounds a little callice, what they can get away with when they're when their voting base doesn't support that. There are some politicians who actually care about bikes, even though, their constituents don't care that much. But I can only get you so far without rattling too many of their cages. You know... You either have to tap into what can get you across the finish line without pissing everybody off. Or finding a group of people who are basically representative of a voting sample or voting block that are like: " I will kick you out of office if you don't move forward with this thing". And for better or for worse, actually, for the worse..... Traffic, safety and vehicle miles traveled and all the things that we care about are not issues that people vote on. It's not the leading issue. Right. Like we're coming up on a number of elections across the country. And right now, it's public safety, homelessness, affordable housing. Right. No one is campaigning to say: "I want to bring in more bike lanes". And that's simply not the deciding factor between candidates.

Researcher [00:38:30] Yeah. So you're saying, you know, they're not going to do anything unless their constituents want that. But then my question would be, you know, with some of these operators claiming they are working on some of these social equity issues.... How can we ever say we're working on racial issues or issues with gender or any of those, you know, really important concerns that we have? And especially in our urban areas in this case, you've seen all of this in [REDACTED] [location in California], which is supposedly a really progressive area.... How can we give a voice to minority groups through bikeshare or a scooter share if people don't care about it or the politicians don't care about them. Would the companies themselves be able to play a bigger role in that with lobbying or things like that, or do you feel like that's not their responsibility?

Guest 6 [00:39:40] I think... and this is going to sound a little off... Because I'm like "Yeah....". Part of me is like: "Why is this their job?". Which sounds a little odd. Especially for a [REDACTED] [minority group] from [REDACTED] [location in California], but I guess I'm like.... Bikeshare just isn't going to solve racism. You know. It's not going to solve redlining. It's not going to solve affordable housing. It's not going to solve police

shootings. And so to go to [redacted] [company name] or [redacted] [company name] and go... "can you help us with this?" Its a little bit asinine. And I have worked with them. They're kind of candid with me to be like, I don't know who you're kidding here, thinking that it's my job to solve this. I've had a number of councilmembers ask me: "oh, you know, how would we have bikeshare of homelessness?". And I'm like.. Unless they built houses for them they won't get that. And I just think that we're kind of like anyone who put that anywhere. But I think that a number of people are all too happy to play into this narrative either so they can go get a permit and say: "okay, we tried!". or you're a policy maker who is not willing to make the actual changes happen. And so by that, by saying: "see, look, I'm going to work with these private companies to see how they can help and I want to be innovative". It is really like you saying: "I have avoided the main ways to actually address this issue". And let me give you a really good example.....

Researcher [00:41:07] Okay.

Guest 6 [00:41:08] We have a number of councilmembers in places like [redacted] [location in California] right now that are really, really invested so to say, in trying to identify ways in which their Department of Transportation can address violence and reduce crime through infrastructure. Not just traffic violence, crime. And I'm thinking: "that's because you don't want to take on the police department that is infiltrated with all these racist people who can't handle enforcing the law appropriately without shooting black people". Right. And that's the subtext that people aren't going to say out loud... Is that I've decided to avoid the actual issue and focus on something that seems like either the flavor of the day or what might be another blunt instrument that I can say helps. But then people are surprised when the bus rapid transit line, running through [redacted] [location in California], was it the panacea that was going to bring all this economic development to the neighborhood. It's like..... I mean, you can say that you wanted that to happen. But, you didn't bring any jobs or housing to that area. So why did you think that it was going to do that? And the same is true for bike sharing and for scooters.

Researcher [00:42:32] So do you feel like a [redacted] [company name] or [redacted] [company name]... Are they catering to that ask of the government and therefore saying: "we are addressing social equity issues?". Or do you feel like while we're trying to solve all these things, they're using that opportunity as a marketing strategy to just get permits?

Guest 6 [00:42:51] Yes! Absolutely! Yeah... and I think cities know that and are then trying to kind of decide "...how much can I squeeze out of this rock?". Fair to say that, and I don't blame staff for this, you gave me this directive that's just impossible. So... We're all going to play along. But really, if you were to ask low income people or black and brown people: "...is this like going to solve all your problems?". Like....Why would you ask that? You know, the bike isn't food. It isn't clean water. It's not a well-paid job. It's not police reform. Now, it's a means to get you from A to B, which don't get me wrong, I do obviously..... I have invested a portion of my career on getting people on bikes so that their lives can be changed. Obviously, there is there is something to be said about the power of bikes... Especially e-bikes to travel more effectively. But at the end of the day, it is not one of the... Bike sharing and scooter sharing.. it's just not how we got here. Right. Disinvesting in schools for so long.... and realizing we don't even have quality education... it's just like..... I understand where your study is going and I think it's a good. The selling point I want to leave you with is that "if the question is... To what extent can shared mobility be an engine for social change and equity and advancing equity.... But the issue, though, is that I think people have convinced themselves that it can get you a really long way. And that's why,

later on, we realize it can't.... And the people, the companies especially were playing into that, I think honestly, are only doing that, Not because they're malicious, but it's kind of like the emperor has no clothes. We all kind of nod and smile, like, yeah, "..we're doing it!". Then I'm playing into it. You're playing do it. And we, and we both know.. If we really stepped back for a second, this is not really a problem on its own, right?

Researcher [00:45:20] Oh, that's very valid.

Guest 6 [00:45:22] Harsh. But, you know, it's you know.

Researcher [00:45:25] This is exactly, you know, the kind of conversation I was hoping we could have, so being so... You can't really say these things when you're working in these programs and working with these people, but, you know, just kind of seeing how it is.....we're not..... Yeah, okay, maybe we are able to accomplish some things, but we shouldn't let what we're currently doing in these bikeshare programs distract from the actual issues that we need to address. It's kind of like you're throwing up a smoke screen in front of the actual issue. But so you are saying that we should invest in this as part of all of the other larger problems that we have?

Guest 6 [00:46:19] That's correct. I mean, I had a conversation with someone actually before this call where we were joking, but sort of flippantly, that when people are like: "oh, no, this bike lane is going to be something that's going to cause gentrification!". By the time the bikelane gets there... you're too late. And people say the same thing about bikeshare stations for that matter. "See look, this is going to kick people out of their homes". It's not.... The lack of affordable housing is what's taking you out of your home. It's not the bike. And Then by extension it also is not going to be the solution to those problems.

Researcher [00:46:53] But if you were to do transit-oriented development and you say "...part of your TOD is this bike share dock...".

Guest 6 [00:47:03] It's what it is one part of it, certainly. But if the trips can't be made by bike in the first place, right. Then it doesn't matter. And I'll kind of give you just a brief little history lesson on why this is all that important and I'm going to wave my hands while I say this... If low income and black and brown people were relegated to very specific areas of the city and red line districts. And then..... Got pushed out in the last 20 years and people went.. " Hey, downtowns are really cool or we should live in downtowns". And actually, let me use a more specific example. [redacted] [location in California] used to be a lot more black than it is today. And there's a really cool podcast called [redacted] [name of company]. And the question of the day was "where did all the black people in [redacted] [location in California] go?". And it was [redacted] [location in California] You can count it like it's actually specific. [redacted] [location in California] is not close.... And [redacted] [location in California] is not [redacted] [location in California]... It is not [redacted] [location in California]... Or it's not even a neighboring city to [redacted] [location in California] and also does not have a bunch of jobs. So all of these people move like over an hour away, but still have to commute, whether back to [redacted] [location in California] or down to the [redacted] [location in California] where they were at. That force is just so much greater than any bikeshare program or scooter share program you can ever imagine. It is not black flight, the systemic push that put all the black and brown people in redlined neighborhoods, and then the flip of saying, okay, now we've got suburban poverty. So you might recall... it used to be that the inner city was the inner city. now that's where all the money is. Right. Like

living in downtown is now the expensive thing to do. So if you're low income, you're not just living in the suburbs, you're living in exurbs where people are commuting from [redacted] [location in California] to [redacted] [location in California] to get to their jobs. No amount of bike sharing is going to fix that.

Researcher [00:49:35] Right. No, that's again a very valid point.

Guest 6 [00:49:39] And to me, that's like the root, especially in California.

Researcher [00:49:44] So you're saying in California... If you want to make real change in the built environment, just mainly focus on housing. And how you implement the housing.

Guest 6 [00:49:54] Housing near transit. And that's it. The best thing that a scooter can do is negligible. You're better off giving just... Money to young people.. You would be Better off doing that then running this shared program. it's not exactly the talking point that everyone wants to use, but it's better if companies are pushing cities to build affordable housing near the jobs then a whole host of other things. If they really wanted change.

Researcher [00:50:35] That's some very good insights.

Guest 6 [00:50:39] Mm hmm. Okay, I got to jump.

Researcher [00:50:41] Yeah. Thank you so much for this whole conversation.

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Researcher [00:00:16] So with your permission, we're going to record this interview. And like I said, it's going to be anonymous. I'm only going to use the audio recording, not the video, and then turn that into a transcript. And from that transcript, I'll use some of the relevant data for this research. Let me turn it all on. Right. And any questions you don't want to answer... You don't have to answer everything. You can skip over things if you want. It's really just you telling me your experiences and expertise and the semi-structured interview is really just to help us stay on topic.

Guest 7 [00:05:48] Okay. So how does my occupation or rather how did it relate to shared ability services and social equity? I am the founder of a bicycle coalition here in [redacted] [location in California]. With that, I also am very, very active in the community with other organizations. I have worked on the budget in [redacted] regarding social programs, infrastructure, and [other] things of that nature as a volunteer and by representing other volunteers. I also represent [redacted] to our county transportation agency for bicycling and for anything that has to do with bicycling. So long as I keep the actual name [redacted] [company name] off the identifier, you may use that.

Researcher [00:06:59] So what would be the preferred identifier?

Guest 7 [00:07:03] You know, I'm good with both. You choose and whatever you think's more relevant to what you're doing, if you want to put both, that's fine. Because one of the reasons I was chosen to represent the city. Not as an employee, because I am a citizen advocate that's appointed by [redacted] [person in government function]. The [redacted] [government function] does the appointments. And so I represent [redacted] for things bicycle related to [redacted] [location in California] And one of the reasons I was chosen is that I am active in bicycling through [redacted] [organization name] and membership in clubs and all the activities that go with that.

Researcher [00:08:01] Right.

Guest 7 [00:08:03] Now. Secondarily to that, I also happen to work in the transportation industry as [redacted] [professional career]. So I am literally on the streets daily interacting with bicycles and shared services, whether it's shared or not, and other micromobiles of all sorts. So there's that perspective as well. I have a professional perspective as a non-bicyclist and a professional perspective as a cyclist advocate. And I am a cyclist.

Researcher [00:08:41] Yeah. That is really nice to hear because that gives us all those different perspectives.

Guest 7 [00:08:47] Right? And so I'll just add to that, quite often those seem to conflict a little bit. And I'll albeit advocating for one thing at the other time.... One of the groups that I happened to be a part of may feel that it's not in their best interest. So it's good to be able to bring different perspectives there.

Researcher [00:09:14] So using that, I'll jump into the second one [refers to question]. Using those, more than two lenses that you have, how do you see these shared micromobility services? How do you see them fit in our urban environments? Kind of

looking at a recent historical perspective and what do you think that their role might be in the near or later future?

Guest 7 [00:09:43] So my initial perspective was "...what a fantastic idea!". Shared mobility is just a great idea. I've been familiar with it since childhood, before it was a thing on apps, before there were internet apps or anything of the sort on very small scales. I knew of communities that had done this before. I had read about it. I'd actually seen it in a few communities. I'm trying to remember the names, but its not on the top of my head right now. On a very, very small, limited basis and growing up in the [REDACTED] and working in [REDACTED], many businesses had their own version of it in-house. An In-house version. For example, Google already did it. And long before there was Google, I mean, long before, I had been aware of other large corporations, and in fact the US military in [REDACTED] [location in California] had a fleet of 1500 bicycles for their workers. Just for those worked for the U.S. military, whether they were civilian or actually enlisted personnel, anyone on the base had access to the bicycle. So, I'm very familiar with the concept long before it has become what it is today and I was a proponent of it... and still am a proponent of it...

Researcher [00:11:20] Yeah.

Guest 7 [00:11:22] Now... That was then...

Researcher [00:11:23] Right.

Guest 7 [00:11:24] So going into the near term.... My observations... Throughout [REDACTED], where I worked daily for 20 years straight, I had a more jaded look. I saw so many of the devices, whether they're bicycles or scooters, littering the streets... Theft, disarray, blocking... People who didn't take care of them or know how to use them.... Honestly, the new term is unhoused, but previously we just labeled people homeless, its magnets for them.... To utilize, which I thought was great. But then they wouldn't just only utilize them, they also strip them down, strip them down for parts, stripping down for the sake of stripping them down. So, it became a huge problem then. I also saw the ... directly and I really educated myself with articles and reading and speaking and listening to the people involved.... The conflicts between government and the companies themselves... And how some of them would just show up and decide "we're going to do business in your city without a business license". "We're going to do our business in your city without asking". "Yeah.. We're just going to do it..." And all the problems that ensued from that. And then because of that, the incredible amount of bad press came. So it became a black eye upon the city. And then, of course, I read about other cities having similar problems. So I became a little jaded on it. Nevertheless, I still feel ultimately it's a wonderful concept and encourage it if we can overcome some of those shortfalls.

Researcher [00:13:33] Right.

Guest 7 [00:13:35] So going forward in the future. I'm hoping there is a way to eliminate. Well, I don't think there's ever a way to eliminate this.. but drastically reduce some of those issues that I brought up. And those are only a few of the issues that I witnessed.

Researcher [00:13:53] And then kind of jumping off of that, you talked about, you know, these private companies operating and the conflict between the private side and the public side... Would you consider these Micromobility services a form of public transportation, or do you see this differently?

Guest 7 [00:14:19] [brief silence].. Based upon the attitude of some of the companies.... Originally, it seemed to be more of a "get rich quick scheme", more so than a service they were providing. That's one of the things they were accused of in the press at the time as well. I'm conflicted because in an ideal world, we wouldn't have to worry about a profit margin. In which case I would say: "oh, this is definitely a form of public transportation". Absolutely it is or could be. But, it seemed to me that it was just less public transportation and more "How can I make as much money as I can off of this new trend?". And I think a lot of them felt it was a trend or.... "How can I become a monopoly?". That was the appearance and that was how my personal feeling was. To make it public transportation, I think, the word public needs to be emphasized. meaning, that it should be run by a public agency to qualify as public transportation. Technically, for example, the muni system, the local bus system, and to and where I think it really deserves a place is in our library system. You use and you rent a bicycle, you lease a bicycle. You can borrow a bicycle from the public library system. That way, then, it would truly be called a public transportation service. Otherwise, it's more like a taxi service. Your rideshare, Link, Uber, Zoom... Whoever they may be.

Researcher [00:16:24] I like that perspective. I haven't heard that one yet. Looking at these highly regarded public spaces and trying to combine that with these goals of transportation.

Guest 7 [00:16:37] Well, let me let me riff off of that phrase, these public spaces, because, again, as I mentioned in my first answer, that became a huge point of contention. And it still is to this day. Who's going to be allowed to use the public streets to park these vehicles in their docking stations, etc.? What are we doing with the public sidewalks? How much time and energy is devoted to making certain they're not littering? Because that was a big part of it. And again, I had mixed feelings on this. I wanted to see more bicycles, more mobility devices out there, but at the same time, I did sympathize with the fact that people are literally littering the sidewalks with them, and a single company would decide... No, this is our territory. We're just going to set up shop, whether you like it or not. I mean, I'm all for a free market to a certain degree, as long as it doesn't become a problem. Right. But when it becomes a problem and when it becomes an issue for other people trying to accomplish the same, then there's this equity within..... And the equity I'm speaking of right now is the businesses themselves, which businesses has an advantage over another business. So that's where the regulation, etc. comes in. Which brings me right back to, well, maybe we're just better off having the public sector do this. That's also with all sorts of problems itself.

Researcher [00:18:10] And has your organization or [REDACTED] ever set up one of these programs?

Guest 7 [00:18:17] It's funny you ask that. No. So I'm looking at it from the perspective of the city I live in and now work in. But.... Also... I considered [REDACTED] sort of my city because I worked there 20 years. Yeah, but in [REDACTED], no..... Ironically, just a couple of weeks ago, I was asked by [REDACTED] [person in government function] if I could help with such a program if he was to supply the bicycles. So. Yeah, how about that? I was just specifically asked probably four or five years ago if I would be interested in having it come to our city by people in the transportation agencies separate from [REDACTED]. They said: "Hey, look, we may have a line on this and what are your thoughts on it?". "Do you think you could help run this and make this happen?". And honestly, I told them straight up, no, I can't. I have another job and I'm not set up for this.

And then, I listed all the other reasons why we could not. With that being said, I did give some advice and I gave a bunch of thoughts and coincidentally, or not, because [REDACTED] [person in government function] really is kind of hip to all this.... He's very aware. He agreed that the concept was his preferred method as well. Okay, so that's funny you should mention that because the bicycles that we're being offered to [REDACTED] now are actually coming from [REDACTED] who's just dropping their program.

Researcher [00:20:08] Okay. And do you know if they owned the entire system?

Guest 7 [00:20:13] Yeah. So I didn't get all those details. Whether they owned the whole system or not. I think they owned the bicycles, but it was being operated by a third party. so I'm fairly certain that was the situation there.

Researcher [00:20:27] So that will be interesting also for the later question about the data collection aspect. You know.

Guest 7 [00:20:34] One more thing on that. again, almost around the exact same week, I was down in [REDACTED] [location in California], California...

Researcher [00:20:45] Okay.

Guest 7 [00:20:45] There is a nonprofit. They call themselves the [REDACTED] [company name] and they do bicycle repairs, bicycle sales, donations, they fix, etc., etc. They sell bikes at discounts to support their low income activities. They were also gifted an entire fleet of bicycles from a shared mobility program. The company just gave them their entire fleet of bicycles because they were no longer able to use them, etc., etc.. And they were just telling them: " Hey, you want one? You want some of these bikes? I'll give you some". They're also now selling them. They're selling them to make money for their nonprofit. but they also offered, hey, if you're a nonprofit or if you think you can use them, you can have some. So, the point of that being is that you're probably aware doing your research that there are more than one community that has a similar situation where either a private or public micromobility system is completely going under.

Researcher [00:22:06] Yeah.

Guest 7 [00:22:07] For one reason or another.

Researcher [00:22:09] Yeah. There's different thoughts also on the approach that we've had in California versus some other states, you know. And I talked to one person in government saying this was doomed to fail from the start and we all already knew it. There's lots of different thoughts on that. Some firms just wanted to dominate the market right away no matter what because it was new and it was hip like you kind of mentioned. But the question now is.... Is it something that we can do? Is it something we can continue to do? And that actually kind of also goes into my following question, which is... In your opinion, do the communities get involved enough when they implement these types of services? in your case... Kind of interesting, actually. You've been asked by the city about this type of service, but do you feel like... Communities are approached appropriately when these services are implemented?

Guest 7 [00:23:25] Prior to having gone to the [REDACTED] [transportation related event] and listening in to the presentations. [REDACTED] [REDACTED] micromobility hosted by yourself.... Which, by the way, you did a great job.

Researcher [00:23:47] Thank you.

Guest 7 [00:23:49] Prior to that, my opinion was, no, they didn't do a great job. Now, listening to the speakers, I believe that was [redacted] [person working in transportation related field] from [redacted] [company name], [redacted] [person working in transportation related field] from [redacted] [company name], actually I forgot the name of the parent company. [redacted] [company name], and the others that were there.... Prior to listening to their talks, whatever you want to call it. No, I didn't think they were. I don't think they approached the governments very well. I think because of all the bad press, they're now just doing a much better job. And absolutely in seeing some of the programs and some of the ways they're doing it now, I think it's getting much better. Rolling out a new version of it than previously and by previously..... I'm thinking my memory's going back probably six years, where I think even six years ago... It wasn't so good. So let me see.... Do communities get involved and enough? No, I think communities never get involved enough in almost anything that a community, whether it's, you know, city council deciding to spend money on a street sweeper .. or I don't think the community is ever involved "enough" in just about any aspect of the government and definitely not here, because it's such a small subset of the people. There's not enough people in in the United States of America, maybe more so in [redacted] [location in California], but in general... That really see this area as being something important or critical. So.... The communities do not get anywhere near enough involved. Not even close. And the decision making? It is left up to the few who actually happened to read... An agenda item on a planning commission or city council meetings agenda, and they just accidentally stumbled upon that." Oh, wait a minute. That's something I'm interested in. Maybe I better go listen in". But by that time, the decisions were always already made by somebody who is clueless and has no experience whatsoever.

Researcher [00:26:39] Although that said, you have been approached recently as a nonprofit organization. So would you count that as a fair attempt from your local government to ask the community? Maybe in this case, not really. What do you want? But would this be something you see useful or fit here?

Guest 7 [00:27:02] Yes..... So this goes back to my previous.. and what I just said prior, what I just said was more of my original thought. But yes, that is reaching out. And I know that later on other cities were contacting their bicycle coalitions, which are much larger, much better organized, much more active than I. And... So for them to have reached out to me, I think, is probably because I personally have been bugged. I've been a little gadfly buzzing in their ears for the last few years, and so they go, Oh, okay, there is somebody we might ask. I think that's probably the only reason.... I made myself known in [redacted] [location in California] and in other cities like [redacted] [location in California], [redacted] [location in California], etc. They also do that. But smaller towns that don't have a coalition? I don't think so. Other cities? I don't think so. And that's anecdotal on my part.

Researcher [00:28:15] That's a good point. And I really like that distinguished of "...this is not a one size fits all approach" right? It really depends on the build up of the community.

Guest 7 [00:28:34] I want to mention too that as far as the outreach, etc.. Before I even began [redacted] [company name] I was involved in community outreach events in [redacted] [location in California]. For example, the. Redistricting, new zoning codes,

the transportation plan, the general plan for the city, and the different elements within that. We have a major highway that goes through town that used to be a major highway and is now a surface street and now its lined with businesses and some residences on it, but primarily a business district. And the plan to re-imagine that, if you will, to reconstruct it into a more walkable, livable city. So... They did public outreach for those and I made myself available to all of those so that I could possibly attend, and make certain that I could, to put in my opinion. But... and It goes back to the same thing about community involvement. There's only a small subset of people in the community that actually pay attention to these things, that actually learn that the city is doing outreach and then even smaller subset that actually do anything about it by showing up, by writing their letters, by expressing their opinions and or even less.... Doing the research to support their opinions and their advice. So community involvement is definitely lacking and it's not just within the area of Micromobility and equity.

Researcher [00:30:37] Right. Well, there's actually kind of goes into question seven, talking about some of the challenges you're seeing, addressing more inclusive and equitable systems. You're kind of highlighting the question of "how do we talk to people who are not at the table", or who don't have the background, are not given the knowledge.... And are those people being involved? You know, are we really making these systems work for them?

Guest 7 [00:31:11] Right! Yes, So getting their opinions is the number one problem. Because, as a researcher I'm sure you already know, if it's not a compelling subject.... People are not going to spend the time to fill out a survey, write a letter, fill out a form, whatever it might be with anything more than a yes no. Circle A, circle B. And unfortunately, that's also just not the best way to be inclusive or equitable. To me, the only way to really do that is to walk up to somebody that is perhaps user of the system or wishing they could use the system and say: "Hey, you got a few minutes? Tell me what you think". And then the other challenge is..... Staying on topic and being relevant to the topic and you can ask..... I have this issue with the budgeting and..... You will ask somebody their opinion on, I don't know, let's just say a sidewalk. Do you think we need better sidewalks or even better question is "how can we get better sidewalks?". And people will just go off on a tangent and they'll just start listing a million things that have nothing to do with it or that are literally impossible to do. And so you'll get useful information out of that questionnaire, useful information out of that interview, but it is very limited. A Lot of it is because people are emotional. A lot of it is because people are not aware of all the reasonings and they're not educated in that area. If that's not their area of expertise or even their area of interest.... And if you just ask them straight up off the street, you may not get any information. But, if you don't, you're also certainly not being inclusive. And I feel a lot of these folks have important things to say, and they may not think of it until a day or two after you already asking the question and they go, Oh, wait a second, that's what I should have told him. So the follow up, I think that's what needs to happen. Hey, I remember I talked to you a few days ago. You told me this and this. Hey, did you think of something else since then? And I think amazingly, you may find several different or completely opposite answers. No additional information. So. That's just what that's in my opinion there.

Researcher [00:34:25] Yeah. And then you also kind of highlight allowing for some space for people to do go off of some tangents because you know, and it kind of also goes it's an expression when we're talking about transportation, a lot of other items in the built environment like housing, etc, they're all so linked to one another. And of course, you don't want people to go too far off tangents, but to a certain degree there are factors that that

need to be taken into consideration. If somebody is using the the shared service because they've been gentrified, for example, that's directly related to housing. Have you seen some of these factors in the built environment and are they attached to, in this case, maybe shared biking or shared scooter services.

Guest 7 [00:35:26] Yeah.... So, I think these environments are actually perfect for this type of model. When you talk about housing density, right? Because any other suburban type of environment, it's obviously less conducive to this kind of a service. Something you probably are very aware of is that someone who decides to become a user of shared mobility devices and if they cannot rely on them [the vehicles] being there when they [the users] need them. Then people will often try to just hide them so they're available when they need it. They'll put them on their own porch. They'll put them in their backyard. They'll hide them behind something, all depending upon the particular built environment. So, if they're in a public housing project and there's a large trash can area, dumpster area.. People will just hide it behind that so it's still there when they come back. But unless somebody is assuring that these devices are consistently available to them, they don't become consistent users. They will not be consistent users. And when you're not a consistent user, you tend to just not rely on the service at all. And you just find other methods and you just go: "You know what? This is too much trouble. I can't rely on it. I'm not going to bother". Now, it's a fantastic opportunity if the consistency can be there. One of the big problems with the consistency is not necessarily the built environment, but rather some of the things that happened in a disproportionate amount in these environments. There is the concentration of mental illness and crime. I'm not trying to say its a fact, because I'm not going to back this up with any numbers, but it's simply been my observation. And again, I travel through these and work in these environments all the time. Over 20 plus years. Driving in there. And..... The thing that I see an awful lot of these mobility devices, scooters, bicycles being abused by mostly people with mental health issues. And you can lump into that in, the same because I consider it a mental health issue, the addictions. And the addictions, mental health issues, we can lumped together for the sake of this particular argument, as well as just theft. In general, and unfortunately, my observation is that there's more of it in a lot of the disadvantaged communities. And for whatever reason we may put out there, there could be a million reasons for that. But that's not not what I'm looking to examine right here. It's just my observation that it is. And of all the places where I go, that's where I see more of the micromobility devices that are been broken, damaged, abused, left, lying around, not taking care of, etc.. You go half a mile, you make maybe four blocks even in San Francisco, and you'll see the scooters, the bicycle standing neatly and somebody has gone to the trouble to make certain they're sitting upright and not messed up. The people who regularly use them seem to have a little more respect for them. I also see abuse of them by people with nothing else to do. "Oh, here's a scooter. Let's go play with it. Have fun with it". Not because they were trying to go anywhere. Just because they go: "Oh, well, there's something we can mess around with".

Researcher [00:40:28] Do you feel like they might take out their frustration towards their situation, or government in general, on these devices?

Guest 7 [00:40:37] Well, I think that's what sociologists would like to say. And maybe that's something for a sociologist or a psychologist to determine.... Who's to say. I mean, that that could be one reason. Yes. Is completely possible for some people and it's my opinion since that that attitude is contagious. Someone who may never have done such a thing may actually go: "Well, you know what? I deserve to do what I want because I've been put down or I don't have this, I don't have that, or that person does or that person doesn't". It becomes contagious. And one and for some people, they feed off of that

attitude. Other people go: "No. I'm not going to do this. I know it's not right. I know it's wrong". So again. I unfortunately believe a lot of people use that as an excuse for that kind of behavior. And I know that it's more of a trend lately. And I'll. To describe. Ascribe that behavior to their social, economic, whatever situation. Right. And. And in that I'm not a sociologist, I'm not a psychologist or psychiatrist, but it's my observation that that feeds and it just gets worse and worse and worse. The more the more we say, hey, well, we understand how you're feeling. And we understand that behavior happening, the more is going to happen. Plain and simple. What's like graffiti, which is well proven. If you don't cover up or remove the graffiti, it just gets worse and worse. And I forgot what the term is for that. But it's not just graffiti, but it happens all over. It's a problem with the sociological psychological term. The longer you let it go, the worse it becomes.

Researcher [00:43:10] Do you feel like if these communities, specifically what you're just talking about, would have some kind of ownership role in these system..... Do you feel like that would help mitigate some of the concerns?

Guest 7 [00:43:25] Absolutely. Absolutely. Yes, absolutely. You need the buy in. You want people to say: "hey, wait a minute! That's not just some stranger bicycle or that's not, quote, "the man" or the corporations that's there for all of us". That's ours to use. It's our to use and it's our job to say something to our friends, family, neighbors. So, yes, ownership. And I think that just is true with anything and not just micromobility devices. I think that's just true of a community in general. And so, a lot of the problems do boil down to that. Do people feel that this is for them? And you're still going to have the few who don't buy into it or simply haven't even thought of it. They never really even considered that possibility. You know, you're not going to solve all problems with this, but definitely having and go a long ways and making people go: "Hey, wait a minute. I want to take care and take pride. And I'm glad they're here. I'm glad they're available to me".

Researcher [00:44:46] So kind of instead of a top down approach, more of a bottom up approach and going to the community and saying: "hey, this will this will be yours to use, but it will also be yours to maintain and regard to".

Guest 7 [00:45:03] Right, absolutely. And I think the only way that's achievable is when the involvement of the community isn't by saying: "hey, we're having a meeting at 7 p.m. at the local Boys and Girls Club or a community center" or whatever it might be. The only way to do it is to literally that's first of all, that has to happen. Yes, you should do that and you should definitely do that. And you should go to the churches. You should go to the pastors. You should go to the leaders in the community that are respected. You need to go to the business owners in the community that are respected. But, just as important, is to quite literally walk up and actually try to talk to the people standing on the street. talk to the people who are there and go: "Hey, what do you guys think of this? What's your thoughts on these scooters, on these bikes?". Wouldn't it be great if you could use one? We're asking is that you register, or whatever the situation is. "hey, if you want to use something like this. Would you be willing to help take care of it?". it's those individuals that don't go to the meetings, that can't show up at the community centers. They're the ones that you need to reach. And they're the most difficult to reach.

Researcher [00:46:31] That goes straight into the next question, actually. Obviously, there would need to be funding for that. And do you know, and maybe you can use the case for your city, who in that case pays for these programs or their pilot programs? And then the follow up question is, who should actually be paying for this?

Guest 7 [00:46:56] And the micromobility programs AND the outreach?

Researcher [00:47:02] Both.

Guest 7 [00:47:03] Right. So..... It goes right back to the other thought that in order to be public transportation, in my opinion, it ought to be through a public agency. But, the public agencies are stretched so thin. I mean, we you know, it is so difficult just to do the basic services as they are. not coincidentally or coincidentally on today's radio there was a short blurb. I wouldn't say it was an article. Let's see..... I'm trying to remember how many lines they spoke on. Public transit and the lack of bus drivers, train operators, etc., and school busses and the lack of drivers there, etc.. Public transit is in flux and the pandemic did not help it. If anything, it. I'm wondering if it pushed it closer to the edge, to the abyss, if you will, and the whole concept of self-driving cars and ride share and all of that change it. People are predicting the death of public transportation and..... Micromobility, I think, can survive. In fact, maybe even come on top. Of the public transportation as we know it today. That is the local in town trains, metros and busses. If it was implemented on a large scale and if it becomes "the way" the mode of transportation. Who should pay for it? That was where we were going. Was that correct?

Researcher [00:49:43] Yeah. But you're also answering the next one.

Guest 7 [00:49:47] Yeah. You know who should pay for it? Well, in the end, the user. To that..... If the user, by doing so is benefiting the community. Then, just like our roads we should spread out the cost among all of us. Because if we're all getting a benefit from it, whether we actually ride the bike or ride the scooter, or not... Someone else is and indirectly, we may all be benefiting from it. Then, yes, we should spread it out. We should spread the cost amongst all of us in our communities. All of us in our city, county, state, and the federal government as well. And we've done that with transportation forever. We still are doing that. Which brings us back to.... Is it a form of transportation? Public transportation, yes, if done correctly. Then it is. So, I think we should spread it out. Is there room for the private sector to be involved in the financing of it? I think that they think so. And I'm not going to deny them the opportunity to get involved. But ultimately, I would much rather see it be a nonprofit-private entity rather than a for-profit private entity. That's the space I would like to see it. If it can be run well as a business, but the profits are not going to huge corporate payouts, giant dividends, and giant paychecks and huge bonuses, but rather a more equitable pay structure.

Researcher [00:51:56] Yeah, so you're saying reinvest that or keep that in the community.

Guest 7 [00:52:01] Keep it in! The keep it in the community and not in somebody's mega-yacht. Right. You know.... I am, economically speaking.... I think that we need to have closer government to a socialistic capitalist society. That there are caps on the payouts to the executives, to the people who are running these organizations or businesses. Especially if they are profiting off of the public or adversely affecting the public by their actions or inactions. I think there's a separation and.... That's a whole other concept altogether. But if it [the service] is considered public transportation, I think there is no room for somebody to be making 60 times the wage or bonus of their lowest paid workers. It's just I don't think that's a fair and I don't think it's the right way to be running a business in general. And I think there needs to be caps on that. And I came up years ago that it should be 12 times a maximum... Just max. 12 times the lowest paid worker.

Researcher [00:53:25] And then there's monopolies and all that which comes with a highly capitalistic versus more socialistic environment.

Guest 7 [00:53:37] Right. And when it comes to public transportation. Well..... Does the US government have a monopoly on the interstate highway system? Kind of. Sort of. And then I'm okay with that. Yeah, actually, I'm just against the private sector and things like toll roads. And I can name some examples here in the state of California. Right. There's plenty of examples throughout the United States of America over the many, many years. And just aside, go ahead and add this to your something to think about notes, is the [redacted] [location in California] project that is currently under discussion. How do we fund that [redacted] [project description] going across [redacted] [location in California] to right here near [redacted] [location in California]? And that is a point of contention. How do we pay for it? Make it a public private toll road? Make it a private toll road. What? So, it goes like that.

Researcher [00:54:38] Going back to who pays.... Who should be paying these micromobility shared services? And you said, whether you're a user or a non user, people benefit, right? I thought that was a very interesting point. If you're not a user, but the users in your, whether it's a local area or larger regional scale, allow you to be confronted with less local pollutants, emissions, or reduce traffic congestion. you're saying to non-users, you're also benefiting. So kind of going back to that... Do you feel like this spreading of the cost should be paid on a local level or like a state level? Do you feel like the state of California should have a fund for these systems or should it be a much smaller city level or something like something more similar to that?

Guest 7 [00:55:43] I think it should be a mixed financial model. The state definitely. And there are grants, you know, I've actually applied or been asked to apply for some grants. I did not apply for a particular one because again, as previously stated, I don't have the resources, etc. to actually operate such a system. But there are state and county grants available and a few federal dollars, depending upon the availability, for such things. But it's a competitive bid process. And and it's not a lot it's usually not enough to actually implement an entire system for a particular community. It's just a partial funding. So I think it should be a mixed model. If a community says: "yes, we're interested", then yes, there should be some funding available, maybe matching, maybe a certain percentage depending upon what the proposal is. So, yes, I think it behooves all of us to have more of this in all of our communities, as much as possible. And what the matrix is that you just use, the criteria to distribute these funds, was actually a topic recently discussed at a meeting I went to a couple months ago. Not related directly and exclusively to micromobility grants, but other grant money. So what this matrix looks like? It has a lot of work before it could be finalized. And I think there needs to be flexibility. Right? There needs to be flexibility and some exceptions made, etc., but definitely, no matter what. There needs to be follow-up and ideally there should be some way to reduce the, In my mind, excessive cost of planning and researching. To me, this has always has been a point of contention. How much of a project's funding went towards the engineering and planning process? Let's just get out there and get it done right.

Researcher [00:58:17] Which has a separate history in the United States and goes back to lawsuits, etc.

Guest 7 [00:58:25] Right. And on a on a separate, but related, note...I would love to see your research when you're finished, if you actually compare that particular point. I did read an article somewhere and I may have actually saved it on my computer somewhere,

maybe with the link that actually discussed that very subject of how costly it is here in the US compared to other places and some of the reasons behind it. But I'd love to know if that's a part of your research in your project.

Researcher [00:59:01] It won't be a large part because the main focus will be on California and there's so many tangents that there possibly could be, even within the United States, with all the different models. But there will be comparisons also to, kind of like what I said in the presentation with [REDACTED] [company name], my first thought on shared micromobility coming to California was: "oh it's going to be like they do in the Netherlands and there may be a public transit bike, for example". Which, is not what the operators are comparing themselves to. They're comparing themselves to a Hertz car rental. So by definition, that would not be considered any sort of public transportation service.

Guest 7 [00:59:52] Exactly right. Yes, absolutely.

Researcher [00:59:57] That kind of goes into the last question with data and it also goes into your local government.... The question of who obtains and collects data and what's being done with that.

Guest 7 [01:00:16] Yeah. Real quick, let me back up just a quick note to the point about some of the data and research on the costs and what we just talked about. You just said that it's not going to be a primary focus, but... I think it is so embedded and is such an obstacle. To any program. Whether it's micromobility or not. And you can say equity as well because the poorer communities are one of the number one challenges. It is the financial cost of doing anything and pointing that out and saying: "hey, look, here are examples of how it can be done for less". And here is 25 reasons why you guys are lagging in getting anything done. And making certain that it, at least, is highlighted in red and asterisks, etc., red font, all.... Whatever it takes to say: "Look, it doesn't need to be this way. And if you say it does is because you're you are too concerned about A, B and C". So anyway, so I'll just leave that there. Now, I know that's a whole other topic.

Researcher [01:01:56] No, I do not disagree with you. The hard part is, you know.... How could you distinguish, for example, a Dutch public transportation bike from what we're doing here in California? Given that over there, everything is different in some way. Densities, roadway systems, there's a lot of space for these systems and people can travel on dedicated bike lanes and bike paths and use public health care systems. You know.... So it's hard to say. This is what they're doing over there. And this is maybe not how we should run it here in California, because of all those different nuances.

Guest 7 [01:02:47] You know. Yeah, I'm so glad you said that, because on my way home while riding my bike home today. I'm just stating a fact. the thought came up, as it has many times in the past.... But I wanted to just remember to mention this, that it's always in the back of my mind..... Is we can have our micromobility devices free for everybody sitting on every street corner and in front of every shop, school and resident all. But, If people aren't comfortable using them and our infrastructure doesn't support it with safer places to ride and easier places to ride, whether it's scooter or bike, it's going to be a hard sell period. It's going to be a hard sell. So the point is... The cart before the horse. The chicken before the egg. I think it's a balancing act. And honestly, I make this point here. What needs to happen is that we just need to have a short section from point A to point B. Where has all of this in place and say: "hey, look at how easy it is to do this from point A to point B? Look at all these people doing it and having a great time". How would you like to

have it in your neighborhood? Because if we can't show people that, they're going to doubt it and they're not going to believe it's a possibility.

Researcher [01:04:32] Right. So are you suggesting that, say, in a hypothetical case where you were to implement a pilot program for shared bikes.... You're saying combine this with all types of different developments all at once, different types of pilot programs all at once. So you can have a more representative situation of what you eventually hope to achieve.

Guest 7 [01:05:03] Yes. Yes. And then, I'm thinking some of the outreach that can be done is even much smaller scale and much more temporary on the weekends prior to anything being 100% decided. You just bring out 50, 60, 75 of these micromobility devices on all day Saturday, all day Sunday, maybe even do it Friday night and just say, hey, this is free for you to use for 3 hours. Go do it. You can go from point A to B, C to D, come back. Bring it back at the end of the day for free. And you do that several times a month for several months in a row, and you get people hooked on the idea. "Oh, wow, I just bike to the coffee shop. I just biked and spent 2 hours on the island at this club. I just spent 3 hours at the shopping center with this bike. I went back and I had it and you just literally do that and you spend the time and the money and the resources to do that". People are going to go: "wow, this is this actually works". Not just say: "we'll give you three free hours on our app". Whatever it is. No, no, no. It should be 100% free. No sign up necessary, other than let's take your information so you don't steal our equipment, whatever it is. But just go do public outreach events and you just walk up to somebody here, get on this, just go, go have fun for 4 hours.

Researcher [01:06:40] With the contingency that there are spaces to use these devices.

Guest 7 [01:06:47] Right? Well, for in [REDACTED] [location in California], for example, we have a waterfront. It has a pathway over three miles long. We have [REDACTED] [location description] with flat, easy riding surfaces that are for miles. And there's not very many businesses along there, to be honest. But if we combine it with the businesses that are there and they're open. You know what? Go in there for a free burrito or taco, whatever. A coupon off. So that's just one way, I think prior to actually the decision of, well, you know what, we are going to spend the multi billions of dollars to make this work, make this happen. Which brings us back, and so I know I went off on a tangent there, before without answering number 12 what data is currently gathered. the data. I'm not really big into what data is being gathered by my community. It's very little to next to none other than what our transportation department may be doing. And to be honest, I don't think a whole lot.

Researcher [01:08:15] Okay.

Guest 7 [01:08:16] Now, before I finish this number 12 question, I will send your email to [REDACTED] [person's name]. The one you sent us or me. Would you want me not to include your questions ahead of time?

Researcher [01:08:29] That is completely up to you. I would say try to send it without first.

Guest 7 [01:08:35] Okay.

Researcher [01:08:36] Because I like the consistency and most people don't know the questions ahead of time. Right. So, there's less biases that way. So people can't look things up. And it's really just your experience and point of view.

Guest 7 [01:09:30] All right. That's the way. Okay, so back to number 12 and data. So the micromobility data.... I'm not so familiar with it. I do know that other types of bicycling data have been gathered haphazardly and without a lot of data points. A lot of it's been gathered again by limited scope and gathered from a limited number of people with limited responses. I do know that some of the studies for traffic studies and bicycle count studies, just checking people who've been riding have been done by volunteers, some from the local bike clubs who were trained in that know they had to go through the state of California's. It's very short, you know, how to do a bicycle counts, pedestrian counts, etc., and how to use the counting devices, etc.. I know that volunteers have done that in the past for that type of data. I know that there is a program that the state offers as well as administered. Do I think the county and I haven't seen any recent workshops on asking people to become, quote, certified in gathering bicycle or pedestrian data. And in that data, I'm speaking primarily the data regarding literally the counts, the visible counting of users, right? Not so much other data. Questionnaires, surveys, etc..

Researcher [01:14:25] Yeah. So we hear observations sort things like that.

Guest 7 [01:14:28] Right. So I think there's definitely room for improvement there. And I know that a private company has been utilized in the past. In fact, I'm familiar with the people who own that company and who actually did the data collection for other mobility studies. In our county and the community. But because I know this, because I read it, and because I actually participated in some of the counts I participated in giving my being one of the interviewees that I it's my opinion that it leaves a lot to be desired. In primarily the quantity of the data and frankly. The audience, you know, who's likely to be able to share useful information. Right. So that's what I know about that.

Researcher [01:15:42] That's a lot of information, thank you!

Guest 7 [01:16:39] Sounds good.

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Guest 8 [00:01:21] All right. Well, right now I'm retired, but I used to work at [redacted] [Company name] as an engineer. And so, I guess that's not really micromobility. So I didn't do anything particular with micromobility as a professional, but I guess I did prior to that at [redacted] with the high mileage and super mileage... actually high human power and super mileage vehicles. I did, you know, I guess you could say that was actually micromobility kind of work. Efficiency, you know, of bicycles and little cars.

Researcher [00:02:14] Which falls under the realm also. And then I'm specifically looking mostly at shared bikes and shared scooters. Mopeds and other small vehicles are part of this of course as well.

Guest 8 [00:02:30] Okay. Yeah. And then I think as a retired person, I've been pretty involved in trying to improve cycling and micromobility here where I live in [redacted] [location in California]. And so I've been involved with public works quite a bit. And some of the government processes, for example, I'm a reader for these active transportation grants. We have to read a bunch of these grants and then give them grades and they collect all these grades and then they decide which ones are going to get funded. And so there's actually quite a bit on the equity part in that, in those grant applications. So I think the ones that I looked at, I had.... There was one in [redacted] and one in [redacted] and one in [redacted], [redacted] [location in California], and Menlo Park. Let's see where else..... Mill Valley. They are actually kind of posh areas, a lot of them, but they do have their there..... I guess within those posh areas and some of those places, not all of them, which have some disadvantaged areas.

Researcher [00:04:05] Okay. And so these areas.... Are they mostly wealthier areas that you see have applied for those grants?

Guest 8 [00:04:14] No, I think there were a lot of different ones, like different areas. So [redacted] [location in California] was actually one of them as well. [redacted] [location in California] itself is a very wealthy city, but the area that they were looking at was actually very disadvantaged. Yeah, the disappointing part of that one is, and this might fall into what might be relevant to your research, is that they actually probably, in my opinion, had one of the weakest ideas. And they, because they were basically going to do nothing for cycling, they weren't even going to paint sharrows on the roads. So the way it was is that there's a main road called [redacted] and it has public transit on it has it has a train on it. And they were totally going to ignore that street where everybody wants to go because it's going to be public transit. And they were going to do a zigzag thing for pedestrians and cyclists. And they're calling it multi-modal even though nobody saw it. The only thing they were going to do was they were going to raise some crosswalks and put some speed bumps in and that is it. And then the rest of the project was educational, which I think is very important, but supposedly part of the reason they were going to do so little is because it was at the request of the residents. So that's the part that's interesting.

Researcher [00:05:53] And do you know if those were residents in the area that were disadvantaged?

Guest 8 [00:05:58] Yeah, I think so. Yeah, I mean, this whole area is very disadvantaged. I don't know if you're familiar with [redacted] [location in California], but it's at the [redacted] area. You probably may have heard that term. So it'ssupposedly their outreach was using... They had some outreach at some local stores and some other

meetings. And it sounded like their outreach was telling them that they [the local residents] didn't want..... What I think they're afraid of is gentrification.

Researcher [00:06:35] Right. I was going to ask you that. Glad you mentioned that yourself.

Guest 8 [00:06:40] Yeah. So every time they see a bike lane pop up, you know, then everybody's forced to leave or whatever it may be. So, to me, it's so ironic because making the place better for them. of course then makes it better for everybody..... And then like they said and they're, you know, perhaps they're worried about this gentrification. But the problem is that it's good for them as well. And so.... I just find it so frustrating, especially since that area so right in the very immediate area, they kind of have these medium density maybe three story structures, old three story structures right next to each other, you know, typical [redacted] [location in California]. But in the nearby areas they're making these big condos and apartment complexes and other things like that. So in that regard, maybe at this point... It's already gentrifying. But the thing of it is that is that the density..... Yeah, of course thats also what we want. And that's a density that requires, you know, cycling, walking, and scooters and all that kind of stuff. They're not making any accommodations for that on these.... In this area. I mean, they are making the.... I mean, I think they are improving walking there by making raised crosswalks and speed humps. That would probably improve walking. It won't improve cycling at all. I mean, you know, you have to bike right in front of the cars and now you don't have any sharrows and you don't have a sign that says bikes me use the full lane. So and some of these streets are actually wide enough to, because it's about a half dozen streets, and the ones that go East-West are actually wide enough to have a bike lane striped.

Researcher [00:08:35] Right.

Guest 8 [00:08:36] But the ones that are North-South are extremely narrow. And so, you'd have to remove the parking. So.....

Researcher [00:08:43] So do you feel like they have looked at all those options and they then reached out to the community and most of that is now the result that you're seeing? And the application was just, and it's kind of based on speculation, but mostly because the community might be just concerned about this gentrification that's already happening?

Guest 8 [00:09:05] Yeah. So from what I was reading, it's not clear how much or how many of the options that they laid out for these guys were there. Did they did they lay out any bike lanes? They didn't say that they did that, you know... And did they lay out this idea of removing parking? I almost got the impression that they didn't even give the community those options. And they didn't specifically say that gentrification was the reason that they didn't want to do those things. They [the city] just said that the community didn't want to do those things. So.....

Researcher [00:09:38] Okay.

Guest 8 [00:09:39] So that's kind of my speculation and especially this construction that's going to be not too far away.... But I don't know.... I mean, if these people actually own the properties, which I guess a lot of them don't, then they would benefit. But of course, if they're renting and then they indeed they wouldn't benefit..... I mean, so. Yeah....

Researcher [00:10:01] And then did they specify how they did the outreach? You mentioned they set up in stores?

Guest 8 [00:10:08] Mhm. Yeah they did go into some detail there because that's one of the things that we judge. So they did go to some stores... and they actually had some fairly creative stuff here. So they had some people, I think they actually hired some local students, and the key is that they were paid positions so that they sort of are giving back into the community. Right. And so then those people, you know, I think said that, set some of the stuff up like down at the store and I think they probably went to a school and.... I can't remember where else. I guess they just had some public meetings as well. Yeah, public meetings. So that's one of the criteria that we're supposed to look at. What is their outreach? How did they do the outreach and did they connect with the disadvantaged community? And some of them do their outreach and then yeah, maybe you get one or two guys from the disadvantaged community and then you get a dozen from the other part of the town.

Researcher [00:11:14] Right, and the owners of the properties?

Guest 8 [00:11:19] Mhm. Yes.

Researcher [00:11:21] Yeah. And do you remember if they did any focus groups or things like that?

Guest 8 [00:11:26] I don't think they did a focus group per say in terms of um. Yeah..... I don't think they did what I would call a focus group, you know.

Researcher [00:11:36] Yeah. Well that's another very interesting insight that I haven't really heard before yet.

Guest 8 [00:11:46] Yeah. I mean, so I personally. So the reasoning here..... Okay. So there's three of us that have to read these things. And we're supposed to.... What's the word? Concur? You know, we have to come up with a consensus score and we're supposed to consider things right. So what happened was that this deadline was actually the Friday before last. So it was like a week and a half ago. And so it occurred and then I went over to one of the three people who was not available. And so the other guy didn't really want to concur because he already..... We sort of already butted heads a little bit.... Yeah. So he said: "lets just average all of our scores", which is not really the same thing. And so... But anyway, the other two people on this particular [redacted] [location in California] project. They rated it way too high, in my opinion, because they kept, and I know that one of the evaluators was..... So there's only one question on the disadvantage aspects. And then it was like six or seven more questions that aren't and that just have to do only with the technical aspects for the outreach and things like that. So anyway, the disadvantage aspects are handled in a question.... and that's only one question. Well, the comments in one of the evaluators and for every one of the questions she mentioned: "disadvantaged, disadvantaged, disadvantaged.....". So obviously that's on her mind. And every time she answers one of those questions she filters it through this disadvantaged aspect. So she scored it [the project] really highly. This really mediocre, lousy project. She really scored it high and that is exactly the opposite of me. And so that was disappointing. So anyway, we're supposed to go back now as I complain to that guy who runs this thing. We're supposed to go back and concur because I believe I can talk her into taking the score down a little bit because her scores..... Every time she created a

score it was just adding "disadvantaged" parts even though it was already taken care of in the first question.

Researcher [00:14:09] And so do they explain also in those applications what the actual definition of a disadvantaged community is?

Guest 8 [00:14:18] Yeah, they have they there's some very rigorous... but I'm a little confused, to be honest, because there's a couple of official. So one of them has to do with, I think the percentage of free lunches in the school district. And another one of them [definition] is different. So there's these things called. They're called community based transportation plans..... So community based transportation plans and those are meant to address disadvantaged communities. You only have that if you're a disadvantaged community. Not all of these applications had those definitions..... CBT.... Anyways, those are, because I never heard of those definitions before, so I started researching a little bit and that's something that..... I don't know if, you know, it's a little different where you're at, but here we have a regional government, basically, so we have our county governments. There was this thing called Association of Bay Area. ABAG. It's called ABAG. So this association, the Bay Area government has a conglomeration to sort of regionalized some of these decisions. So it's made up of elected officials from the county level. And anyway, so ABAG is the one that may have made these definitions for these community based transportation plans.

Researcher [00:16:07] And then are you rating these as a consultant or volunteer?

Guest 8 [00:16:13] Just a volunteer

Researcher [00:16:14] As a volunteer? Okay. For ABAG then?

Guest 8 [00:16:21] Oh, no, no. So this is for. That's a good question..... Yeah so that can get a little confusing. So I'm reading this for the Metropolitan Transportation Commission. And are you familiar with the MTC? Okay. And so that's the Bay Area MTC and then, because we also have county level [REDACTED] Transportation Commissions also and then there's the overall state governance.... So this was for MTC. So I actually, you know what what I said before, it might not have been ABAG and just might have been for the MTC.

Researcher [00:17:01] Okay.

Guest 8 [00:17:02] Yeah. So ABAG covers more than just transportation, and the MTC is involved perhaps in a collaboration with ABAG. That part I'm not always quite clear on.

Researcher [00:17:12] It gets pretty complicated in the Bay Area because there's so many different types of agencies and boards.

Guest 8 [00:17:23] Yeah. Yeah. So I'm not sure about ABAG anyway this is for MTC.

Researcher [00:17:31] It's a state level or regional level grant?

Guest 8 [00:17:34] Right. That's where I was just going to get at. So, they have a big pot of money and they split it in, I think it's 40/60, and I can't remember which is which, I think is 60% is given from the state level. So that means, you know, that these projects that I just read are being compared to projects in L.A. Right. They pick out the best ones from

the state level and then 40% is at this MTC or regional level. Yeah. So I'm doing the MTC level stuff. So then we're just competing within the Bay Area.

Researcher [00:18:11] Yeah. And then in these applications, do they mention shared bikes or shared scooters or some of those services?

Guest 8 [00:18:19] Yeah.

Researcher [00:18:19] Mostly infrastructure?

Guest 8 [00:18:21] No, this can be infrastructure. And I think they call it non-infrastructure. So that's [redacted] [location in California] and for example. I would say maybe more than 50% of that.... It was a large project and I think more than 50% of it was educational. And the shared mobility can be a big part of these, although the ones that I read..... Yeah. I'm trying to think..... I don't think any of them talked about shared mobility. Yeah. I don't think any of it. Even [redacted] [location in California] I don't think did. Yeah. So but that is part of it. Yeah. That can be. Absolutely.

Researcher [00:19:14] And do you remember any specific examples when they did requests for money for their shared mobility services?

Guest 8 [00:19:21] I don't think I have ever had those ones that I read.....

Researcher [00:19:26] It's just an option that they can do that?

Guest 8 [00:19:31] Yeah. I think there's a mention in the in the questions. I think that shared mobility was mentioned in some of those questions, but I think they just chose not to do anything about it. I was just trying to think of [redacted] [location in California]. Did they did they mention it? I don't think so..... Yeah.

Researcher [00:19:50] Yeah, that's interesting. And of course they have some current systems in place. They might have already secured funding for that.

Guest 8 [00:20:00] Yeah, that's..... That could very well be, especially in a place like [redacted] [location in California].

Researcher [00:20:04] And then also probably depends on the organization that applied for this specific grant.. I'm not sure if that was the [redacted] [government agency]?

Guest 8 [00:20:12] That that particular one was yes, [redacted] [government agency]. Yes, yes. Sometimes it's the county, sometimes it's the city. And then sometimes it's sort of a subset of the city I guess. Yeah. [redacted]. Yes, that's right. Yeah. So [redacted] itself is very wealthy. So, you know, I mean, [redacted] [location in California] was very wealthy, but this area is not.

Researcher [00:20:43] And do you feel like they could do more community outreach, or is that just not something that you can tell from this application?

Guest 8 [00:20:51] Well, I think I can't tell 100% from the applications. The outreach is really difficult because, you know, and I've been involved in some outreach, it's just hard to get people motivated to give input. So the ones that are motivated, just as you mentioned, are those landowners and those people who may be going to lose something.... anybody

who's going to lose something. Then all of a sudden they're excited, you know? But people who are going to gain something are much less motivated. And so when I see these public meetings, is anybody you know, when they talk about parking, especially all the people who are going to lose parking, come out and complain, and those people who are going to gain access by, you know, bicycle or something similar. It's it's a little harder to motivate them to come out.

Researcher [00:21:44] Yeah, that's a really tough challenge in general. I think that's also what my research kind of goes into and trying to find solutions of how people can, not only be more involved in the planning or implementation process also for these services, but also when you have challenges like gentrification.... How can you ensure that people are actually benefiting even if they don't own property necessarily? Can they be more actively part of these systems or some of these solutions? If it's infrastructure, can they somehow have some ownership over that infrastructure that's being put in place?

Guest 8 [00:22:33] I think that ownership is kind of a key thing, and so I think that's part of how they were sort of hiring in the [REDACTED] application.... They are actually hiring some people, local people to do some of these things and they were the only ones that were doing that. The other ones [applicants] did not.

Researcher [00:22:55] And then in terms of shared Micromobility services, do you have, given your background or just personal experiences, do you consider that [shared micromobility] a form of public transportation?

Guest 8 [00:23:11] Yeah, I think so. I've always been interested. I myself have not really partaken much because I have my own personal devices, but I just think it's totally cool, especially the scooters. Because, you know, the scooters are, you know, implemented in much higher densities and they're very accessible and they're, you know, dense systems. And I just think that's great. And just recently, I was at [REDACTED] [location in California] and they have a ton of sitting scooters. You just sit on them. They're like little bicycles. And so they even handle the problem of standing, you know? Yeah. I don't know if they have regular brakes or not. I forgot to look, but now I guess they must right.

Researcher [00:24:04] That would be.

Guest 8 [00:24:05] It just occurred to me, you know. But anyway, I think I just think the micro-mobility..... you know, the shared stuff is fantastic because not everybody of course has a device. And then, you know, just recently this summer I went to I don't know if you're familiar with [REDACTED] [Company name]?

Researcher [00:24:31] [REDACTED] [Company name]?

Guest 8 [00:24:32] Yeah.

Researcher [00:24:33] Yeah, I'm familiar with them.

Guest 8 [00:24:35] Yeah. So I went to [REDACTED] [Company name]. I don't know what you call it.....

Researcher [00:24:40] Their [REDACTED] ?

Guest 8 [00:24:41] [REDACTED] ? Yeah. Oh, did you go to the [REDACTED] ?

Researcher [00:24:44] Yes, I was at the [REDACTED] as [REDACTED].

Guest 8 [00:24:50] Oh, I probably saw you [REDACTED] then because I went to at least one of those talks, and there was that one guy from [REDACTED] I was really impressed with him. He was the ride hailing guy with [REDACTED]. Yeah. Anyway, he was talking about..... He's the [REDACTED] guy in that company, right? Some of the stuff he said really hit me and I was like, yeah, you know, like this entire idea of not owning a car. As soon as you own a car, then it's actually this huge fixed cost, and people will use it just to go around the block just because they have it, you know? Yeah, So if we can solve this last mile issue and things like that so that then people don't need to own cars and then So there's a few other things he said that really struck me. But yeah. So I just think real micromobility, and I think scooters are particularly, you see them in [REDACTED] [location in California] on the [REDACTED], especially before they got outlawed. You know, they were everywhere. And I thought they were great. Everyone was complaining, blah, blah, blah. Blocking the sidewalk and all this stuff. And I just thought they were just so cool.

Researcher [00:26:16] Yeah, and obviously there are some challenges with them too.

Guest 8 [00:26:20] Yeah, exactly.

Researcher [00:26:21] Which is what I'm looking at also.... But yeah, I agree. They have a lot of potential benefits.

Guest 8 [00:26:29] They're just huge.

Researcher [00:26:30] So given your experience with these grants, for example, that you're doing and some of your background and then thinking about these bikes and scooters. Do you feel like the communities get involved enough with those and when those services get implemented? I don't know if you have a lot of examples of that where you know about some of the decision making of those implementations?

Guest 8 [00:27:04] So you're saying... Well, so we don't have Bikeshare or scooter share here in [REDACTED] [location in California]. We're sort of a suburb in the area. Yeah. I mean, we have had them on the sidewalks near my house, you know, and they would be left there. We've seen it a couple [systems] because we're next to [REDACTED] station. But we currently don't have them, you know, here. So, I mean, I've talked to people about bike sharing and that kind of thing. So I don't know how much the community is involved. So basically your question is, how is the community involved in those decisions? Yeah. I guess I don't know. I don't know. And then here's a question in that regard though. So in [REDACTED] [location in California], a lot of those users are not residents. They're not from there. They're just visitors. Right. So you have to make sure you ask those people too if they are part of the system. But then each time it's a different person because they're only there for like a week or a few days, so. But yeah. I don't know how I. Yeah, I guess. I don't know.

Researcher [00:28:29] And then also, you know, what do the local residents think about these people who come in and use those services but maybe not treat them..... Treat the devices the way they would in their own community? And leave them on sidewalks or some of those similar issues.

Guest 8 [00:28:49] Okay, I do have a comment in that regard. That has to do with what's on the other what's the name of that town? It's not [REDACTED]. What is it? [REDACTED]. The town on the other side of the [REDACTED]. Oh [REDACTED]. [REDACTED] is actually really hostile to all of those devices. It's really, really, frustrating. I actually do not and I will not even stop in [REDACTED] now because they're sort of antibike. They don't allow you to park them anywhere. And so they have this one, only one spot, where you can park the bicycles and then they charge you a fee to do that.

Researcher [00:29:32] Oh, really?

Guest 8 [00:29:33] Yeah. So it's a it's pretty frustrating to me, as a bicycle user. And so, I mean, I guess some people do it because you get a lot of visitors there anyways. Because people, they'll rent a bike in [REDACTED] [location in California] come across and then they'll have lunch, you know, in [REDACTED] [location in California], it's a real cute town and so anyway, that's an example of I think where you would say... and I believe probably there are a number of residents in [REDACTED] that cycle and do nice long rides, but when it comes to visitors, either a rental, normal bike, or rental e-bikes or scooters, they make them go to this one little section of town and then they make them pay for it.

Researcher [00:30:24] So would you say they do have adequate infrastructure? They are encouraging it? They just want to benefit from the from the visitors? Or do you feel like they're just trying to discourage it in general?

Guest 8 [00:30:37] I think it seems to me like they really are trying to discourage and I think they're really annoyed by the bicycles blocking, you know, sidewalks and stuff. And then so they're really annoyed and they want to kind of isolate them. In some cases, I can understand that, because there are sections of the sidewalk that are extremely narrow and then the roads are also pretty narrow. So they're making very few accommodations. There's like no bike lanes or anything. And I maybe shouldn't say that..... So in the areas, like the sort of downtown area, there's not very many bike lanes. When you leave out the other side of town, there's some bike lanes... Anyway. And to me, it doesn't look like they're really trying to promote cycling. And but if they did, they could have even more business, I think. In terms of the restaurants, I mean, they're already pretty busy, but it seems like they could do a better job of promoting micromobility systems. You know, more people would come in and go to the shops and have lunch and such.

Researcher [00:32:07] Yeah. And my question would be, you know, who are they listening to if they are charging people to park any type of device? I would also wonder, are they charging cars?

Guest 8 [00:32:20] Wow, you made me just think of that. Yeah. I'm just trying to think of..... I don't believe there are any meters. I could be wrong on that, but I don't..... I don't think so. There are some places you can park from my recollection. But that's a good one. I'm going to go check that out..... I'm going to see if they if cars have to pay.

Researcher [00:32:40] Because in that case, they're really actively, uh, placing a burden on active transportation and allowing the cars to park on tax dollars.

Guest 8 [00:32:52] Right.

Researcher [00:32:53] Yeah. And then who is telling the city to do that? Is it the shopkeepers or is it local residents who want to be able to park their own vehicle?

Guest 8 [00:33:07] That's a good question.... and I might have had a unable to get that answer. I think I had a friend who lived there and. But yeah.

Researcher [00:33:16] It can easily become sort of secondary search topic with that. So kind of going off of that thought. Uh, and of course you are a cyclist as well yourself. And how much do you think the built environment plays a role in the success of these shared services? What are some of the factors that... work against this community? So you just mentioned, actually, the charging of parking your non-automobile, whether that be a bicycle or a scooter.... Do you know any any other examples that you could think of?

Guest 8 [00:34:01] Sothe built environment. Yeah, I think the built environment is pretty critical in terms of encouraging people to use micromobility because most people are really, really, afraid. You know, the way our system works it is all built on trust, right? So you have to trust the other road user not to collide into you and to stop when they're supposed to stop so that you don't have these collisions. And I think what happens is that when people feel exposed, when they're on a, you know, like a scooter or a bicycle, they just don't have that cage. And so they have less trust in the people who are driving cars. And so I think you really need to have good infrastructure, specially protected infrastructure for people to get out and use these implements. Yeah. And so, although having said that, I do see people and this always kind of amazes me.... I do see them like on [REDACTED] in [REDACTED] [location in California]. You know, going right down the middle of the lane which they should do if they're going to go down that route. But it's got a bunch of train tracks and all types of dangers. So and I finally did it for the first time recently... I was like, okay, I mean, they've outlawed cars there now, so it's a little easier than I used to be. Yeah, well, but it's still, you know, because you have these busses, I mean, there's a lot of them, you know, and so..... Wow. I mean, that guy could have just, and if I wasn't really watching, I could have been smashed right now! Yeah.....

Researcher [00:35:57] Yeah. So its either that they don't care anymore because of all the confrontations they've had that if they were to care about every single incident or potential incident, they wouldn't be able to use the, the vehicle or be an active transportation user? Or they just are not aware maybe of the potential dangers?

Guest 8 [00:36:21] Yeah, it's probably like you said. You know, there's so many cyclists, they just go and they cycle and they really have to watch out. But anyway, there are a lot of.... In that area there's quite a few shared bicycles electric and non-electric and the scooters. I don't see as many scooters on [REDACTED] itself, but yeah, there's quite a few in that area. But I really do think that, yes, it's pretty important for people, like on the [REDACTED], they have an exposed bike lane, but it feels okay, you know, because.... And I don't know why, maybe because the cars don't go that fast and there's a lot of scooter use there and e-bikes and stuff like that.... And so, I think if you didn't have that, then I guess they would have to use the sidewalk, which we do use. And but it's a huge, massive, wide sidewalk. I think if people need that to feel like if they didn't have the ability to ride on the sidewalk or have the bike lane, I think you would have a lot less usage then.

Researcher [00:37:40] And then do you think government should take a more of an active role in providing those spaces? Before we can put in those vehicles? It's kind of like a chicken and the egg situation where on one side you want to have to demand in order to get the supply in terms of infrastructure. But you're also struggling with, you know, you

don't want people to be endangered or to have to compete for space on the sidewalk. So what's your what's your take on that? When you see grants like or applications like [redacted] [location in California], where they put in a sharrow or people are asked to share the road. Do you feel like that's realistic?

Guest 8 [00:38:25] That's a really good question. And I've given a lot of thought, too, because I get that question a lot being sort of in the suburbs. I get that question from our director of Public Works, who's a very anti-cyclist. Yeah, so he thinks that where we would say "build it and they will come" and he says, "no, they won't" basically. So yeah, that's a good question because one of the big strong arguments for not removing parking for bike lanes here is that there aren't enough cyclists. Right. There aren't any cyclists because no one wants to ride on that road because you're totally exposed and people are rude and they're fast drive fast, all that nice stuff. So, you know, I just I haven't come up with a good answer. I think maybe you do have to do the infrastructure first because otherwise, you know, you're probably familiar with this hierarchy of cycling riders: The fast and fearless, then the crazy people, and then the big bulk of the people is this "interested but concerned". Right? It's like, I don't know, 50% of the whole population. And so to get those people on the road, and I know a lot of those people, like a lot of those people are moms especially with school kids and stuff.... And so anyway, to get those people on the road, they're just never going to do it until they feel safer. Right? At least safer, if not safe. And so now I think for them, you definitely need the infrastructure. But to get the government to do anything first, then they want to see these more of these fearless people out. And they are subjecting themselves to this these dangers before they'll commit to something. So as long as there's room. So I think the way it boils down, as long as there's room to put a bike lane and you're able to remove parking, then the government is sort of okay with that. But as soon as it gets into any kind of a conflict with a car, then they want to see more of a commitment from these, you know, cycling communities, which are only going to be these lunatics until you get the infrastructure. So, I think they have to take the gamble and build some of the infrastructure. That is the only way.

Researcher [00:41:03] And do you think that some of the, and imagine the shared bikes and shared scooter being a good example, in some areas especially in [redacted] [location in California], where they get used for tourists or it's been mostly young people who use these devices.... Do you feel like they are almost being required to test out the landscape for then people to say, okay, there's a need for an infrastructure?

Guest 8 [00:41:35] I think that's unfortunately how we're operating right now. Which is sadly really annoying. And then we should also address the other side of the coin, which is the driving. Right? So the key again, the key, and I believe the success at Davis, has to do with the fact that they've actually outlawed cars on campus. And so once they did that, then the only sort of logical, reasonable way to get around was by bicycle, right? So you could either drive to campus and then jump on your bike or you can just ride from home. And so I think and I think..... What's that famous town in Holland? It's the city that is a university town.....

Researcher [00:42:25] Delft?

Guest 8 [00:42:25] So it's not Delft. It's....

Researcher [00:42:29] Utrecht?

Guest 8 [00:42:29] Say that again? Yes, I think that's right!

Researcher [00:42:34] I would say Delft is more famous, but I'm from there, so I'm very biased in that response.

Guest 8 [00:42:40] So in Utrecht, they cut the city into quarters. Right? And their wall, basically, it's only porous to bicycle and scooter type things, but not cars. And so then you have to go out of your quadrant and if you want to go literally go about two kilometers, you might have to drive more like 20 kilometers out to get there. So those are the kinds of things.... basically, to get people onto micromobility we need to make it ideally more convenient than driving. And so right now that's hard to do because our whole society is set up for cars, you know?

Researcher [00:43:23] Right. And then there's the equity question of, say you were to outlaw cars, or make it harder for cars, and or incentivizing biking and use of other smaller devices..... What does that do to people who don't have the money to switch? Or get another vehicle or get spaces to store those vehicles?

Guest 8 [00:43:53] Well, I think that any time you have a switch to a bicycle or a scooter, I think really all of those issues of storage and cost immediately drop. Because those devices are cheaper and they're smaller. So we may have to store them in a different way. So the problem is that we generally store them differently. I guess that's the main issue, right? So like a car, we just park out on the street, whereas a bicycle we may have to take into our bedroom or something or into our house or something because we're worried about security. Right? But it but in general, those are smaller devices. So theoretically, the storage problem is less of an issue except that the one's indoor and went outdoor I guess you'd say and then some people do park cars in the garage. Anyway, I just think those it's not a problem basically. Ultimately, trading down from a to a bike is less expensive. There was a woman I met at [REDACTED] [company name]. She was actually not from the Bay Area. She was from, I can't remember which, not [REDACTED], but a further south of [REDACTED] in [REDACTED]. And she was not a cyclist or anything, but I guess her husband used to commute to work on a bicycle. So they had one car. And their car broke down. It actually broke down on the holiday. They had, I think, three kids. And it broke down on their way to vacation. And they were able to borrow their parents car to go on their vacation. But when they got back, they started looking to replace the car and he didn't find anything right away. And so then they decided to take their, rather than being rush to find the whatever car they wanted, the mom, the dad already was cycling, so the mom got some kind of bike to get her sort of, you know, have a temporary solution. And so anyways, she started cycling with the kids to school and stuff like that. And it worked out so well that she ended up actually buying a really nice bike, quite expensive bike, a cargo bike. And they were, I don't know, by the time I met them they were like five years car free and all that stuff. Oh, [REDACTED] [location in California]. It was in [REDACTED] [location in California]. And we're not even talking about the Bay Area, we're talking about [REDACTED] [location in California]. Yeah, it's got to be impossible right there. And anyway, they were making it happen. I was so impressed.

Researcher [00:46:51] And then they have to make that calculation of is it worth the risk being surrounded by all those larger vehicles?

Guest 8 [00:46:59] Yeah. Yeah. And it was a trade down. But in that case the car broke down.

Researcher [00:47:06] Yeah. You're very contingent on the region that you live in.

Guest 8 [00:47:13] Yeah. Oh, yeah, yeah, yeah, yeah. I mean, I was very impressed and especially for middle age women, it is just harder to get them on bikes. So, yeah, she was my hero.

Researcher [00:47:33] But the intersection between, and that's also something that my research dives into, intersection between the land use and how we treat land use through local government and the separation from transportation and mass transit here in the United States.... It can be a pretty challenging gap because you're so contingent on each other, on land use or transportation and vice versa. But at the same time, there seems to be kind of these silos where we are all operating in our own bubbles. And it makes it very hard to solve these large problems successfully, especially on large scales.

Guest 8 [00:48:22] Yeah, I think that's the I think that's the idea of the ABAG. Yeah. And then also the MTC concept. Right? They're having a more regional outlook because one of their big things is land use, like you said. Anywhere near [REDACTED] station we want to have, you know, at least medium, if not high density type of development. And so they are making progress on that score, I would say. But, um, but it's, yeah, it's really hard. Like you said, they've been for, for many decades. It's been separate, right. And so now we're coming up with policies to try to help change that. So where I live, the place I call [REDACTED] [location in California], it's kind of like a smaller community. And so so it's actually in that regard pretty good for cycling because things are nearby, the distances aren't too far. Unfortunately there's no bike lanes, so the infrastructure here really sucks but. And the drivers can be really aggressive and rude. Okay. But the main bones, I always say the bones of [REDACTED] [location in California], are pretty good because all the all the schools are in town. literally, I live right next to the high school. It's just surrounded by houses. And then and then just right down the street is the central business district. And it's like, again, accessible by thousands and thousands of pedestrians and cyclists and even more cyclists as long as people feel safe. And it's also right next to [REDACTED] station. So anyway, we have this a possibility if we would be so brave as to build infrastructure such that people feel safe, you know, taking the scooter and the bicycle and, and that type of thing, then I think we would have less car congestion and a lot more people on bikes and stuff, especially with all of this electric mobility. I see so many more people, just today, I came down and we live in sort of an a valley and so is this kind of hills all around. It's a big bowl. Yeah, we went down when it went side of the bowl today and down the hill. And this dude was going up in his e-bike. It looked like it's about 50 years old. He's pretty heavy guy. And he was just pedaling up easily because he could. Just because he could. Now, that guy would not be on a bike if he didn't wasn't had an e-bike. Right. Just great to see. And he was, you know, just cruising up the hill. I don't know where he was going, but. Yeah, so we just, you know, we need more of that.

Researcher [00:51:25] Yeah. And obviously the capabilities and technologies are there to start doing that. Do you feel like and you talked earlier about trust. Right? Trust in traffic and traffic really coming down to being communication between people and having trust in each other. Do you feel like our maybe legal landscape or social landscape is a big obstacle in being able to achieve what we always envisioned here?

Guest 8 [00:52:06] Wow, good question. That a really good question. I really think you nailed it there. You know, I think, like you said, you mentioned both the laws and the social aspect here. So I guess I'll take the law first. I think that we definitely need to work on the laws because, definitely, the laws totally prioritize driving. So even for pedestrians, you know everybody and even the public works posts signs in certain places that say ... I think

they quote a California Vehicle Code or maybe it just says California code or something and maybe not the number. And they say: "pedestrians have priority" or something similar and they put this near the crosswalk. Well, they don't. It turns out they don't. I keep telling people: "I don't know why you think pedestrians have a priority in the U.S". They do not in California, because the way the code reads, it says something likepedestrians have the priority, unless you do something like jump out in front of a car or something like that.... Right? And so that didn't used to be there. That was added in over time because everybody started driving. And so then they wanted to have a way out. So now every time a driver hits and hits a pedestrian, they always say: "well, that guy just jumped out in front of me". And that's defense, right? So in my opinion, the pedestrians should always be able to jump out in front of cars, totally. And they should be protected to do that. This idea of people literally jumping out in front of a car, that's pretty rare. But let's say it does happen..... I mean, they [pedestrians] should still be protected, in my opinion. These are very weak laws. And then there's laws and then there's the enforcement of the laws. Right? And so I'm involved pretty quite a bit with our CHP. The guys who handle traffic in our area is actually a combination of the sheriff and the CHP.

Researcher [00:54:10] Okay. So at the state level.

Guest 8 [00:54:13] State level, yes, we're unincorporated. So, anyway, I talked to these CHP guys a lot and a lot of them are totally unaware that cyclists can use the full lane. I have to keep educating them on these basics, you know, and then they don't enforce and I wear a camera everywhere I go now. And so, I've shown them a number of pretty bad cases, right? Where people have even chased me down and acted like they wanted to attack me and stuff similar to that. And they then do nothing. So enforcement is, even when we have laws on the books, that enforcement is very weak. And I work with a group called [REDACTED] And..... That's what we work on trying to get the police to actually enforce cars. You know, like reckless driving and stuff like that. And so..... It's a real struggle. We've had only basically one success. It was one down in L.A., [REDACTED], where this guy was convicted of reckless driving without an actual collision. The key is that you often need a collision. So these cyclists were riding and the guy, you know, hit his brakes and these guys were able to dodge around him and not get hit. But it was clear it was pretty intentional. And they were then able to prove that in court and they actually won.

Researcher [00:56:01] And that protection of cyclists and pedestrians has been lacking in California and things like "jaywalking" have been proven to be used to profile people as well. So..... for people from disadvantaged communities, in some cases, they are afraid to use, for example, these shared services. Because they feel like they're going to be targeted using those. And maybe that could partially be the lack of knowledge on some of those laws? Like your example being able to use that full lane with the bicycle. We seem to be very auto of focus in California still.

Guest 8 [00:56:52] And that's actually a really good point in terms of like the racial component, because when you're out on a micro-device, you are exposed. And so people can see who you are. You know, and so I've had examples of people who thought they knew me just because they saw me every day, you know? Then when they finally meet you, they're like: "oh, you're the guy on the bike, blah, blah, blah.....". And they really feel a connection and they feel like they know you, even though we never met before. We never chatted or anything. And so, it can be friendly, but it can be exactly the opposite. Right? "I see you every day!", you know? In fact, I actually have experienced that, one time that one of my daughters was involved in a collision with a car.... And so I called the police and they came over. And as the guy, as the police, the CHP guy was writing the report, some other

guy drove up and had the audacity to tell the policeman that he should arrest me because I allow my daughters to ride in the streets. He said: "I see him every day. They come down the hire and blah, blah, blah". And I'm like, I couldn't believe that. I was like, Are you kidding me? And the cop was just stunned. He didn't know what to do. As a driver, you know, I mean, he was being polite and all that stuff. But generally, the cops are, you know, in favor of the drivers. But anyway.....

Researcher [00:58:30] Because of our history.....?

Guest 8 [00:58:32] Yeah, go ahead.

Researcher [00:58:34] No, you were going to add something to that.

Guest 8 [00:58:38] Oh, I was just going to talk about the cultural aspect. Yeah, so that's another thing. So I what I haven't experienced. And [redacted] [location in California]'s a slightly more affluent than sort of the [redacted] or [redacted], maybe less so [redacted], but [redacted] and, and all that stuff. So people here, I feel, have this sense of entitlement that I think carries over in their driving. So when they when they drive and they see a bicycle blocking them, then they get really upset, more upset than they would otherwise if they didn't feel the road is theirs,. And so there's a sense, an entitlement, I think, that gets into this cultural thing. Depending on where you live, in general, we have a car culture period. But it's just sort of better or worse in certain places, whether or not there's some empathy, I guess, for somebody on a bicycle. Because I actually have less of a problem when I drive through [redacted] because there are poor people in [redacted] that ride bikes, you know, so, yes, there's some wealthy people as well.... But when I go through those more disadvantaged neighborhoods, I don't feel the same from the drivers, I just don't feel the same hostility, you know?

Researcher [01:00:13] So you actually feel safer riding in some of those disadvantaged communities? Are they more open to people walking... Maybe sometimes on the road?

Guest 8 [01:00:25] Yeah. Yeah. Yeah.

Researcher [01:00:27] That's a that's a really interesting point. Yeah..... So the culture being really important? Aside from the infrastructure component and they probably lack a lot of the proper infrastructure in some of these areas.....

Guest 8 [01:00:44] Mm hmm. Yeah, so I think as long as..... so those people that are "interested but concerned", I think they would have more of those people try cycling if the culture was different, even lacking like you say, that the infrastructure. Because like when I ride in France, you know, we used to visit France and we'd ride bikes in France and and, you know, they didn't have a lot of bike lanes there, but they just gave you a lot of room and wide berth when they passed and they didn't pass at 100 miles an hour. And they just treat you differently when you're on a bicycle. And I never..... I always was appreciative of that and that it registered to me like, look, we don't even like kind of need a bike lane as long as people drive like that, you know?

Researcher [01:01:33] So as long as people acknowledge that you need a certain amount of space in order to be safe?

Guest 8 [01:01:39] Right. Yeah.

Researcher [01:01:40] And so it doesn't necessarily take lines or striping on a pavement to have that physical space? And then, I don't want to take up too much of your time.... I really appreciate all these... So this is the nice thing about doing semi-structured interviews is that you have these experiences and these stories that I would otherwise never be able to look at or share. And I really appreciate all those details that you're giving about those experiences that I think that, you know, is a really important part of the research. And I'll make sure to share some of that as well.

Guest 8 [01:02:28] Yeah. Yeah.

Researcher [01:02:30] And then kind of going back to the shared micromobility component of this.... Do you feel like private entities should be the ones to operate these and enforce? You're talked about enforcement, right? Or do you feel like this is more of a job for governments?

Guest 8 [01:02:58] I see. So should private entities or government organizations enforce the rules?

Researcher [01:03:05] Yes. So that could be their policy on wearing helmets, for example, or.....

Guest 8 [01:03:11] Parking on the sidewalk.

Researcher [01:03:13] Right, parking on the sidewalk. There's a lot of intersection and a lot of overlaps with government functions there. But frankly, a lot of these services are private. So my question would be, what would you see appropriate and who would take something like the role here?

Guest 8 [01:03:35] Yeah, that is a really good question. Because normally the government is the enforcer. Right? So, but the cool thing is about these micromobility devices is that we have these amazing technologies now in which we can enforce things through the device itself. So in a way, we should be.... it seems like the governments right now are trying to force the private owners to do a lot of this regulating. Right? Like especially having to do with where they're parked. Or where they're used. They [users] can't ride them on the sidewalk because now we sort of have that ability to turn the machine off if it gets on the sidewalk, as my understanding. But so, I think it probably has to be a little bit of a shared situation. So for sure, the government should be sort of outlining the big the big picture, I guess maybe, you know, sort of what the rules are. But the government should include the people. And I think that's one of your earlier questions. It should be getting feedback from the, you know, where our system works It's a representative government, right? So what happens is you can have people make decisions that don't they don't represent and it's not a direct democracy. We don't vote on whether or not scooters can be used on the sidewalk. So some official just decides that and so I think they should get more input from the people, I guess, is what I'm getting at. And then with that information, then they put together the rules of engagement. But then the enforcement, I think, should be still a combination. I think the government should still be on the hook for some of that enforcement. And then it can be shared if we if we have the ability to use the technology, then we should be also, you know, kind of try to encourage the private owners to keep these vehicles to follow the rules. I think we should apply that to cars as well. Right? So there's a number of things that we that have been talked about in cars that could fit that bill. Like one of them is those are inhalers. And so that's another.... I mean, so far, we I

don't think we see much of that in cars. But we if they're going to do it for micromobility, then we should probably do that with cars as well, because they do way more damage than bicycles or scooters. So but yeah, I kind of see it as a maybe it should be a shared thing, but the people have to be able to.... The only... redress that citizens have is through the government. Right? They don't really have much control over private entities. So the government sort of has to be involved.

Researcher [01:06:59] Yeah. So you're saying because citizens are involved in these systems. They're the ones using it and their only way to address, even just some of these issues, is through government and government should be the structure through which that gets arranged?

Guest 8 [01:07:20] Yeah. Yeah.

Researcher [01:07:22] And I was thinking about your example of what happens if you park one of these shared vehicles in the area you were talking about where you get charged that fee and where to not pay the fee, but the vehicle is not yours..... What would happen in that case? Would the service provider be asked to come and fetch their vehicle or would it be confiscated?

Guest 8 [01:07:49] Yeah, that's a good question. So, yeah, so you have a very specific example. Well, so the one thing. So that's for parking. The parking is a tougher one.... I was thinking with sidewalk usage they can just turn the motor off. Right? But, yeah that's a tough one. So if you parked it, you could charge a fee and not sure how well that will work. So the only thing I think of, you know, my own children.... often when I think of the government stuff, I try to relate it back to my kids and my experience with and myself as a kid with my parents. Because there's only so much control that you have, right? So, the idea of just fining somebody might not be very effective, right? Because they can just not pay the fine and then they can just abandon.... The next level so that you don't get to use the system. You know, maybe if you if you gamify it somehow? So there's carrots and there's sticks. I don't know if you make that a stick, like it's a demerit, or you just give them a carrot every time for parking it properly.... Maybe just gamifying it. And so what you can do in the gamification because what would you get out of it other than some maybe you get some free time on it or something like that? So you park it properly five times and you get, you know, ten extra minutes or whatever. And so that could be some kind of an incentive program. Yeah, this is a..... Parking's a tough one.

Researcher [01:10:02] Yes. So you're saying take a positive approach and you're asking people, you know, if they could do certain things instead of looking at what they cannot do?

Guest 8 [01:10:19] Right. Yeah. I think that might be a better approach. I mean, I was also thinking of library fines, right. So. And how much do library fines incentivize people? Right? So I don't know. I don't know how much study they've done overall. I don't remember specific studies, but I know a lot of libraries have taken fines away now. And so our library does now no longer fines people for having late stuff turned in. Because I think what happens is once it becomes late, then people will keep it. For one thing, you know. And so, I mean, I'm guilty of not wanting to pay the fine, even though I'm fine and I should pay the fine. I should be happy to pay the fine because it supports the library. So I think, yeah, if you have a way. So even the library could do something. I don't know what they do because it's already free to take books. But you know, if you turn books in on time, somehow you get some reward.

Researcher [01:11:35] I think that's a valid comment.

Guest 8 [01:11:39] Yeah. I mean, sometimes it's just enough to have a game, so you feel like I got a thousand points or whatever. But other times, like in this parking situation, it seems like if you can give people something, that would be good.

Researcher [01:11:55] Yeah. And then my last question goes into data, but I'm not sure if you're aware with how much data is collected on these devices?

Guest 8 [01:12:03] Mm hmm. It's probably a lot. Do they pair up with phones and stuff, right?

Researcher [01:12:10] Yeah, they do. And yeah, they do gather GPS data and some other trip relevant data, um, that may be used for a lot of great things. You know, if we were to want to help communities improve their health or improve their access to transit through these services and we can use the data to allocate the proper resources for that..... that would be a good potential. We also see that due to the public private partnership and in government having those different silos, it can it can be challenging to share the data.....

Guest 8 [01:13:06] Yeah. You know, I guess I'm on the whole data gathering thing. I'm sorry. In between. Yeah. My wife is in one extreme where she's. She thinks that there's nothing bad could ever happen with it. And then I have a friend who's a total other extreme, and he doesn't want to use any of it. And so because it does seem like there is a lot of benefit in having data and you could do a lot of good things with the data. And it seems like I guess the bad part is whether it gets subpoenaed or something for some kind of..... But in a way, maybe that's good as well. As long as it's not harassment, then, you know, it can be another tool to fight crime if there's crime. So I don't know. I'm not a super good tech guy, so I just kind of succumb most of the time. I tell you what, one time I used to try to fight it a little bit when I, you know, I had a roommate who's kind of used to fight that stuff. And so I remember at the library. Speaking of the library, so one time they would say "give us your email", then we can stay connected or whatever. And I said: "No, I'm not going to do that!" As, you know, government, blah, blah, blah.... Right? And then when I had an overdue book and I went to the library and I said, I can't remember I was talking to him or something. Anyway, they said, well, you know, we would we would let you know before it's due. Like a few days before it's due with an email. If you if you gave us your email, we would remind you. Right? I was like: "What? How come you didn't say that before?". They said we probably did or whatever. And so..... I learned my lesson. So now I actually always sign up for everything. You know, they gave me everything because I want to be able to, you know, not get screwed again.

Researcher [01:15:25] I kind of anecdotal comparison goes back to what you said earlier about transportation coming back to trust.

Guest 8 [01:15:34] Right, exactly.

Researcher [01:15:35] And I think you just perfectly tied that back in to being able to trust the system, you know, for it to work. But then, of course, you know, in transportation and in urban planning, there's a lot of distrust with communities when it comes to gentrification, etc. For... Very warranted reasons.. because there has been so much abuse of power in certain cases, too.

Guest 8 [01:16:08] Totally easy for me as I'm not in a category that's at high risk. Right. So yeah, I totally agree with that. Yeah. And I and I and I much more appreciate that point of view than I did when I was younger. You know, because I used to compare, you know..... I used to compare like the African-American experience to the Asian, especially Chinese, experience. You know, I don't know if you're familiar with some of our history, but there's the Chinese Exclusion Act. And it was brutal. It's really remarkable. I mean, it was very specific initially and then went on to include other Asians. But it was it was cruel. And so then I thought, but then the Asian community has sort of transcended that and they've become successful in society. But now, I totally see that a different way..... The African-American experience is just..... It is just nonstop..... Ever since slavery.... its explicit. And it's just, you know, nonstop. It's....

Researcher [01:17:57] Yeah. It's systemic?

Guest 8 [01:18:01] You know, the Chinese community was not allowed to own stuff and things like that. it's just..... I think it's just extreme. And, and so yeah, there's just. Yeah..... And then you're like you say even today, you know, it's just... I see it because I grew up with Latinos and not so many African-Americans, but lots of Latinos in [REDACTED]. And then when I went to school, lots of Asians too. And so, I just see..... I can even see that there is a huge difference of how people treat Latinos now and African-Americans.... It's quite a disparity. My wife's also [REDACTED] [minority group]. So anyway, I have some experience on that side of that, too. Yeah. Anyway.

Researcher [01:19:15] And there's things like the sundown towns and examples of Chinatowns being burned down to the ground in California over and over again. So really, any minority group has had to suffer through that in, especially our built environment, in California.

Guest 8 [01:19:37] Hmm.

Researcher [01:19:38] And that's the challenge here, too. When you talk about shared vehicles and you talk about sharing something and you talk about transportation, you talk about trust. You know, the question is, how can you have an equitable or quote unquote equitable system? When people have been treated a certain way and you might not be able to earn or get that trust and thus not be able to have a truly equitable system until we solve some of these issues.

Guest 8 [01:20:12] Yeah, yeah. It'll take a while to gain..... You know, trust. It takes a long time to gain.

Researcher [01:20:18] Right.

Guest 8 [01:20:20] Yeah. And once I mean, once it's violated, you know, it just takes away. And I may never fully repair even. But it would take a long time to sort of scar over sometimes.

Researcher [01:20:33] Right. And then the question is how can you undo some of these things? And I've had to ask too, well, why would you ask those questions when you're looking at a collaboration on a device or a system between a public and private partner? And maybe the private partner has nothing to do with this because this has all been done through government. It's... well, this has been happening on a societal level. So we need

to look at this through everything that we're doing. Even something as small as shared devices. But it's a very complicated question.

Guest 8 [01:21:18] Yeah. I think if you had a lot of these shared devices in this area, like in the [REDACTED] [location in California] area, I just don't know how much they would get used, like you said, for various reasons, you know. Some goes to basics like the lack of infrastructure and the other, you know, there's just trust issues.....

Researcher [01:21:44] So okay, I'll stop the recording. And thank you so much for your time!

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Guest 9 [00:00:31] My current role oversees a lot of the program and policy around transportation choices that are not driving [a car]. So in regards to shared micromobility, a lot of what it does is we look at how those vehicles fit into our transportation ecosystem, under which policies they fit into our transportation ecosystem, sort of trying to think about like vehicular code and what laws and rules apply to different devices. When we talk micromobility, we're talking everything under the weight of a vehicle class that as a "motor vehicle", right? We're talking bikes, scooters, skateboards, electric scooters, electric bikes, electric skateboards, electric unicycles, electric rollerblades, hoverboards. I'm probably thinking of something else, but you know, there's a long laundry list of things in there and it's important to think about how they fit in to a dense urban environment. Right? Because we have our built environments and they kind of dictate where we want people to go. But as device sizes change, this is where a lot of my kind of policy analyst position comes in, and look at how we fit them into our built and urban environment. As far as social equity goes, a lot of where my work is focus on that is kind of twofold, looking at the programs that we would like to see for shared Micromobility, I mean, this is kind of going back to the shared micromobility specific, right? If those programs were to exist, what programs would we like to see in them that give low income or needy people access to these at a low or no cost option? And one thing I can kind of touch back on in a prior career I had was operating a bike share, a large tech company. And in that space, we had bikes that existed on Kickstands and would float out to our community. And they were floating out in our community and being used by members of the community. That became sort of this tenuous relationship between the operator and the community. And in reality, we were providing a shared micromobility system to them at no cost. And while the operator or my organization were frustrated by it because we were losing devices for our system..... Personally, I did really believe that we were doing a benefit to this society where we were giving folks free access to bikes. And I think that model is something that I really believe in the shared micromobility systems in. If we have these for profit enterprises or if they're a non-profit operation and in a community, I believe it should be in their models to support that low barrier entry for folks who could otherwise not afford their own transportation or the fees of the shared transportation.

Researcher [00:03:43] Right. And do you know the significance of those vehicles that are being lost in those communities for that particular case?

Guest 9 [00:03:52] For that one it was tricky because, you know, we'd see them being used for transportation trips between the market and the residences. And those might have been walking trips. They might have more likely been driving trips, given the kind of environments around there lacked a lot of appropriate sidewalks. Can you repeat what your question was?

Researcher [00:04:19] Yeah. So how significant was the loss? Because you mentioned.....

Guest 9 [00:04:22] Oh, the attrition.

Researcher [00:04:24] Yeah.

Guest 9 [00:04:24] The attrition was notable. I think, you know, at one point we were looking at around a 30% loss rate.

Researcher [00:04:32] Okay. Yeah. So you're talking about a significant amount of funding that you would need to be able to support something like that.

Guest 9 [00:04:42] Millions of dollars per year. Yeah. Like at one point I think we were at estimated out at the point it was like 1.3 million.

Researcher [00:04:49] Okay. Wow. And then. So what role do you believe shared Micromobility services have had in urban environments, and what role will they play in our future?

Guest 9 [00:05:02] So this is one of the places where I believe really highly in shared micromobility. You know, I think that transit systems work well, but they don't work door to door. If you if they do work door-to-door it or it's likely because you've chosen where to live based upon the transit service. But guess what... routes may change. And then that bus stop a quarter mile away changes your day-to-day commute. Right? This is where I think the shared micromobility systems really are a wonderful addition to transit systems. Think back to the San Francisco Bay Area and the bay bikes or Bay Wheels or the program's name is now. And how they were stationed well, in our neighborhoods. But they were aggregated at the transit hubs. They were aggregated at bus stops. They were aggregated in bulk at the transit, at BART stations. They fit so well to get people to these faster modalities. And I think that's worked well, as is I do think, you know, we do see a lot of these devices in urban places, probably replacing walking trips, especially scooters. I think scooters are more of a novelty. However, they do get used for utility in a lot of places. And, you know, I haven't really delved into a lot of data, but my instinct would be that it's like one third are utility and two thirds are recreational. And those recreational could have been a slow walking trip, but at least they're not driving. And those utilities where we're really doing an important thing here, right. I think that's where the equity starts coming in. Where are we going in the future? I start to think about the things I would like to see changed in our transportation systems. I'd like to see more prioritization for transit. I'd like to see more prioritization for Micromobility. And so I think of this perfect scenario where we've got the dedicated infrastructure that gets people outside of cars safely to a place where they can get on the bus that then has its own pathway to go the 13 miles that it is from one market to another, Because those connections are available for folks who are more athletic to bike. But not everyone wants to ride their bikes 13 miles. And it's not fair for one person to say it's doable to then neglect some other people's mobility.

Researcher [00:07:35] Right. So you're saying that's where the electrification of these vehicles also helps the equity component?

Guest 9 [00:07:41] I think it gives more of a level playing field for all people.

Researcher [00:07:44] Yeah. And then you also mentioned the built environment goal and we'll get back to that in a few questions as well because that being a big chunk of that as well.

Guest 9 [00:07:55] It's a huge area to get through, right? Yeah. "Build it and they will come".

Researcher [00:08:00] Yeah. Well that's also interesting that you say that, we have to get back to that too. So do you do you consider these shared micromobility services a form of public transportation?

Guest 9 [00:08:14] Independently? Yes. And in combination with a public transit operator. Significant, yes.

Researcher [00:08:27] Yeah.

Guest 9 [00:08:28] Now I will say. Public transportation is an interesting quote that you have there because public transit is a specific nuance of operator's relationship to the government. And so, I consider these transportation choices as something that should be public transportation. But there are very few systems right now that are truly part of our public transportation system. And I think those that are part of our public transportation system, which I see in major markets, work really, really well. But it's not every system inside of those markets that has public transportation, quote unquote, because some of them are funded through government funding or part of the transportation commissions of their region. And others are just operating on permits with the city. I think both play into it some way of engaging in helping people move around in a shared public way. So yes and yes. But yes and no.

Researcher [00:09:40] Okay. So would you say then that in order to consider for public transportation, there needs to be more extensive interaction with the government agencies and entities?

Guest 9 [00:09:54] I think..... For it to be considered a public transportation it needs to be at least coordinated and it should be coordinated and delivered through a government agency.

Researcher [00:10:07] Right. But the funds don't necessarily have to.....?

Guest 9 [00:10:10] Precisely.

Researcher [00:10:11] Yeah. Okay. And then for the next question..... Is your organization actively involved in facilitating equitable shared services? And if so, does it include disadvantaged communities? And who funds this? And if it does not, how could it?

Guest 9 [00:10:34] So, I think for this it's easiest to talk about proposals we've seen and the programs we've had... As we don't have anything on the ground right now. So are we facilitating? No. Have we? Yes. And have we pushed to get better programming? Yes. And so I think I'll ask you about the approach. Right? The way that we look at that is to use outside parameters to explain to us what is disadvantaged. So. I'm not an expert in measuring social equity. I can take some guesses. I can cast some opinions, but I'm not an expert in it. I'm not certified in it. I have no business telling you one person is advantaged and one person is disadvantaged. That is not my position. There are folks who do that, though. So, you know, I think largely as programs like this should focus on equitable access, right. I think looking at other programs like Cal Fresh or PG&E low income programming, or Pell Grants, anyone who's on one of these public assistance programs have demonstrated to someone down the line that they are needy and they are disadvantaged. And I think that's the sort of qualification of identifying who can get into this. Right? And so I think the facilitation is where it depends on who is the system operator and how they pay for it. Do they take that out of their funding? Is it a stipend that is given to them for this operation? You know, I think it depends a lot on is it a nonprofit or a for profit enterprise? I think if it's a for profit.... They eat that. They should build that into their own thing. That's part of them doing business being good business people and include everybody. If it's a nonprofit, and the profits do not show themselves to assume

that, then that's, I think where, you know, the question of who funds it becomes important. I do think, though, there's a lot of grant money that could be available to look for that. I already know of some varying clean air funding models that can go in and pay for access to sustainable transportation choices, which ultimately I think what we're talking about is it's a sustainable transportation choice.

Researcher [00:13:08] Yeah. You were talking about adapting existing programs from PG&E, etc., and using that as a parameter of a disadvantaged person or community and including them into the system. But that kind of also goes into the next question of do communities get involved enough in shared micromobility implementation and decision making? So in this case, the question of who do you talk to? When you have questions about the system or improvements or questions like data collection? And do you know, maybe from the from the past program that you've seen also, do you know that communities have been involved in some of the decision making?

Guest 9 [00:14:03] There's a beautiful thing called public comment. And I think, you know, on this one, it's hard to say..... There's a beautiful thing called public comment. Right. And I think it's hard for a lot of folks is that they don't necessarily know that a lot of these discussions, these decisions, such as geographic aspects of operation, data collection, and management or vehicle options, they don't necessarily know that those are being discussed in a public forum. And I think that's where, you know, governmental literacy is a really interesting thing because this exists in a lot of places, right? Like city council meetings, local coalition government meetings, almost all of these commissions where these decisions are being made. They are available to the public, are available for written or live public comment where the legislation is coming through to decide what requirements we want to see on devices. I think about some of the newer rules in California about ensuring that Micromobility devices have clear and easy to identify owner information and a device ID and a phone number, so if someone's impaired with their sight that they can easily report that to someone without having to go into an app. You know, I think those are the sort of things that are beautiful. Everyone could get involved in that because a lot of that stuff exists in the public realm. And I do think there could be more. I know personally I've been the exclusive public commenter at many meetings, where I'm pushing to get more device types. I'm pushing to get systems. You know, I think that's kind of thing where it's sad that I'm the only person in the crowd making or making a ruckus about it. But I think as far as how can we get more people to do that? I think that's where groups that are focused on bettering the environment for active transportation can engage more folks with being aware of the the governmental literacy that you might want them to have. Right? Like: "hey, this meeting is happening on Thursday next week. We need to get you to write by Tuesday at midnight". And if you can't do that, to show up on the day. And I think those are the sort of things getting more folks engaged with it. I think it's really powerful and I think there are really good groups that do things like that. I look to the more recent stuff in San Francisco around JFK Boulevard and Golden Gate Park, and how local nonprofits, a variety of local nonprofits, have pushed to get more people to engage with the city council to close this huge stretch of road through a beautiful park for active transportation and recreation. And that's been highly contentious. And people are saying: "well, now it's causing too much traffic on these other roads". And it's, you know, cages are going to cage. But I think that's really one of those things that though it's not something everyone knows they can do to illustrate to people really that you can it's quite easy and it can be incredibly powerful.

Researcher [00:17:33] Yeah. Then specifically talking about disadvantaged communities... There's also the barriers to, you know, being able to have the time to spend....

Guest 9 [00:17:42] You know, but that's where written public comment is welcome as well. Right? I think there's a challenge and the difference of live and written responses. You trust that someone reviews versus with live public comment, you're watching their eyes roll while you talk. And I think, you know, in the same way, though, I would ask for some of our governmental organizations to have a more regular handle of written public comments. Because I think about how certain offices I write reply to me with a personal note saying: "Thank you for your comments". It comes six months late, but it comes right, versus city governments.....

Researcher [00:18:27] Right.

Guest 9 [00:18:28] Thank you for your public comment and next....

Researcher [00:18:30] Right.

Guest 9 [00:18:31] And....

Researcher [00:18:32] You were saying in order to get that involvement more, you mentioned nonprofits and local organizations reaching out to people.... Do you feel like the power is there or is it government trying various methods, whether that's social media or other ways, to reach out to more people who might not be able to attend some of those public forums?

Guest 9 [00:18:59] I think it's a lot of all of it. And I think it's community activation. And that can be through non-governmental organizations. It can be through nonprofits. I think there is some responsibility for the government to collect the pulse of their community, to walk the block, and collect information from folks about what they would like to see. You know, there's some really cool programs that happen in lots of different communities that are focused around engaging with the folks who do not have the time to come to meetings. Right? But going to the farmer's market, free food distribution events, tabling, and doing live examples of device types, or geographical things or you know... I see a lot of this in public planning exercises where they go out and they call it playmaking. And it's the how can you create this game that you do with people that has them show you what they would like to see? And as a planner, you can translate what they're showing you into the physical environment, but you can't just give them a traffic diagram and expect everyone to know what they're looking at.

Researcher [00:20:13] Right. Yeah. So kind of gamifying that?

Guest 9 [00:20:17] I think that's partially, you know, the government putting money into hiring people to go and do that. Some of it's the government going out and doing it themselves in their fancy polos that say: "Hi, we're here from the city to do X, Y and Z". I as far as getting more folks engaged who might not otherwise do, you have to be intentional on what you do, where you do it, and when you do it. Because I think your comment about, you know, not everyone can attend a public meeting that happens at 10 a.m. on a Tuesday.

Researcher [00:20:46] Right.

Guest 9 [00:20:48] That's very important.

Researcher [00:20:51] And then the next question about some of the challenges that you've encountered with shared micromobility and if you have some examples, I think... Since you have seen one of the former systems in your region... What are some of the challenges there that you've seen and maybe also some challenges that pertain to social equity? You know, we know some of the parking issues and some of the more apparent issues, but maybe there are some underlying considerations that we often encounter but forget to talk about?

Guest 9 [00:21:33] Yes. For this I think it's best to talk about the system that was on the ground and the problems that it had. And I think the things that floated up for public discourse and the things that kind of casually neglected, you know.... I think the biggest challenges that we saw was parking problems as people were leaving devices. I mean, just basic scofflaw behavior, like they were leaving devices in all sorts of places they had no business being. They created a public safety issue where people had to walk into the road to get around these things. Going back to the blind person example, right? It's hard to even know what was in your way and to get around it. Especially when there's a car parked on the sidewalk, it's like it's a perfect trap in a sense, right? So I think there are a lot of problems with the parking of devices. The stuff that was not talked about so much, I think is the system size. A lot of people don't realize that we had only a few hundred devices. I think we never even got 200 devices total on the ground. And for the size of community and the rate of ridership that we were experiencing here, I find that that's really low and that limited people's access to the program. So it limited our success. And I think that was kind of stuck in a feedback loop with the parking problem because if we added more devices, we were really going to go, just create more of a parking problem. But I actually would say, part of the parking problems that the devices became so sporadically placed that it was hard for people to get on a device. So the turnover of devices was really quite low. And that, I think, that landed this perfect storm of problems and lack of high ridership to encourage more devices. I think the other one, kind of focused on the equity question, gets on the operational zone. So like the geographical boundaries that that the bikes were stuck in there. I do think we missed a couple large density clusters that would have been important to consider, given the amount of [REDACTED] [population group] that lives there and just the fact that high density areas typically have a larger variety of demographic there and that includes folks who are struggling. And I think things have gotten a lot better since 2018 when these programs were developed and launched. As far as how do we pay attention to equitable zone equity areas, etc. But I think the easy thing is the challenges like the public visibility of the parking problems.

Researcher [00:24:42] Yeah.

Guest 9 [00:24:42] But I think the bigger problems were more in the access to the system. A lot of people couldn't find a device or when you wanted a device, it moved on you. Because yeah, you know, I ran into that in my program management prior where we just had bikes on Kickstands. Right? You'd go into a building for 20 minutes, you'd come out and the bike would be gone and you're like... "What am I doing now?" And then you walk for 10 minutes to find a bike. And, you know, a lot of people don't have that that temperament. Especially if there's a car in your driveway.

Researcher [00:25:19] Right. And then do you know how those zones were determined?

Guest 9 [00:25:25] That predates me. Okay. I think ultimately it was likely a lot of politics like people saying we don't want that in our districts.

Researcher [00:25:38] Right. And then you're talking about the saturation of the system, too, in this case, not being saturated with vehicles enough versus the population size.

Guest 9 [00:25:49] There's a magic line. Yeah, I think we never got enough devices it on the ground here to find the right number to satiate the demand.

Researcher [00:25:59] Right. And then you run into those situations where you do happen to come out of the building and your device is gone. Was there was a lot of rebalancing that was being done?

Guest 9 [00:26:13] There was and there wasn't. I think one of the tricks that they had was that the operation was shared across the region. So this region didn't get as much attention as, say, Sacramento got. And because it was balanced around the region, resources were not allocated equally. So I think more relocation and rebalancing was happening in other markets than it was here. But I think at the end of the day, there was some. Not nearly as much as I think there could have been. But again, saturation was an issue. So in order to rebalance the vehicle, you were picking up one here. You were driving for 10 minutes to pick up one there and you were driving for 10 minutes to pick up one there. So you were spending an hour total to pick up a truck full bikes to go and drop in one place. Going backwards on my prior bike fleet management, right? We would only go and pick up bikes when we could get a full van. One stop, 16 bikes, cool, let's go.... Because otherwise, it wasn't worth our time to scoop up these.

Researcher [00:27:30] Right.

Guest 9 [00:27:31] For rebalancing purposes, for recovery purposes, that's an entirely different story. But....

Researcher [00:27:37] Um, yeah. So does actually going to some of the challenges in addressing truly inclusive, and I'm using quotation marks there, and equitable shared micromobility systems. And I think one of the things you mentioned also is there's geographical boundaries...

Guest 9 [00:27:57] Yeah. I think the other one I would go to here, and this is one that's hard because certain markets do it really well, but device type is really important. Because, you know, going into inclusive systems, scooters and bikes assume able bodied and confident users. We think, already, we see people on EPAMD so electronic personal assistive mobility devices. The assisted is really important because those are handicapped vehicles or disabled vehicles. Right? We see those and we want to be able to figure out how to support those folks in our built environments. And a lot of those are people's personal vehicles that they're spending untold thousands of dollars on. And so how can we build space for them to fit in? And how can our shared system fit in for their needs? Because, you know, not everyone can afford a \$4,000 wheelchair. And they're still going to need to get around and maybe they have enough mobility that they can get around with something and then use crutches for the rest of their trip. Right? But if we can't get them from door-to-door to then handle the rest of their journey and they're stuck with public transit or paratransit, you know, that changes the quality of life for them a lot. And I think if our if a shared micromobility system could include some provisioning to explore device type, I'm not saying to provide it, but to facilitate the exploration of it, I think would be a

really important part of the really good, equitable, and inclusive, shared micromobility system. I mean, showing people trikes and quads and buddy bikes and well, it's the one where it's like the trike rickshaw that you sit in the front on like a scoop up sort of seat thing, right? There's so many different bikes out there in the world, or I like to say, cycling implements. There's so many there's so many cycling implements out that everyone can cycle in some way. I don't think everyone can ride a bike... That's pretty ableist.

Researcher [00:30:22] And I'm glad that you brought that up because that's also where the question of do you consider this public transportation comes into play, right? Because defining something as truly public transportation....

Guest 9 [00:30:34] Everyone needs to be able to get on board.

Researcher [00:30:35] Right. You're confronted with ADA.

Guest 9 [00:30:38] Everyone needs to be able to get to the stop. Everyone needs to be able to get from the stop on to the bus, etc.

Researcher [00:30:45] So you're saying that is something that's not currently being explored? In those systems?

Guest 9 [00:30:54] In some places, no. I how to attend them to public transit, how to attach them into public transit.... I can't draw of any place I've seen that. I could be wrong. I would love to be wrong.

Researcher [00:31:13] I can't answer that one either. I haven't I haven't really seen that.

Guest 9 [00:31:18] Portland's got, I forgot the name of their mobility program, but they've got I mean, largely because it's funded by Nike..... But yeah, they've got some interesting things where you can borrow a cycling implement for a week and experiment with it for your uses. Right? And then you return it and then they talk to you about it. They work on how can we procure one of these for you? I think programs like that are beautiful for it, but I don't know how that's integrating into public transit.

Researcher [00:31:48] Right.

Guest 9 [00:31:49] Or if that's part of their customer experience journey.

Researcher [00:31:53] And then this also kind of goes into the built environment, playing a role in the success of these services and systems. What factors do you think work against some of these services and then especially in disadvantaged communities?

Guest 9 [00:32:13] So this is an interesting question, right? Because I think the built environment plays a significant role to encourage. I mean.... At the end of the day, we're talking about active mobilities. So I think if there are adequate paths, reasonable cycling facilities on the roadway, important speed limits that are conducive to cycling implements, and unlike state law says: "scooters can not be operated on any roadway that has an above 35 mile an hour speed limit" right? So paying attention to where we put things and the level of traffic stress that we're imposing upon people. I think the LTS system works really well... To say, where can we put these and where can we not have these devices? I think the built environment kind of bias towards affluent areas is pretty real. I think we see a lot of the nicer places to go cycle or to use any of these systems tend to skew in kind of

urban gentrified areas. I think, you know, there's a lot of better work coming on ensuring that this stuff gets built more equitably. I think the critical part to it is the safety, right? And because like a lot of people will default to the ways that feel safe to them. Now, unfortunately, that's private motor vehicle use for most people. I might be an outlier that I feel a lot less safe in a car than I do on a bike, but it depends on where I am. And so I think, you know, I think that the physical environment, the built environment, is important to get folks to consider active mobilities. And I think it's really important that we connect them equally and that we look at the places that have, you know, some amount of disadvantage playing out. And I think really looking at things like transit poor areas and how we can get transit poor areas connected to transit rich areas, so that people can then viably use a bikeshare or scooter share system to get the rest of their journey.

Researcher [00:34:58] And earlier, sorry, we're going to say...?

Guest 9 [00:35:02] Well, I think ultimately we're doing system connections. Right? And if you're neglecting to connect certain parts of your community. That's just bad planning.

Researcher [00:35:14] Yeah. Earlier you mentioned "build it. They will come". But then also there's the argument of you need to have demand before you can build the infrastructure. What would you say would help convince policymakers or people working in agencies that have the ability to inform how we built our built environment? So yeah, kind of underlined that we that we do need that approach maybe?

Guest 9 [00:35:53] So that that one's tricky, right? Because kind of going backwards on who's making public comments. Right? And it's a lot of the time people who are making public comment.. they are the abled people. And it's because they have the time, they have the knowledge, they have the language to be heard. And so I think this is where it comes into... Governmental agencies have a responsibility to work for all of the people. And so I think, you know, paying attention to future plans, understanding long range development plans for communities, really, I think plays a lot into what we need to build for people to get around in the next five, ten and 15 years. And I think, you know, that's that's a really important part of the process is to think future ways out, right? Because I think a lot of the comments that we get from the public neglects to think about the future. They're more so stuck in the present. And I think really at the end of the day, we're we have a community responsibility for each other and each other's kids. And this plays so much into kind of the climate disaster that we're at the helm of. And, as you know, like it or I said, you know "build it and they will come". I don't think it's without significant encouragement. I don't think it's without viable access to systems. I don't think it's without accessible programs to lower the barriers of entry like e-bike vouchers. Wonderful concepts. Now, can we do that in a way that makes those vehicles available in impoverished communities? I think there are good programs going out to put car-shares in apartment communities that are low income. Why not for bike shares?

Researcher [00:37:50] Right. Yeah. And then so on one side, we maybe are becoming more aware as urban planners or people in the field of transportation that we do need to, you know, understand relationship of land use and transportation well to be able to successfully aid specifically disadvantaged communities. But on the other side, you could say that we often throw out words like "equity" but wonder if people really understand what that means and if we're actually addressing or involving those communities in the in the decision making. What do you feel like the involvement part of this disadvantaged community specifically plays a role into the future success of shared bike mobility?

Guest 9 [00:38:50] So I think it's important that we get all the voices in the table and the ways that we, as needed, slow down to listen, you know, touch back on the National Bike Summit this last year and how they had an awesome panel with a group of disabled cyclists. And it was through an organization that focused on giving people the gift of cycling. And I think that that was a really wonderful panel because it showed folks the joy that they've gotten from being able to ride a bike and the freedom that that's given them the skills and confidence that that's given them. Right? And so I think, just knowing the impact that mobility, freedom can give to people, I think it's important that you consider all the different folks who are going to be part of this system. And this kind of goes back to how do you engage, right? Some of it's walking the block. Some of it's going out and knocking on doors. Some of it is showing up at community events in those specific regions. Right? It's putting yourself out there to get the feedback of what are we looking to do? Because there's one thing to put a thing in the paper and say, give us your feedback. There's another thing to go into the neighborhoods that a lot of folks will, quote unquote, feel unsafe in and asking them: "what transportation choices do you have and what would you like to have?" And sometimes if you ask them, what would you like to have, you're not going to get what you want. So having it ready to say: "what do you think about A, what do you think about B, what do you think about C?" What do people think about access to this kind of program? You know, it's a road show and talking about talking about what you're trying to do and bringing it to those places. You know, I think that's an important part of it. I think that's the thing some places do well and other places ignore or there's a requirement for due process. There's a requirement for public comment. Requirement to make it available isn't really trying to do it. It just gets it done. So I think it's important that if a community does want to call themselves as a upholder of equitable access and of inclusive access, they need to do that. Active feedback. They need to pursue that active feedback. They need to be at the train station asking people what would they like to do to connect to the train journey? They need to be at the at the bus stop, at the low income apartment complex, asking people: "if this bus wasn't here, what would what other trips would you do? Would you consider riding a bike if there was a bike share here? Would you jump on a skateboard if we just gave one to you?" Right? Asking folks things like that and leading the discussion enough to get to the points that you might want. Because everyone wants a free car.

Researcher [00:42:07] Yeah. And do you feel like the decision makers in these shared systems are doing so, or do you feel like, in reality, this is not really something that happens too much?

Guest 9 [00:42:25] Market by market. It varies. I think it is happening in places it's not happening and in others it should be happening in all of them. But some people, just again, say that they've done public outreach by making public comment available. And there was no public comment.

Researcher [00:42:42] And in California, do you think from what you've seen, does that happen?

Guest 9 [00:42:49] Market to market, it changes. What I've seen is largely people being active or illustrating that they've been active. I have lived in other places where it is just: "we made public comment available". Right? I think to riff on public agency.... That's what [redacted] [California state department] does a lot of.

Researcher [00:43:17] Right.

Guest 9 [00:43:18] We made public comment available. Did you even tell people how to make a public comment? Did you show up at the train station and talk to people about the decision available for them to give feedback to? If you're not doing that, are you really doing public comments?

Researcher [00:43:37] Right. And then not to mention things like language barriers and other barriers to digital means to copies, etc.. And then to your knowledge, who pays for the social equity components you mentioned? Actually, you used a really a good example of, you know, a system that you were involved with in your previous work and losing some of your vehicles to a community and needing a lot of money in order to sustain that. Do you know if we do involve social equity focused components in programs, or pilot programs, or large size systems.... Do you know who would be paying for this in the current systems that we have?

Guest 9 [00:44:40] Who do you know? Indirectly..... There are groups and programs like that. There's a large private employer who is subsidizing essentially a system for people and some of it goes out to community. That's changed there a lot. They have devices on every bike that locks them to keep them in their system. But I think as far as outside of that, you know, I think a lot of this goes into governmental programs. I think it becomes grant money. I think it becomes DOT money or it becomes clean air funding. It becomes public funds that are focused on getting sustainable transportation choices available to folks who kind of largely could only afford other choices, right? The default to driving is really expensive for folks, but they never have done anything different. So they don't ever really stop to think about how much money they pay in insurance and registration and how much money goes into a vehicle repair. I mean, everyone's complaining about gas prices right now. Right? But that is still only a quarter of the vehicle costs that you're dealing with. And now while that quarter balloons up to a third or a half of the vehicle cost. Yeah, that is painful, right? But people are forgetting the wear and tear it costs. They're forgetting the license and their insurance. Right? Those are monthly fees that just get collected and people do not pay attention to it because it's stagnant. It just stays the same. You're always paying the same \$3,000 a year to keep your car in service. Right? Then when all of a sudden your gas bill goes from \$3000 to \$5000, you notice that. So I think, you know, the government has a lot of responsibility and ensuring that these programs are available to folks who unreasonably burden so much of this cost. And I think between Department of Transportation funding and federal money and community. What's the federal office? What's the Department of Community? What is the community regional development?

Researcher [00:47:05] Are you talking about HUD?

Guest 9 [00:47:07] Housing, HUD, yes, Housing and Urban Development

Researcher [00:47:11] That's the federal one. We also have one at the state level.

Guest 9 [00:47:14] I think federal money from HUD should be out there to focus on these transportation access things through coordination with federal D.O.T., through coordination with their state equivalents all the way down to COGS in local governments. Right? I think there is so much in that realm that's already paying for work like this, and I think they should continue to pay for work like this. And I want to kind of go to who should be paying for this, right? Tax the rich. Go to the companies, go to the huge profits being made by private firms and force them to return a certain amount of it to their nearby communities. Right? Because I think there is a lot of business that gets rich from the environments to which they exploit, which creates disadvantages and disadvantaged communities. And

more of those corporations need to be responsible for what they're doing. And I think paying for programs and pilots and equitable access to shared micro-mobility or just outright paying for the shared micromobility. You know, I laugh about the [REDACTED] bike system, right? But you know, good on you [REDACTED], for paying for a bike share.... did that sell more cars for you? But are your vehicles the bigger problem? And are you trying something to right that problem? And things like that make a lot of sense. And, you know, businesses like that or [REDACTED], let's just make [REDACTED] pay for all of the equity program in California, etc., considering how much bad they've done to us.

Researcher [00:49:00] And so you're saying the employer would pay, but that would not be limited to use of their own employees? That would be general public?

Guest 9 [00:49:08] Based on zip code data and county data, things like that. It's like they fund things in the region to which they're making their profits. Kind of going backwards to some of the [REDACTED] protests in the early 2000s. Right? People were at the doorsteps of their headquarters talking about climate change and what they needed to do to stop it. They just ignored everybody. Right? But it's... You know.... The profits are staying in that area. So put the money in that area to better the environments for everybody, not just the wealthy, privileged folks.

Researcher [00:49:42] Right. And the balance of public and private entities kind of also goes to the next question, which is about enforcement. Who, in your opinion, should do the enforcement of these shared micromobility systems? Whether that be regulations on applications and things like that, or the physical enforcement of vehicles? Where do you see the responsibility for that remains?

Guest 9 [00:50:24] I'm sorry. This was hard for me to wrap. I'm just thinking about it. So.....Should private entities or government orgs enforce the policies in implementation? Separately, should private entities or government organizations enforce operation?

Researcher [00:50:44] Yes. And vehicles, etc..

Guest 9 [00:50:48] So public safety. I think ultimately it depends on who's the system for. If we're talking or something like public transportation.... then government agency makes sense. I think that fits in pretty well to governmental affairs and how the program should be structured and operated and permitted. Right? Because a lot of the stuff will be in the public right of way. So it makes a lot of sense that a government organization should be the folks handling the implementation and the policy. I think it places private entities as well, but I think a lot of that depends on who is the system for? Is it for an apartment community or is it for a larger community? If it's for a apartment community, it's probably more on the property developers. The landlords. If its for the larger community, it's probably more for the city. As far as operations go and user safety and traffic safety. You know, I think that, again, folds into government orgs. I don't want to necessarily say I think it's a police responsibility. I do think there's a lot of problems with law enforcement and how they function to public safety things in a badged and armed manner. I'm a big believer in public safety orgs handling traffic safety. It shouldn't be a badged officer in a cop car that's pulling you over for speeding or for running a stop sign or for running a red light. I think the little smart cars that we use for parking enforcement are a great example of the type of enforcement that we should apply to traffic safety. And that should be a part of public safety. It should fit into government organizations and well, it might fit in to a police department, I do not believe it should be a badged police officer. And I think that could be people on bikes. It could be technology. I'm all for technology doing a lot of these things

because a computer has no biases. People do. And, you know, I think ultimately that's the really highly contentious thing. That's why I had to kind of stop and parce it out in a little bit, because I think we do need traffic safety enforcement here. It's very important, especially as we get more people onto active mobility devices. We need to enforce the rules of the road, especially, for the people operating many thousand pound vehicles.

Researcher [00:53:39] Right. And it's in the interest of everyone and then at the same time, you're trying to balance not enforcing to partially or irresponsibly..... This also kind of goes back to the equity component. Do users feel safe if a police officer were to enforce this this type of vehicle or system? Versus, maybe something that's partially automated, of course, even in automated systems, there are some biases as well, especially when it comes to racial biases or things of that nature....

Guest 9 [00:54:26] Program out the bias. Should be able to know.... Anyhow, Yes, I'd love to see more stop light cameras.

Researcher [00:54:38] Yeah. And then going into the data aspects, what data is currently gathered in these shared networks and where could this data being used to provide more equitable solutions?

Guest 9 [00:54:56] What's the acronym? GBSF, Global Bike Share Data... GBSD.... Or something like that? So I think the data that's gathered and shared is broad ridership information, right? Trip, origin trip, finish with some subtraction for privacy concerns. Number of trips per vehicle per day, trips that originate in parcel X-Y-Z. Trips that finished in partial parcel X-Y-Z. You know, it's high level trip data that's available for public use. Private operators have a lot a lot of detail that they can get on these things. But I think, you know, the amount of data that's available as is is really structured on that, just kind of high level basic ridership metrics. I think what we could be gathering, though, is data about compliance with roadway rules, failures to stop speeding, although most of these devices can't go fast enough to actually speed. But I think like the compliance and the path choice, I think a lot of those things can go into planning. How can we better plan? Does the lack of people stopping at this intersection mean we should consider removing the stop sign and making it an uncontrolled intersection or making it a traffic circle? What are the things that we can do with the information about vehicle trips? I think the other part that would be much more interesting, that I would love to see, is paying attention to operational zone by density and looking at densities that do not have ridership and developing marketing campaigns to push for ridership in those areas. Because I think there's a lot of folks who, you know, might not even know that these programs exist and that's why they're not riding them. So if you happen to see an entire strip of a community that's not riding.... Look at that and figure out why they are not riding. Is it because they don't know of it? Okay, it's a marketing solution. Is it because it's unsafe? Okay. It's an infrastructure solution. Is it because they're saying, like, do they not believe in electronics? Okay. Well..... Might be hard to solve that one. But I think there's a responsibility for the oversight committee entity to encourage the use of that for more benevolent things like what I just spoke of. And then I think it's also like the operators responsibility to use the data to adjust your system accordingly, to add devices, to adjust your deployment schedules to, you know, restrict in certain areas, modify speed limits in certain areas. Because I think a lot of these have highly configurable controls. So you can establish no ride zones, you can establish slow zones. And so I think aggregating the data of your ridership against incident data and paying attention to where do we need to implement a slow ride zone and can a slow right zone fix it or does it have to be a no-ride zone? So I think paying attention to things like that is one of the high value things that data gives you. And I think what it should be used

for is implementing better access and better public safety. And that's what I would love to see.

Researcher [00:58:41] Then you're also saying connect specifically urban planners here through the data to these systems, which is something we might not be seeing currently?

Guest 9 [00:58:51] Yeah, there's a lot of siloing and public entity work, which is a bit frustrating.

Researcher [00:58:57] Yeah. All right. And then I'll stop the recording here.

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Researcher [00:00:02] And then I'll share the questions with you on my screen. If it's not legible, let me know. And then the first question goes into your occupation specifically as well, and how it relates to shared micromobility services and also social equity.

Guest 10 [00:00:23] Okay, so I think I can say my occupation involves the government, community, and stakeholder relationships between the micromobility operator and in those groups.

Researcher [00:00:47] And then what role do you believe shared micromobility services have had in our urban environment in the past? And what role do you think they'll play in the near or distant future?

Guest 10 [00:01:02] Yeah, I think the general role has been pretty similar. Micromobility and starting with early bike share has basically served as a public transit function. It's different in public transit in that it is personal, you know, one bike or one scooter per person, and you ride it wherever you want to go. Not along a fixed route, obviously, but it provides and gets to the same goals as public transit, which is moving people around a city and with a lot of benefits related to reduction of traffic and emissions and reduction of just motor vehicles in general. And I think it's played that role up until now. Technology is changing. The different ways that they're permitted and regulated are changing. But I think generally the role as a public transportation mode will continue.

Researcher [00:02:04] And then that kind of also goes into the next question. Do you consider shared micromobility a form of public transportation?

Guest 10 [00:02:14] I do. Yes, very much so. I think people in the U.S., I think, tend to focus a lot on public transportation as modes that are publicly provided by a government.

Researcher [00:02:32] Yeah.

Guest 10 [00:02:33] I actually think that's almost like a misunderstanding of what public transportation is, I think. Doesn't really matter too much who provides it? It's what its role or function is and its publicly available transportation, compared to a private mode like a personal car or a personal bike, you know. But yeah, I think share micromobility is very effective public transportation.

Researcher [00:02:57] Yeah. And obviously there's some technicalities, you know, for public transit and things that are not deemed public transit like ADA compliance and things like that. What is your what is your take on that? So you're saying, it doesn't matter who's in charge of the system. But what to you makes it public and what makes it, you know, maybe not be considered to be public transportation?

Guest 10 [00:03:24] Yeah. I mean, I feel like the most important aspect is that it's publicly available. And you're right. People with certain disabilities can't use bike share, so it's not available to them I suppose. It's not accessible to them. Maybe that's a better way to put it. And that's an issue. Although there are some programs that try to make it at least in some way accessible. There are adaptive bike share programs in some cities. But what I think makes it public transportation is that it's a publicly available.

Researcher [00:04:04] And then, is your organization actively involved in facilitating equitable and shared micromobility services?

Guest 10 [00:04:14] Yes. Yes. And looking at the question.....

Researcher [00:04:20] Yeah. So then it goes into, you know, what are some of the approaches to actively include specifically disadvantaged communities? And if you have maybe examples or how it works. How these efforts are funded?

Guest 10 [00:04:40] Yeah. So for the most part, we fund it. Also we have these programs, generally they all include a discounted membership and usage, and for people who meet a low income or other disadvantaged qualification. So that's the biggest part. Then there's also special programs to outreach, so they know about it. We offer lessons to learn how to ride a bike. Or a scooter safely. And sometimes there's other special programs aimed at this population to make the bike and to make the micromobility more useful and more accessible to them. And by and large, that is funded by our company. I do know that there are some cities that fund the program in the U.S..

Researcher [00:05:44] Okay. And then the next question kind of goes into, in your opinion, if the communities get involved enough in shared micromobility implementation and decision making. So we know about some of the means of lowering some of the barriers to access these same systems. But how about the decision making process?

Guest 10 [00:06:13] Yeah. I think the communities get involved in different ways. We have some people in communities that want to help and facilitate the system. They want to give feedback on how to make it work. Basically how to improve access and expand it. These are people that are for it. We also have communities that get involved to say they don't want it in their neighborhood. They don't want to lose parking, etc. And so those are probably the most common ways. There's a lot of local folks that, you know, there's often..... there's definitely a significant NIMBY portion wherever you are. People who don't want a station on their block. People who don't want your vans stopping and servicing bikes. So NIMBYs are people involved, but there is also support. You know, I would say bike advocates aren't as involved as they should or could be. Generally, I'm not aware of any other way that you can more quickly drive up bicycle mode share and the people who ride bikes in a city than bikeshare and micromobility. You know, I don't think there's a better way to basically create the constituents. If most bike advocacy groups are aimed at improving infrastructure and increasing the number of people who use that infrastructure with a bike and or a scooter. I don't think there's probably a better way than having a bike share system because that generally means there's thousands, maybe even hundreds of thousands more trips per week in the city. Yet, we see bike advocacy groups tend to kind of stay out of a lot of the bikeshare discussion, I think, because they don't know the issue very well. Often times they are not used to working with a private sector partner, like an operator. So they don't you know, sometimes..... They're don't know how to work with a private sector group. So they kind of sit it out, whereas, I feel like they could or should be bigger champions of it.

Researcher [00:08:41] Right. Do you feel like the ownership and non-ownership in these systems, Sharing these devices, do you think that's an issue or some friction with advocacy groups? they see these systems and they see that as a threat to the way they travel around or they don't understand?

Guest 10 [00:09:04] I don't think that's you know, I don't think that's it. I think it's. Just..... They are thinking sometimes very strictly about..... I mean, we do see bike advocacy groups often that say they want bike share, but they don't get very involved in it. They're generally for bike share, but they're not champions and are not in the meetings day to day pushing for expansion much. Or especially for public funding. Right? You know, the the non-profits often don't push for that. I don't think it's because they're threatened by it. I think they're just not thinking about the way in which it would really support their own goals. I think they either don't see that link or they're unsure of what to do to support it.

Researcher [00:10:01] Yeah. So it's not necessarily because the way and where I was kind of heading with this is obviously that you're also competing with conventional ways of getting around, especially in California. The car has been kind of the predominant mode. It's not the limited space that people might have to interact with any type of active transportation users? Do you think it's more the lack of understanding how these systems work? And how the operators work, and that there are common goals that can get achieved?

Guest 10 [00:10:36] Yeah. I think I'd say they don't fully see the common goals, or at least if they do, are unsure of how to act toward them.

Researcher [00:10:48] Do you think funding might be an issue there? Do you feel like is it their task to reach out to the two operators or should operators? Is that something that they tried to focus on those groups?

Guest 10 [00:11:03] I think both. I mean, I think they have common goals. So both should..... there's responsibility of both to be in touch. And it varies a lot, city to city, and group to group. But in general, I would say I'm kind of surprised and private operators often will provide funds to the advocacy groups.

Researcher [00:11:28] Yeah.

Guest 10 [00:11:30] But I think the advocacy groups are just generally in.... They've never really worked with like an industry before or private sector partners. These are often people where I think working for a non-profit is a real part of their identity. And so for them to then partner with a for profit group, I think there's a misunderstanding that if something is for-profit, you know, it's my personal opinion and I also worked for a non-profit before for many years, but I think some nonprofit workers have what I would say is an uninformed opinion or a false opinion. It's an unhelpful opinion, at least, that working with a for-profit partner is bad. Instead of it, and I look at it as if you can have shared goals between a for profit partner and a nonprofit partner. Each of those groups can bring really different assets to the table and succeed on the goals. And that's just a that's a positive thing for both groups. Very much so, including the non-profit. So I think yeah, I think it's just kind of that identity issue that almost gets in the way.

Researcher [00:12:41] Yeah. And should government be a facilitator in that relationship? Or do you feel like with the for-profit and the non-profits, you know, coming together and looking at common goals should be kind of the platform where people address some of these issues?

Guest 10 [00:12:58] Yeah, the latter. I don't think the government should facilitate it. I think that could just make it more difficult. But I do think both groups should understand that they have shared goals. And there are also some companies that really don't do much to

partner with the non-profit space. Right? There are operators that also don't understand the value of those shared goals and don't do enough towards it. I would say both, you know, the best case scenarios and both parties understand to have shared goals. Both parties understand how to invest and leverage each other to get those goals. That's where I think cycling and micromobility as an industry really improved the most in the city gets better.

Researcher [00:13:41] Yeah, and then to bring that back to disadvantaged communities. Do you think they would get represented if that collaboration would be better?

Guest 10 [00:13:55] Hmm. I do think that.... I mean, I think low income communities benefit from shared mobility. Because, you know, especially if it's another option, number one. Just options are good. And then the option is even better if it's made affordable and accessible and awareness is improved. So, I think all of that can come from that partnership. That said, I would say in the relationship of bike share. Operators to the community and to the low income community..... In some cases, there's a good organization, that could be a bike organization, or just a general community organization. That's really good at establishing a relationship with the bike share operator. And that can really help in some cases. You know, there just isn't a group that's representing the low income community at least very well or that wants to deal with bike share. Or maybe, you know, the bike advocates don't have in some cases, the bike advocates in many cases I think, they don't have very good links to low income communities. They tend to be linked towards wealthier communities where people live in a walkable, bikeable, safe place and have the money for these things, you know? And then in some cases, the bike advocates do have like a legit connection with those with a lower income community. It can depend, but it's..... I would say the lower income community is never as well represented as a higher income community and. We find a lot of like, you know, I've had a lot of conversations with leaders of community groups in low income neighborhoods and a lot of them don't care about bike share. I've been in a lot of low income communities where. Bike share shares in popular. It's not considered cool.

Researcher [00:16:10] Yeah.

Guest 10 [00:16:12] I would also say that the infrastructure for safe biking is lacking and that's a huge problem. So, people want to ride on a you know... It's not very attractive to ride. There's not much of a culture of riding bikes or micromobility and then I think maybe there's also just an issue of if the community is also one where there's like crime issues or things like that, like. People have a little bit more of a reluctance to just be out in public space.

Researcher [00:16:45] Right.

Guest 10 [00:16:46] Like they want to be protected on a bus or they want to be in a car. I've heard that before as well. So those are some of the like.... just putting a low income membership or putting a bikeshare station in a neighborhood does not equal a successful program.

Researcher [00:17:08] right.

Guest 10 [00:17:08] there's a lot that bike share can't do. There's a lot of big issues like safety and bike infrastructure, or physical safety and crime. You know, culture. Distance to places you would... Distance to school or jobs or things like that. Like if it's nowhere near

the central city. Maybe bikes aren't a great option. So those are things that no bike share operator can solve, but they are necessary to have a successful equity program. So, you know, that's a challenge.

Researcher [00:17:48] So what could you offer those communities? And for example, you said you mentioned low income, but I don't know if those who talk to predominantly black and brown communities? You said bike share for them is not cool. There's no infrastructure. Do you feel like it's also concerns like gentrification, right? Like once the bike share is coming in, they might get gentrified. What do you feel like are some of the biggest hurdles that you can talk about with them to actually make this work for them?

Guest 10 [00:18:21] Yeah. Yeah. We have definitely also seen resistance to bike share because it is a harbinger of gentrification and to bike infrastructure, second tax and things like that. You know, I can think of a couple instances where I work really hard to explain that a bikeshare system is not gentrification on its own. And it can be an option that really helps the community that's in place because we have these low income options. It's another option for folks that don't have cars and this is this is something that will help your community, too. But there is there's a persistent image of bike share as not being for some black and brown communities. And sometimes, you know. There are there are instances where there's pushbacks there.

Researcher [00:19:24] Right.

Guest 10 [00:19:25] I'd say more than often bike share is welcomed.

Researcher [00:19:28] Okay.

Guest 10 [00:19:29] But it just doesn't get very high usage.

Researcher [00:19:34] And do you think that's because it's the infrastructure or is it because it's seen as something recreational versus utilitarian? Or the burdens or the barriers are too high on the system?

Guest 10 [00:19:52] So these are often neighborhoods. Black and brown communities and low income where cycling is not very popular in general. So there's less consideration for it as a mode. People see bike share going, but they don't really know anybody who uses it. They're not necessarily that interested in it. So they don't try it out and it's sometimes just ignored. And also when people also don't try it out its because there's no safe infrastructure. Like, I can think of a couple of cities where like Washington, D.C., for instance, the eastern part of the city, it has bike share, but the density of stations is low. The bike infrastructure is not as good. The street safety is a concern. And those things all kind of combine. So few people are using it to begin with and people continue to use it. Whereas, I think in other neighborhoods, you know, they just have this momentum where it's like, oh, people like to be outside. They're look at, you know, they like biking is a really popular thing. There's lots of really nice parks nearby and great bike lanes. And so why not try one of these bikes? And if you have some people who are willing to try it and they like it, they tell their friends it builds a momentum. And that's a challenge in neighborhoods that have some of those other barriers.

Researcher [00:21:31] Yeah. And then as a for profit organization and you've seen this from multiple angles as well. The question is, are you trying to get into these neighborhoods because you're trying to extend your service and run it for a profit? Or

you're being asked by the local government or regional government to focus on lower income neighborhoods or disadvantaged neighborhoods in general? Because if you're not seeing those numbers, what would be your incentive to facilitate it? You know, and especially now, in the recent I would say over, say, weeks, we've seen a lot of consolidation on the market, right? What's your take on that?

Guest 10 [00:22:21] For a low income neighborhood, you know, I don't think a low income neighborhood is almost ever profitable to go into. Oftentimes deeply unprofitable to serve. And so, the reason we would go in there, sometimes as we're required and it's part of our deal. It's part of our permit or part of our contract. And so we're going to go into that city. We're going to go into that neighborhood, and we're going to serve it. Because while that neighborhood is not profitable, we think it's required as a whole system. And the whole system we think could be profitable. In some cases, we will serve those neighborhoods even if we're not required to. Because, um, you know. And I would say. You know, I think that there is a part of being a good corporate citizen that comes with that. And so like part of it is a genuine desire to be a good corporate citizen. The other flipside of it is that we understand the value that having a more equitable service provides to our partner, the city. And so, and this gets to the aspect of being a micromobility operator, you really have two clients. And your first client is the city, because if they're not giving you a permit or a contract, you never even get to serve the second client, which is the user. And so you have to make sure that first client, the city, is to some degree happy. Certainly, if there's a competitive or a competitive permit or a competitive contract, you know, there are some cities that still don't have competitive permits like [redacted] [location in CA]. I think you can see that there is even though..... It's funny, [redacted] [location in CA] requires you to have a community partner and a community plan.

Researcher [00:24:30] Yeah.

Guest 10 [00:24:31] But I think if you looked at how much money, how much actual community partnerships there are, what they entail or how much money is spent by the operators, I think it's actually far less in [redacted] [location in CA], especially for that size and for how many operators there are, because there is no competition to be an operator in [redacted] [location in CA] Anybody who obeys the rules and pays the fee could serve [redacted] [location in CA]. There's no real incentive to serve low income neighborhoods in [redacted] [location in CA] because there's no competition. Your permit doesn't depend on it in any way. Whereas, markets where I mean, if it's required, it's required. But there are also markets where it's not required, but you want to make sure you're impressing the city with your service. And one of the best ways to do that is with an equitable program. And again, there is also a real belief that, you know, we got to be a good corporate citizen here. There's optics to consider. So it's not just about the transactional nature.

Researcher [00:25:45] Yeah, but.

Guest 10 [00:25:46] Micromobility is stressed right now to a point where, and it's never been a profitable industry and, the venture capital is withdrawing right now. That means it's kind of just coming down to a point where operators have to make the decisions that are going to be financially sustainable because we don't we don't get subsidies or bailouts in most cases.

Researcher [00:26:25] Right. Yeah. And then you're saying you're using the equitable programs to impress the cities. Do you feel like it's more of a marketing tool as from an

operators perspective? Or do you feel like it's a genuine double edged blade where it's also helping and it is legitimately helping the communities. And you said disadvantaged communities may not have the numbers, but they are asking for it, I think is what you are saying?

Guest 10 [00:27:00] Oh yeah, I mean, it depends on the market. A market where it's not required to serve those communities, I would say if it's a really great market that's highly profitable, I think companies feel good and genuinely want to make sure they say, okay, we have enough revenue and profit here and we want to make sure we're serving the city equitably. You know, it's sustainable to do that. We want to do that. I think other markets, it's maybe a little bit more of. If the market isn't profitable you might be able to serve. You'd be able to serve that community because it's your values dictate that you do it, but it's much harder to justify that if the market's already losing money. And so in that case, I think, operators may do it and it's a double edged sword. I mean, you do understand that there is also a political value to it. There's really two reasons you serve a neighborhood. It's got financial value or it has political value and you're generating financial capital. You generate political capital. And if you can't generate either. Then you know, then that's going to be a lot harder for a private sector business to support.

Researcher [00:28:54] Yeah. And then in terms of change is happening on the ground. So say it's the equity programs in those less profitable areas and you are gaining political capital. Do you feel like there's cases where maybe that doesn't come across for the communities themselves on the ground? Or do you feel like overall these systems are pretty genuine and they are doing a good job or what are some of the changes you suggest, if there are any?

Guest 10 [00:29:27] It depends a lot on the market. It's I think it's really probably only serving the neighborhoods well in places where the other key aspects are in place. Where there's some safe places to ride the bike. Where there is some culture and outreach about bike riding and or some degree of people feeling safe doing it. You know, I think like another example from [REDACTED] [location in CA] is, the city tried to get operators to serve a bunch of low income communities, and the operators pointed out that, you know, we said: "hey, do you know if there's any demand for this? Do you have any you talking about?". They have zero bike infrastructure. They don't have commercial streets for this. We don't have any signal on whether there's demand. So it is like a very governmental approach to just throw supply at a problem without understanding demand. And ultimately, the city backed off and [REDACTED] [location in CA] backed off of that requirement because they realized that they hadn't done the work to make micromobility successful. Just requiring operators to serve in neighborhoods so they could say: "oh, our micromobility system is quote unquote, equitable". We called them out on that and they said: "look, you have to solve a bunch of other bigger problems before micromobility can work in those neighborhoods".

Researcher [00:31:09] Right. So you're saying the infrastructure needs to be there before you can have this system? Yeah. Not vice versa?

Guest 10 [00:31:18] Yeah. I mean that. Right. And I think operators..... The worst part is when a city, just for the city's optics, requires operators to sort of a neighborhood where there's really low demand. And those low demand neighborhoods are often low income and they're often black and brown, but not always. But they're requiring us to serve it for optics when there's no demand. So we are losing a lot of money there when, you know, the city could, you know, you know..... We would say: "hey, look like if you want this

neighborhood, if this is about really giving people a safe, healthy, functional option, mobility option, then let's get some bike lanes there. Let's you know, let's get some programming there". We can also then bring the vehicles there and together we'll build the micromobility system in that community.

Researcher [00:32:16] Do you feel like sometimes they may not do that because they want the data to support public investment for the infrastructure? Generate the demand before it's actually there to then put in the infrastructure?

Guest 10 [00:32:35] I don't think that's it. I think it's just them shifting the burden of lacking investment of these neighborhoods, to the private sector. But they're not doing the work. They're not making the political or capital investments needed to make these modes function. The city's not willing to do that. But then they try to get private operators to bring these vehicles there, thinking that's going to solve the problem. I don't I don't think it's a part of a broader strategy like: "oh, we'll see. Then we'll have the data that proves these investments are necessary". I mean, this is like what equity should be if high income neighborhoods that have this infrastructure in the city and this is talking about being equitable... Why shouldn't the lower income neighborhood also have that same infrastructure? Right? And if you don't have if you don't have the infrastructure, then. You know that the modes associated with it don't work. They don't work well to ride a private bike and it's not going to work while the ride a public bike in that neighborhood.

Researcher [00:33:55] And in terms of funding.... Do you feel like these programs implemented on a municipal level... Do you feel like they're too isolated or should they be paired with grants to look at investing in the built environment, getting in money to do infrastructure, and then together with those grants or improvements, bring in bike share or scooter share or whatever shared system it might be? Do you feel like that's the issue where it's too isolated?

Guest 10 [00:34:32] Yeah. I mean, again, there's these dockless permits. Operators went to cities and said, we want to we want to launch these in your city. And the cities then kind of came up with a quick and easy way to allow that with some rules. But I don't think they updated anything and it is isolated from their infrastructure plans. I think we would have made it..... You know, like it's interesting... when you look at the dockless permits in most cases, the city didn't even invest in their regulating it, in their collecting data. But the dockless operators pay for the people they had to hire to regulate and administer the program. So the city, they have an opportunity to get millions of dollars in private operator micromobility investment and instead of saying: "oh, wow, this is a great opportunity we're going to spend half a million a year to administer this program. And we're going to also leverage this private sector investment. We're going to try to make sure this is successful. And we're going to put \$10 million more bike lanes into the city and we're going to try to close the gaps". That would be a really a way for a city to leverage this private money together. That would be like a partnership and make sure that operators are successful. Make sure that communities are successful. Operators have the demand they need. Communities have the infrastructure they need. You know, I think that would have been a great way to do this. But instead, what we saw was this really isolated approach. The cities invested really no money and the operators had very little support. You know, in most cases they had very little support from the cities. And now, I think we're starting to see these investments dry up. And the thing that I've been that I'm really afraid of is five or ten years from now. We're going to look back on this. You know, cities have noticed there was this brief period where a lot of operators had a lot of money and they're kind of doing anything cities wanted them to do.

Researcher [00:36:49] Yeah.

Guest 10 [00:36:52] Instead, the city's have asked a lot of operators, maybe that's not their fault because if I'm a city and somebody is coming to me with resources, I'll just say yes. But what I think the cities didn't do is think about how to sustain that and work with them. They just kind of took it, but they weren't thinking long term. What I'm really afraid of is that five or ten years from now, we're going to look at this as a massively squandered opportunity, right? Where we had a well-financed industry looking to invest in bikes and looking to invest in equitable mobility systems and the cities didn't make the very small investments necessary to keep that investment coming. They took it for a couple of years, did nothing to support it, and then it's going to burn out.

Researcher [00:37:44] Do you think this is going to be kind of like the, I don't know how much of the history you know about the streetcars in California, but do you think this is going to be like the streetcar where now maybe government is going to take these systems and run with it?

Guest 10 [00:37:59] I think to see them succeed we are going to need, especially where the industry is now, we're going to need government support in some way. It is clear that government can not do nothing and see a successful shared micromobility platform. And so I think to make it really work, and to make it really equitable, first infrastructure has to be there. But not just for micromobility. I think in most cities we're going to need some degree of subsidy. And also, I think we are realizing that it's better if the city does an RFP and just picks one operator, maybe two, and so the operator has to continue with service levels. You hold the operator accountable to good service, but you give them the market so they can actually invest. A lot of California cities have been doing like these one year permit programs. And let me tell you, you can't. The operators take on an immense amount of risk. You can't even rent a warehouse for one year. Warehouse leases are always three years minimum so you're taking this huge leap. But you can't invest in staff, you can't invest in your facility. You can't get a fleet of vans. You can't invest in your partnerships, because you never know if you're going to even be able to service next year. So you can spend a whole bunch of money trying to do it the right way in year one, but if you don't know if you're going to get invited back for a year or two. That risk is just often too high. So we need to see longer term agreement, we need to see fewer operators, longer term agreements. And if we're actually going to serve a whole city, including the neighborhoods, including black and brown neighborhoods, including just any low demand neighborhood and we're going to see and we're going to see that we want it served at an affordable price. There's going to have to be a subsidy for any city in California. New York may be the only place in America where the density and the wealth are there. New York is subsidized by essentially a marketing contract for the naming rights of the system. Only in New York is that media market valuable enough that it can support the costs of running a highly equitable, highly affordable system. California cities don't have that density. I mean, they have other issues that I think will require subsidies of some kind.

Researcher [00:40:57] Okay. And then for a sake of time, I'll. I'll stop recording because I don't want to get you in trouble.

[guest mentioned we can run longer]

[second recording starts]

Guest 10 [00:00:00] Sure. Yeah. So I'd say integration of public transit is another big point of failure. It's probably due to. The fragmented structure. I mean, are we speaking strictly about California, about the U.S. in general?

Researcher [00:00:17] I'm focused on California. But if you have examples of other places where you know where things are working, like you mentioned New York, then if you make that comparison with California, that be helpful.

Guest 10 [00:00:29] Yeah, I'm not sure of any place in the in the US. Well, like Washington, D.C. recently did a partnership with Capital Bikeshare where if you got the new Washington DC.... I believe it was a new transit card, reusable transit card, then you got ten free trips on bike share. And that was the great partnership where these two modes that we know.. and the other thing is every bike share operator, every micro-mobility operator, their busiest locations, at least, you know, sometimes it's just like a Venice Beach, right? But the busiest location, in a center city, is always the transit nodes. It's always the transit stations. So we know that lots of people use micromobility to get to transit, and we know that basically it's a mutually beneficial relationship. They go hand in hand and they bring each other business and they're stronger together because you might not take the train at all if there wasn't a bikeshare connecting you with it in a really easy way. You might just say: "Oh, I'm not going to walk for 20 minutes to catch a train. I'm going to drive my car". But when there's a bike share, then you're willing to ride a bike to the train because it meets your time limitations and your convenience limitations. We know that's the case for many, many thousands of people. And yet, transit operators are reluctant to partner with bike share operators.

Researcher [00:02:16] And why do you think that is?

Guest 10 [00:02:21] I think it's..... Honestly, I think it's like a lack of creativity and the public sector is extremely reluctant to kind of take any risk to do anything differently. In most cases, I think it's just an extreme avoidance of any kind of risk. Sometimes we've heard it can be transit unions that don't want to do it because it takes away money that could go to their workers and, you know, they'll have political sway. I think transit feels what I would say is a false sense of competition with Micromobility.

Researcher [00:03:05] Yeah.

Guest 10 [00:03:05] And I think that's something that just we really have to work to avoid because again, we're stronger together. If we're competing to grow the pie of people, basically. We are, I think, are complimentary of transit. Of course, sometimes where and maybe for a given trip we might compete once in a while. But overall, I would say we're more complementary than we are competitive.

Researcher [00:03:33] There's research that supports that claim. Yeah.

Guest 10 [00:03:36] Yeah, yeah. But transit operators, I think, think that, you know, their public sector. They are very risk avoidant. They're not really doing many new things. And we've approached many transit operators with ideas where it's like: "hey, what if we had a transfer fare? What if, you know, we could offer a free bike trip to someone who takes the train?". We could offer a 50% discount. We have the tools to do this because we know when and where people are picking up our vehicles because of GPS ending a trip at a transit station. We could we could then apply a discount to the trip. We try to do promotions and no transit operator has ever wanted to do it. And it's such a massive loss

of synergistic value..... You know... We would love to see regional governments say..... basically regional governments, I think, often work out deals among the many transit operators in the region for transfer fares. And we would like to see that always the case, that there's always a transfer fare for bikeshare or scooters. And we think that would bring the transit operator more trips and us, mutually beneficial. Like... There's one really terrible example again from [REDACTED] [location in CA], although this is with [REDACTED] [MPO in CA], not really [REDACTED] [transportation agency], [REDACTED] [MPO in CA], tried to charge Scooter and Bikeshare operators for having their bikes or scooters end at their stations. And so, operators actually had to go and geofence out transit stations because [REDACTED] [MPO in CA] was trying..... It was strictly..... So, operators had to go and geofence out transit stations because [REDACTED] [MPO in CA] was charging an exorbitant fee to the operators to park there. And if somebody parked improperly, they had big fines and everything. The agreement that they offered was just really bad. No sane operator would want to pay that. So then we had to geofence out their station. And so it's like really working counter to the exact opposite of multi-modal integration and seamless multi-modal transportation is the exact opposite. And it was strictly so because [REDACTED] [MPO in CA] saw an opportunity to just grab some revenue from operators. Just incredibly shortsighted, in my opinion.

Researcher [00:06:28] Yeah. So you do think that regional scale can be really important? It's just something that hasn't worked out in the past.

Guest 10 [00:06:38] Yeah. For whatever reason. Those groups have been just kind of like unwilling to donate any funds or really get creative or try to accomplish much. And we would love to do it.

Researcher [00:06:51] Do you think because of the success at the local level, you have been really focused mostly locally, and even though the operators have reached out on a regional scale, maybe it hasn't been as much on the radar as it could have been because of those limitations?

Guest 10 [00:07:13] You know, I'm not I'm not sure. I mean, because even when we're dealing with the regional rail groups... Where, you know, you have people coming from really far away and they're always competing with driving. And the main pain point is not getting to the city. Getting to the city on a train is great. It's how do I get around the city once I'm there? And you know, we think e-bikes and e-scooters are offer a pretty good solution to that. We still just kind of can't get any thinking around any kind of collaboration on partnering and that's where our modes with micromobility is never it's never competitive with regional rail because nobody can ride a bike share bike 30 miles. So it's difficult to understand. Yeah, I don't really know.

Researcher [00:08:13] Well, that was really helpful those last minutes. Okay. I'll stop the recording.....

Appendix B: Participant Observations

Since I have been writing about shared micromobility systems in our communities and exploring their equity components, it would have been hypocritical to never ride a shared bike or scooter in California. I wanted to personally experience what it feels like to rely on a variety of services and vehicles in different locations.

Multi-modal trip from Davis to Los Angeles

On December 11th, I took a charter bus to the Bart. I then took the Bart to SFO airport and once arrived in Los Angeles, I used a shared bike service to navigate around the downtown area and head down to my destination near Venice Beach. This bike trip clearly displayed the rough conditions some areas of Los Angeles require active transportation users to navigate through. Although I am an experienced cyclist, the only comfortable and enjoyable part of the trip was along a shared-use pathway along the coastline. With its winding turns and beach visitors on the path, this entire strip of infrastructure is clearly intended to be recreational rather than utilitarian by default.

The trip was overall uncomfortable, unsafe, and challenging. On my way back, everything went “OK” until my arrival in San Francisco. Recent rain in the Bay area had shut down the entire Bart system. I was unable to reach my charter bus in time and hitchhiked with a friendly parking-lot custodian who witnessed me walk underneath the raised concrete overpass of the nearby limited-access highway. I could not complete my trip without the help of this stranger. Although I personally felt comfortable hitchhiking, most people would argue this to be extremely dangerous and not even consider the option viable. The trip was overall a disaster, not because shared bikes or scooters don’t work well, but because our infrastructure and transit options failed me.



Multi-modal trip from Davis to Oakland

On April 8th, I took the train to Oakland and selected a micromobility service provider I had already been familiar with and rented a scooter with an app I had preinstalled on my phone. On my way back from a transportation conference, my scooter had been issued to another app user. Thus, I ended up walking to the Bart station.



There were no major or severe issues until I discovered that Amtrack does not drive back to the Davis area later in the evening. This meant that I was stuck in Richmond

and relied on someone to pick me up by car from Davis. In this case, the limitations of my mobility were again beyond the control of the micromobility service provider. I was unable to continue my journey without a personal vehicle.

Multi-modal trip from Davis to San Francisco

On June 10th, 2022, I took the train to Oakland, boarded a ferry to Embarcadero, and attempted to ride a shared scooter to Fisherman's Wharf. The first challenge was downloading the correct app for the vehicles along the trip. My options were between two providers, each requiring a different application. My cellular plan was slow and this is where I was required to seek a WiFi hotspot to download my provider's app. Once downloaded, I needed to create an account, set up payment (credit card), and complete a tutorial to understand the local regulations and providers' terms of service and policy.

The policy not only specifies my personal liabilities in the rental agreement but also exposes another barrier the literature never mentioned. This is the following phrase "*...ensuring that all of your guests are at least 18 years old*". If I were to travel with a minor, I could not use the system.

Once plugged in, I tried to reserve a scooter and ran into the next situation, the difficulty of finding an unlocked vehicle. Aside from the different service providers, each with their own terms and applications, my selected service provider would search for nearby scooters on my mobile device and reserve them for approximately 10 minutes prior to the arrival of the user. The issue here was that all vehicles in my proximity were reserved by other app users although scooters physically appeared "free" and unused. I had to walk to my virtually appointed vehicle on the other side of a major arterial road and with my head aimed at my digital map, I was on my way walking towards my scooter.

One arrived, I was deemed “too slow” and my vehicle was given to another user. For quick reference, I am a fit, young, able-bodied person with a brand-new smartphone that has 5G capabilities. Yet, I was unable to “outcompete” my fellow peers on the app. I attempted to rent another scooter, but once it occurred twice more and I was already well on my way to my destination, I gave up after a frustrated moment of staring at a parking site with at least 16 unused vehicles.



On my way back to the ferry, my appointed scooters kept appearing on the other side of the street, forcing me, again, to cross a large corridor while I was walking on a pedestrian-oriented promenade.

Multi-modal trip from Davis to South Tahoe

On June 13th, 2022, I drove my personal vehicle to Tahoe, parked in a structure of a hotel, and continued my journey to my destination with a scooter. My preference would have gone to a shared-bike service due to the often-poor road conditions in Tahoe. However, my only choice here was a scooter. During this trip, I had one of the best experiences with shared-scooter services. This was partially due to the abundance of vehicle availability. The only complexity in South Tahoe is that the urban environment is complex to navigate with a scooter. Roadways seem to favor

automobiles, sidewalks seem to be preferred for pedestrians and often do not include ramps, and scooters are often parked on softscape to avoid conflicts with parked vehicles.



The experience was good in terms of the trip. However, the urban environment does seem to be very limiting to people who are less physically comfortable with the harsh conditions. Here, I also witnessed the vandalizing of a scooter in the presumable attempt to discourage service providers from deploying more vehicles in the vicinity.



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