

UC Office of the President

ITS reports

Title

Strategies for Improving Community College Access in California

Permalink

<https://escholarship.org/uc/item/8910f379>

Authors

Shaheen, Susan
Broader, Jacquelyn
Cohen, Adam
[et al.](#)

Publication Date

2025-02-01

DOI

10.7922/G2P55KVC

Strategies for Improving Community College Access in California

Susan Shaheen, Transportation Sustainability Research Center,
University of California Berkeley

Jacquelyn Broader, Transportation Sustainability Research Center,
University of California Berkeley

Adam Cohen, Transportation Sustainability Research Center,
University of California Berkeley

Brooke Wolfe, Transportation Sustainability Research Center,
University of California Berkeley

February 2025



Technical Report Documentation Page

1. Report No. UC-ITS-RIMI-4E-01		2. Government Accession No. N/A		3. Recipient's Catalog No. N/A	
4. Title and Subtitle Strategies for Improving Community College Access in California			5. Report Date February 2025		
			6. Performing Organization Code ITS Berkeley		
7. Author(s) Susan Shaheen; Jacquelyn Broader; Adam Cohen; Brooke Wolfe			8. Performing Organization Report No. N/A		
9. Performing Organization Name and Address Institute of Transportation Studies, Berkeley 109 McLaughlin Hall, MC1720 Berkeley, CA 94720-1720			10. Work Unit No. N/A		
			11. Contract or Grant No. UC-ITS-RIMI-4E-01		
12. Sponsoring Agency Name and Address The University of California Institute of Transportation Studies www.ucits.org			13. Type of Report and Period Covered September 2022 – October 2023		
			14. Sponsoring Agency Code UC ITS		
15. Supplementary Notes DOI: 10.7922/G2P55KVC					
16. Abstract In California, transportation plays a key role in community college access because many community college districts have satellite campuses, have limited transportation options, and tend to not have on-campus housing. To better understand the mobility challenges students face accessing community colleges and provide potential policy strategies to overcome these challenges, the researchers interviewed local transportation agencies, community college administrators, and students at five California community colleges between September 2022 and October 2023. Participants were asked about available transportation options for community college students, typical student travel patterns, and the resources needed to support improved community college transportation access. Small group discussions with students focused on student travel patterns, mobility challenges, and opinions on potential strategies to improve access. In addition, we reviewed state legislation on student transportation to understand current and past policy attempts to address community college transportation challenges. Together, the findings inform a set of policy options, such as student transit passes, public transit enhancements aimed at meeting the needs of students, and transportation pilot programs.					
17. Key Words Universities and colleges, Accessibility, College students, Travel patterns, Focus groups, Transportation policy			18. Distribution Statement No restrictions.		
19. Security Classification (of this report) Unclassified		20. Security Classification (of this page) Unclassified		21. No. of Pages 42	22. Price N/A

Form Dot F 1700.7 (8-72)

Reproduction of completed page authorized

About the UC Institute of Transportation Studies

The University of California Institute of Transportation Studies (UC ITS) is a network of faculty, research and administrative staff, and students dedicated to advancing the state of the art in transportation engineering, planning, and policy for the people of California. Established by the Legislature in 1947, ITS has branches at UC Berkeley, UC Davis, UC Irvine, and UCLA.

The California Resilient and Innovative Mobility Initiative

The California Resilient and Innovative Mobility Initiative (RIMI) serves as a living laboratory—bringing together university experts from across the four UC ITS campuses, policymakers, public agencies, industry stakeholders, and community leaders—to inform the state transportation system’s immediate COVID-19 response and recovery needs while establishing a long-term vision and pathway for directing innovative mobility to develop sustainable and resilient transportation in California. RIMI is organized around three core research pillars: Carbon Neutral Transportation, Emerging Transportation Technology, and Public Transit and Shared Mobility. Equity and high-road jobs serve as cross-cutting themes that are integrated across the three pillars.

Acknowledgments

This study was made possible with funding received by the University of California Institute of Transportation Studies from the State of California through a one-time General Fund allocation in the 2021 State Budget Act for the Resilient and Innovative Mobility Initiative. The authors would like to thank the State of California for its support of university-based research, and especially for the funding received for this project. The authors would also like to thank the California Resilient and Innovative Mobility Initiative for funding and supporting this research. We would also like to acknowledge Aqshems Nichols (PhD candidate at UC Berkeley) for early contributions to this study. The authors are also thankful for the community college and transportation professionals who participated in expert interviews, helped to facilitate discussions with students, and provided thoughtful input on this topic. The input from these individuals, along with the students, were instrumental to the findings and recommendations that were produced through this research.

Disclaimer

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated under the sponsorship of the State of California in the interest of information exchange. The State of California assumes no liability for the contents or use thereof. Nor does the content necessarily reflect the official views or policies of the State of California. This report does not constitute a standard, specification, or regulation.

Strategies for Improving Community College Access in California

Susan Shaheen, Transportation Sustainability Research Center,
University of California Berkeley

Jacquelyn Broader, Transportation Sustainability Research Center,
University of California Berkeley

Adam Cohen, Transportation Sustainability Research Center,
University of California Berkeley

Brooke Wolfe, Transportation Sustainability Research Center,
University of California Berkeley

February 2025

Table

of

Contents

Table of Contents

Executive Summary	1
Introduction	3
Methodology.....	5
Campus Selection	5
Stakeholder Interviews.....	5
Student Small Group Discussions	6
Study Limitations.....	7
Study Findings	9
Stakeholder Interview Findings	9
Student Group Discussion Findings.....	11
Policy Strategies.....	15
Student Transit Pass Legislation History	15
Potential Strategies.....	17
Conclusion.....	20
References.....	23
Appendix A: Stakeholder Interview Protocol.....	24
Appendix B: Small Group Discussion Methodology	26
Appendix C: Small Group Discussion Protocol.....	27
Appendix D: Small Group Discussion Survey	30

List of Tables

Table 1. Small Group Discussion Participant Numbers at Each College..... 6

Table 2. Transportation Challenges Students Face (n=15 from five small group discussions)13

Table 3. Public Transportation Strategies—Student Feedback and Desired Characteristics (n=15)14

Table 4. Student Transit Pass Assembly Bills.....15

Executive Summary

Executive Summary

Transportation access to community colleges presents challenges for many students seeking higher education in California. Many community college students must commute to campuses that have limited public transit options and are frequently designed around private vehicles. Students might also need to attend different locations or satellite campuses for classes. In addition, the lack of affordable housing on or near campus causes many students to live further away. To better understand the mobility challenges that students face and provide potential policy strategies, we gathered the perspectives of students, campus administrators, and local transportation agencies through stakeholder interviews and small group discussions with students. The researchers also reviewed prior efforts from the California Legislature to address student transportation challenges.

Between October 2022 and September 2023, we interviewed staff and administrators from various California community colleges, as well as directors, managers, and other leaders at regional transportation agencies and community college consortiums. The interviews revealed that the community colleges campuses provide students with parking facilities and have varying levels of public transportation service in terms of the number of routes, spatial coverage around the campus, service frequency, late-night transit options, etc. Many interviewees discussed how fixed-route public transportation routes to campuses often have long headways. Additionally, many campuses do not allow shared micromobility devices on campus, limiting students' ability to use bikes and scooters to connect to transit. While a number of campuses included in this study are accessible by active transportation (walking and cycling), many students live far from campus, limiting the use of these modes. The stakeholders also indicated that community college students typically travel to campus at least once a week and prefer to commute via personal vehicle, often because of convenience and the availability of parking on many campuses. While the stakeholders interviewed recognized the importance of community college access, many explained that limited fiscal resources, funding restrictions, and other challenges have been a barrier to enhancing mobility options for community college students.

The small group discussions with students occurred between September 2022 and October 2023 and represented five California community colleges: Berkeley City College, College of San Mateo, Hartnell College, Reedley College, and Rio Hondo College. Reflecting the findings from the stakeholder interviews, students participating in these discussions explained that the personal vehicle was the most commonly used mode of transportation to access community colleges. However, the students interviewed also expressed concerns about the cost of gas and parking permits. When asked about transportation challenges, the students mentioned travel time, cost, and safety as their three greatest concerns when traveling to and from campus. Students were asked about strategies to potentially address these challenges. Over half of the students interviewed were supportive of student transit passes, open-loop fare payment, and mobility wallets to enhance their trip planning and public

transportation use. Students, especially those that commute by personal vehicle, also expressed interest in carpooling programs and on-demand microtransit services.

The findings of this research suggest that California could consider policies to fund and support student transit passes, safety and reliability enhancements to public transportation, and transportation pilot programs to improve access to community college campuses. Some community colleges currently offer student transit passes, but others do not have the resources or funding to provide them. Student transit pass programs could be expanded to other community colleges through support and funding from the California Legislature. Additionally, students emphasized the need to enhance convenience and safety, including improved real-time information, easier payment options, and increased safety measures, such as better lighting at transit stops and crisis intervention specialists. Policies in this area may require reporting to the General Transit Feed Specification to improve real-time trip planning capabilities, support the California Integrated Travel Project, or provide funding for transit agencies to promote safety at transit stops and on vehicles. The state legislature might also support community colleges by promoting and funding participation in pilot programs with mobility providers (i.e., shared micromobility, microtransit). Pilot program policies allow community colleges to assess if a transportation option is a good fit for student needs, and evaluations of these pilot programs could help other community colleges make decisions on transportation options for their students. Additionally, policies supporting pilot programs could facilitate collaboration among nearby community colleges on transportation services that mutually support students at multiple campuses.

Contents

Introduction

Transportation costs and access can be a barrier to student success and retention in community college. California has 116 community colleges serving 1.9 million students. It is estimated that over 50 percent of undergraduate students in California started their higher education at a community college. Community college students spend more on transportation than their counterparts at both public and private four-year institutions (California Community College League 2021). This disparity might be due to the lack of affordable student housing. Unlike most four-year universities, many community colleges do not offer on-campus housing and might be located in auto-dependent communities (Nichols, et al. 2023). Transportation challenges at community college campuses are frequently overlooked. However, in September 2023, the California Community Colleges set forth [*Vision 2030: A Roadmap for California Community Colleges*](#), describing the path to reach the state governor’s goal of achieving “70% of all adults ages 25–64 having a bachelor’s degree, associate degree, or certificate” (California Community Colleges 2023). Within this document, equity in access is highlighted as one of three goals to achieve the greater goal set forth by the governor.

Common transportation challenges for community college students include the: 1) need for reliable automobile access, 2) absence of high-quality public transit, and 3) high parking costs. In addition, community colleges across California have diverse transportation needs given their varied geographies and student populations. Thus, there is a need for coordination and guidance on how California’s community colleges can address students’ transportation challenges and help ensure that transportation is not a barrier that students face while pursuing educational and employment opportunities (Community College League of California 2021).

Methodology

This research employs a multi-method approach comprising 1) a selection of community college campuses for stakeholder interviews and small group discussions, 2) stakeholder interviews (n=11), and 3) small group discussions with students (n=5).

Campus Selection

A key component of this research was selecting community campuses to engage in stakeholder interviews and small group discussions. Campus outreach occurred between September 2022 and August 2023. The researchers identified a diverse set of campuses based on four attributes:

- Surrounding built environment (e.g., urban, suburban) and land use characteristics
- Regional location (Northern, Central, or Southern California);
- Available transportation options and infrastructure (parking, public transportation, etc.)
- Campus type (one campus or multi-campus)

Initially, we contacted six campuses to participate in this study. Additional campuses were contacted as schools expressed their inability to participate (e.g., concerns about student privacy, lack of interest in participating in the research). We ultimately contacted 34 of the 116 community college campuses (29 percent) and received affirmative responses from 5, reflecting a response rate of 14.7 percent. The five community college campuses—College of San Mateo in San Mateo, Diablo Valley College in Pleasant Hill, Hartnell College in Salinas, Reedley College in Reedley, and Rio Hondo College in Whittier—reflect diverse built environments (city center, suburban, edge city), geographies, and transit accessibility.

Stakeholder Interviews

We interviewed stakeholders to gain insights into transportation options available to community college students, typical student travel behavior, and potential resources to help address the transportation challenges confronting students. The findings also helped inform the topics included in the student group discussions. The interview process began with compiling a list of professionals involved with transportation at community colleges (e.g., college administrators, public transit agencies). From October 2022 through September 2023, we contacted 26 individuals representing 28 organizations from academia and the public and private sectors. We conducted nearly a dozen interviews (n=11 of 26), yielding a response rate of 42 percent. The interviewees represented each college included in this study. In addition, six local, regional, and state agencies were represented: Bay Area Community College Consortium, Central Valley Mother Lode Regional Consortium, Fresno County Rural Transit Agency, 511 Contra Costa, Community College League of California, and Student Senate for California Community Colleges. Each interview (see Appendix A: Stakeholder Interview Protocol) lasted approximately one hour.

Student Small Group Discussions

The small group discussions provided insight into student travel behavior, transportation needs, and the mobility challenges students confront. Researchers conducted the following steps between September 2022 and October 2023 using this process.

- **Participant recruitment:** Working with community college campus staff to promote small group student discussions and recruit potential participants (for details, see Appendix B: Small Group Discussion Methodology)
- **Scheduling:** Communicating with the students to establish an ideal date and time to hold the discussions
- **Implementation:** Gathering students and asking the questions outlined in the discussion protocol (see Appendix C: Small Group Discussion Protocol)

A total of 47 students across five campuses indicated their interest in participating in the research and confirmed their participation. However, only 15 students representing the five campuses participated, resulting in a participation rate of 34 percent. Each group discussion lasted approximately 1.5 hours, and students were compensated for their time with a \$50 retail gift card. Table 1 lists the number of participants from each college.

Table 1. Small Group Discussion Participant Numbers at Each College

Region	College	Discussion Participants (n=15)		Scheduled to Participate	Participation Rate
Northern California	Berkeley City College	3	20%	5	60%
	College of San Mateo	2	13%	6	33%
	Hartnell College	1	7%	12	8%
Central California	Reedley College	6	40%	12	50%
Southern California	Rio Hondo College	3	20%	12	25%

The reasons students did not participate after expressing interest is unclear, and the research team was unable to identify why after extensive follow-up outreach. The low participation rate led to small group discussions, some with only one or two students, that functioned similar to an in-depth interview. Because of the low participation rate, all the group discussion responses are aggregated across the five campuses.

Study Limitations

The study had a number of limitations in the following areas.

Campus Selection

It was challenging to identify campuses with staff who were willing and able to assist with the research (e.g., help recruit students for small group discussions). These efforts were limited by numerous factors that, when ranked from most to least frequently cited by campus points of contact, include:

- Limited staff capacity to participate in this research
- Staff concerns about student survey fatigue due to other ongoing studies
- Lengthy delays caused by Institutional Review Board (IRB) or human subjects research project reviews, which were requested by many of the community college campuses
- Difficulty timing the study with campus academic calendars
- A real or perceived lack of student interest

Because a campus point of contact was necessary to help suggest stakeholders to interview and recruit students, these limitations prohibited many schools from participating in this research. These challenges also contributed to greater representation from Northern California schools, which tended to be more responsive. For these reasons, the findings might not be representative across all California community college campuses.

Stakeholder Interviews

Recruiting stakeholders to interview at the community colleges and other agencies (e.g., public transit) was difficult and resulted in a small sample size (n=11). The limited response rate could be due to several factors, such as:

- **COVID-19 pandemic:** This research was conducted during pandemic recovery. For this reason, the ability for stakeholders to participate in external research studies such as this one might have been limited.
- **Institutional Review Board approval:** Many community college administrators requested that the researchers obtain local IRB approval before conducting stakeholder interviews. In some cases, this delayed the research for months. IRB approval was also denied due to concerns about external researchers interviewing campus staff and broader concerns about limited staff capacity at these campuses.

The small number of stakeholder interviews means that the findings might not represent a complete picture of the transportation opportunities and challenges at each campus. Additionally, the results are exploratory and not generalizable to all California community college campuses.

Small Group Discussions with Students

The research team encountered challenges recruiting students to participate in the small group discussions. According to campus points of contact and limited information gathered from students during the recruitment process, some challenges impacting student willingness to participate in this research include:

- **Scheduling conflicts:** Students might have been unable to participate due to limited availability and scheduling conflicts. Those who scheduled to participate but did not attend might have had conflicts or forgotten about the meeting. Overall, time to participate in research appeared to be limited.
- **Summer scheduling:** Due to delays in establishing points of contact at campuses, completing multiple IRB reviews, and attempting to avoid inconvenient times for students (e.g., spring break, finals week), many of the group discussions were scheduled in Summer 2023. Students not enrolled in summer classes were less likely to visit the campus and see posted fliers or check their emails.
- **Research fatigue:** As mentioned by the campus contacts who participated in this study, many community colleges have ongoing initiatives to identify and respond to unmet student needs. As a result, it is possible that students experienced fatigue and were uninterested in participating in this additional study.

Study Findings

The study findings comprise institutional findings from stakeholder interviews and student findings from the small group discussions.

Stakeholder Interview Findings

The 11 stakeholders interviewed stated that private vehicles were the preferred transportation mode to access the campus for reasons of convenience and because driving allowed students to live further away and expand their housing options. The stakeholders reported that students who use public transportation support the use of public transit passes.

Available Transportation Options

Six of the college campus stakeholders interviewed said that all five of the campuses represented in this study have parking available to students. Most campuses require paid permits to access student parking. Pricing can range from hourly or daily fees (\$3.00 to \$5.00 per day) or passes per semester (\$20 to \$58 per semester). The stakeholders described the parking lots as relatively secure (e.g., from vehicle break-ins) and stated that the demand for parking has decreased since the COVID-19 pandemic, possibly due to more students taking online classes. A few of the parking lots are equipped with electric vehicle chargers or priority carpool parking to encourage more sustainable travel.

All the campuses examined in this study are served by varying levels of transit service, often with long wait times between buses. Transit routes were not always conveniently located and required students to make multiple transfers. At some campuses, topography presented physical challenges to accessing public transit stops. Additionally, in areas with more congestion (e.g., Berkeley, Los Angeles), the buses might be susceptible to travel delays. A few campuses piloted programs in an effort to improve student access, such as shuttles that depart every 15 minutes offering connections to a nearby rail station, partnerships with transportation network companies (TNCs)¹ to provide subsidized rides to low-income students who live further from campus, and microtransit² programs offering demand-responsive transportation in a zone around a campus. These programs are no longer offered for various reasons, including lack of funding, lack of partner interest, and low student awareness or adoption. Despite the lack of success, the stakeholders expressed an interest in exploring other innovative options to enhance campus access (e.g., partnering with local transit agencies to demonstrate mobility wallets,³

¹ TNCs provide prearranged and on-demand transportation services for compensation in which drivers of personal vehicles connect with passengers. They typically use digital applications for booking, electronic payment, and ratings.

² Microtransit refers to privately or publicly operated technology-enabled transit services that typically use multi-passenger or pooled shuttles or vans to provide on-demand or fixed-schedule services provided via dynamic or fixed routing.

³ Mobility wallets are platforms that provide access to various transportation modes (e.g., bikesharing, public transit) to help plan and pay for multimodal trips.

adding bikesharing in the vicinity of campuses, etc.). To do this, stakeholders explained that they need more data on students' existing needs and their gaps in accessibility and mobility.

Four of the campuses were accessible by active transportation (e.g., bikesharing, cycling, and walking) and offered active transportation infrastructure, such as bike racks and lockers. However, the stakeholders believed these modes did not widely meet student needs, for example, if they lived over five miles away or needed to access the campus via a freeway) and were not conducive to local weather. Additionally, all the schools interviewed did not permit riding bikes and scooters on campus due to concerns about parking and illegally locking them to lamp posts, trees, and other landscaping features. Seven of the stakeholders hypothesized that the adoption of active transportation was hindered by campus rules that prohibited bike and scooter use and inhospitable weather (e.g., hot summers, rainy winters). While students can use bikes and scooters to access campuses, restrictions about riding and parking them often encouraged students to use private vehicles instead.

Student Travel Patterns

All the stakeholders interviewed said that students typically commute to campus at least weekly. They also believe that personal vehicles are preferred over other transportation options because of their perceived convenience. This convenience is partially due to challenges accessing campuses using public transit and active transportation (e.g., infrequent public transit service, rules against using bikes and scooters on campus). The convenience of personal vehicles is also due to a general abundance of parking and faster travel times (e.g., instead of waiting for the bus and making multiple transfers). Despite this preference, four out of the five the campuses interviewed offered some type of public transit pass that was available to eligible students (e.g., those meeting a minimum course enrollment) for a discounted fee (e.g., included in their tuition and other campus fees, paid separately). According to three campus stakeholders, students who used the transit passes reported a high-level of satisfaction.

In addition to driving and riding transit, the majority of stakeholders explained that students could carpool to campus. None of the schools interviewed had a formal carpool program, although some had experimented with reducing the cost of carpool parking. About half of the stakeholders interviewed stated that the COVID-19 pandemic decreased student interest in carpooling. This could be due to a variety of factors, such as more students taking classes online and a greater availability of parking on campus since the pandemic.

Opportunities, Limitations, and Resources

We also asked the stakeholders to describe the opportunities, challenges, and resources needed to support transportation access at their respective community colleges. All stakeholders stated that transportation was critical for campus access, extracurricular activities, and job access. Employment access was often cited as a benefit, particularly for students who are low-income. The experts also discussed other potential benefits of transportation options, such as the ability to access healthier food options, reduced stress and anxiety, increased housing options and access to more affordable areas,

and more study time due to reductions in travel times. Despite these potential opportunities provided by transportation access, the stakeholders reported their campuses struggled to support transportation enhancements typically because of:

- **Funding and the allocation of limited resources:** In recent years, California community colleges have faced funding challenges, exacerbated by lower student enrollment since the COVID-19 pandemic. Lower enrollment has reduced the fiscal resources available for transportation programs. Additionally, students have expressed concern about the rising cost of student fees, a primary strategy used to fund campus transportation options (e.g., public transit passes). Thus, transit passes funded through student fees may be at risk because this funding is typically approved by an entire student body who might not support increasing fees. Limited funding has also impacted some colleges' ability to purchase transit passes and take advantage of bulk discounts. Because campuses need to strategically allocate resources, some schools have focused on other priorities (e.g., recruitment, enrollment, and retention). Additionally, grant funding to support student transportation is now very competitive.
- **Unknown needs:** Many of the stakeholders discussed the diversity of the student body—students living at home, married students, students with children, and working students often attending classes in the evening. The needs of these diverse populations are not always well understood, and it can be difficult to develop a transportation program to address all types of students. In many cases, the stakeholders explained that they do not have enough information to understand the unmet transportation needs of some of these types of students.
- **Preference for personal vehicles:** Due to student reliance and sometimes preference for private vehicles, it can be challenging for campuses to focus on other transportation options. This has resulted in a “campus transit doom loop” where fewer mobility options results in lower adoption of these alternatives, which contributes to fewer transit offerings.

These factors also limit the ability of community colleges to participate in demonstration programs. Some campuses expressed interest in exploring strategies to address unmet transportation needs (e.g., co-locating affordable student housing on or adjacent to campuses, increasing the number of online classes offered, etc.). However, these options sometimes encounter other challenges such as the lack of funding for affordable housing and the lack of internet access at home.

Student Group Discussion Findings

The small group discussions with students centered around three topics: current travel patterns, transportation challenges, and public transportation strategies. The discussion of travel patterns included an overview of transportation modes used by community college students, commute time to access the campuses, and considerations students make when selecting their mode of travel to campus. The discussion probed the difficulties students encounter traveling to campus and potential public transportation strategies, such as transit passes, open-loop fare payment, and mobility wallets.

Current Travel Patterns

Among the 15 participating California community college students, private vehicles were the most used and preferred travel mode to reach campus. Students who did not travel using private vehicles either used public transportation or carpooled with a family member or friend. In general, students said they selected the travel mode that would get them to school the fastest and allow them to easily reach other destinations (e.g., employment). Some other commonly cited reasons for selecting private vehicles over other travel modes included comfort, individual space, the flexibility and ability to leave at desired times, and personal safety. The seven students who commuted via private vehicle reported that they did not have trouble finding a parking spot but had concerns about the high cost of parking. Seven students were open to the idea of carpooling if they were reimbursed for gas if they were driving, carpooled exclusively with other students, and there were safety measures in place (e.g., identifying the driver, vehicle type, license plate). Seven students viewed public transit as being less convenient due to longer wait and travel times and the potential need to transfer. However, six students reported using other travel modes—biking, walking, or TNCs—for other activities in their life.

The majority of the community college students reported having commute times ranging from 10 to 30 minutes (20–60 minutes roundtrip), and they traveled to their campus typically one to five times per week. Travel frequency to campus was largely dependent on how many in-person classes each student enrolled in, as well as whether they needed to go to campus for non-class activities. Outside of commuting to school, students reported that in a typical week they traveled for work, errands, grocery shopping, recreational activities, and social activities using various travel modes, depending on the distance. Students were more willing to walk and bike to destinations that were relatively close (e.g., less than two miles for walking and five miles for biking), with some willing to walk 10–45 minutes. Driving was preferred for destinations located further away and when it was faster than traveling by public transit. However, some students said that they attempted to limit driving to reduce the amount of money that they spend on gas or parking.

In terms of travel to and from community college campuses, five students liked the idea of an on-demand microtransit service designed specifically for students, but they did not currently have access to such a service. On-demand microtransit services were perceived to be cleaner and safer than public transit, and cheaper than TNCs. On-campus housing was also discussed as an option to reduce transportation challenges. However, four participants explained that they chose to live with family members to save money. Four students also stated that they selected class schedules with consideration of transportation to campus. For example, students said they plan their class schedule around getting rides from family members, work schedules, or the availability of online classes so that they do not have to commute to campus.

Transportation Challenges

The students indicated a variety of challenges traveling to their community colleges. These challenges are summarized in Table 2 in order of greatest to least concern.

Table 2. Transportation Challenges Students Face (n=15 from five small group discussions)

Challenge	Description
Travel Time (n=12 noted)	<ul style="list-style-type: none"> Students frequently considered the travel times between campus, their places of employment, and home. These considerations often led to personal vehicles being the selected mode of travel. Public transit travel times could be long (e.g., due to long wait times, unreliable arrival times), but these services could be improved by agencies providing accurate, real-time information or through more frequent, direct, and reliable service. In the case of a hypothetical emergency, the students would opt for other vehicle options (a ride from a family member, friend, or TNC) over public transit due to the associated long travel times.
Trip Cost (n=10 noted)	<ul style="list-style-type: none"> Each mode was associated with their own cost concern—account minimums for public transit, gas and parking for personal vehicles, and trip costs for TNCs. In terms of affordability, students ranked public transit, personal vehicles, and TNCs as most to least affordable.
Safety (n=9 noted)	<ul style="list-style-type: none"> Safety concerns were present when students were using non-personal vehicle modes and traveling at night (e.g., via public transit, biking). Safety concerns were amplified in certain built environments (e.g., streets that were not well lit, near alleys). Existing safety concerns were exacerbated by the presence of individuals who appeared to be suffering from mental health challenges or substance use disorders on or around public transit infrastructure.
Modal Limitations (n=3 noted)	<ul style="list-style-type: none"> Depending on where they lived, some participants were unable to access modes other than a personal vehicle to commute to campus. Some participants chose to live further away for more affordable housing options or to remain with family members, which could make carpooling with other students challenging. In some cases, the participants were interested in commuting to school via public transit but were unable to reach their campus via public transit, resulting in them driving.
Weather Considerations (n=3 noted)	<ul style="list-style-type: none"> Participants from campuses in locations with more variable weather (e.g., hot summers) factored in weather and available infrastructure (e.g., shade at bus stops) when making modal choices.

Public Transportation Strategies

During the group discussions, three public transportation strategies were discussed: discounted student transit passes, open-loop fare payment, and mobility wallets. Eight of the participants were interested in discounted student transit passes. Students who did not have transit passes available to them stated that if it was an option, they would be interested. A total of 13 participants supported open-loop fare payments or the idea of being able to access different public transportation modes by tapping a debit or credit card, with six participants citing the convenience of not needing to carry or search for a transit-specific card as their reason for supporting open-loop fare payment. Overall, eight participants liked the idea of a mobility wallet, which was described as a smartphone platform that provides access to various transportation modes and helps facilitate multimodal trip planning and payment. However, for both open-loop payment and mobility wallets, three students discussed the need for security or data storage protections when uploading personal or payment information to a new platform. Participants also stated that mobility wallets would need to be accurate and reliable

(e.g., providing cost and travel time) to be usable. Two students who drove personal vehicles to campus were less interested in mobility wallets. Table 3 summarizes the students' responses to these strategies.

Table 3. Public Transportation Strategies—Student Feedback and Desired Characteristics (n=15)

Strategy	Student Feedback	Desired Characteristics
Student Transit Pass	<ul style="list-style-type: none"> • Reduces the burden of operating and paying for parking for personal vehicles • Offers financial assistance, especially for existing public transit riders and individuals dependent on others for rides 	<ul style="list-style-type: none"> • Complementary public transit improvements—specifically increased reliability, short headways, and tailored routes • Free, not just discounted, passes
Open-loop Fare Payment	<ul style="list-style-type: none"> • Improves convenience compared to existing payment options (e.g., not needing to have multiple cards available) • Increases boarding efficiency (e.g., not needing to count change or search for a specific card) 	<ul style="list-style-type: none"> • Mobile payment option availability (e.g., Apple Pay) • Financial benefits (e.g., lower fares for contactless payment use) • Security and data privacy protections
Mobility Wallets	<ul style="list-style-type: none"> • Provides the ability to compare cost and time when trip planning 	<ul style="list-style-type: none"> • User-friendly interface • Accurate and reliable information • Convenient trip features (e.g., alerts when stop is approaching, ability to save frequent destinations)

Policy Strategies

In recent years, the California Assembly has considered a number of student transportation bills. This section discusses recent assembly bills focused on student transit passes and potential policies that the California Legislature might consider to improve transportation access to community colleges.

Student Transit Pass Legislation History

Since 2015, the California Legislature has proposed five bills related to student transit passes, as summarized in Table 4. Future legislative action might be able to leverage lessons learned from these prior transit pass proposals.

Table 4. Student Transit Pass Assembly Bills

Assembly Bill and Session Years	Background and Summary
<p style="text-align: center;">2222 2015–16</p>	<p>Background</p> <ul style="list-style-type: none"> • Introduced to the California Legislature in February 2016 by Assemblymember Chris Holden • Proposed a Transit Pass Program that would require Caltrans to determine eligibility criteria for public transit providers to receive money to fund free or reduced transit for middle school, high school, college, and university students • Passed by the Assembly and sent to the Senate in June 2016, but ultimately placed on suspense in August 2016 (Open States, n.d.) <p>Summary</p> <ul style="list-style-type: none"> • Each eligible transit provider would each receive at least \$20,000 to develop the program • Transit providers would need to report performance metrics (e.g., number of free or reduced transit passes provided, transit ridership rates)
<p style="text-align: center;">17 2017–18</p>	<p>Background</p> <ul style="list-style-type: none"> • Introduced to the California Legislature in December 2016 by Assemblymember Chris Holden • Described a Transit Pass Pilot Program that would provide free or reduced fare to low-income middle school, high school, and college students, with allocated funding and performance measures set forth by Caltrans • Presented to Governor Brown in September 2017, but returned without signature due to the existence of reduced-fare transit programs and the need to consider how new programs should be developed and funded (California Legislature, 2017)

Assembly Bill and Session Years	Background and Summary
	<p>Summary</p> <ul style="list-style-type: none"> Public agencies would be awarded at least \$20,000 to expand or further reduce existing transit pass programs, or support new free or reduced pass programs Caltrans was to report on the outcomes of transit pass programs, including number of passes provided, ridership impacts, and recommendations for future transit pass programs
<p>2304 2017–18</p>	<p>Background</p> <ul style="list-style-type: none"> Introduced to the California Legislature in February 2018 by Assemblymember Chris Holden Requested the UC Institute of Transportation Studies to report on existing reduced fare transit passes within the state Passed on to a Senate committee, where it remained without action (California Legislature, 2018) <p>Summary</p> <ul style="list-style-type: none"> The report was to include an assessment of reduced fare transit pass programs administered by transit agencies, higher education institutions, and businesses, as well as program eligibility requirements, impacts on ridership, funding sources, and fiscal impacts
<p>1919 2021–22</p>	<p>Background</p> <ul style="list-style-type: none"> Introduced to the California Legislature in February 2022 by Assemblymember Chris Holden Outlined the Youth Transit Pass Pilot Program, similar to what was proposed in AB 2222 but for college students and those under the age of 18 Passed by the Assembly in May 2022 and by the Senate in September 2022 Governor Newsom vetoed the bill in September 2022 due to concerns about funding the program (California Legislature, 2022) <p>Summary</p> <ul style="list-style-type: none"> Public transit agencies would be able to apply for funding from Caltrans to support a free transit pass program in partnership with an educational institution Eligible funds would be determined as proportional to agencies' farebox revenue relative to statewide farebox revenue Funds could be used for activities to support the free transit program operation (e.g., development, administration, maintenance) Caltrans would be required to report various program metrics and outcomes to the state legislature
<p>610 2023–24</p>	<p>Background</p> <ul style="list-style-type: none"> Introduced to the California Legislature in February 2023 by Assemblymember Chris Holden

Assembly Bill and Session Years	Background and Summary
	<ul style="list-style-type: none"> • Detailed a Student Transit Pass Pilot Program that would allow public transit agencies to apply for grant money to fund free transportation for college students, university students, and people 18 years old or younger • Ordered to inactive file in September 2023 by Senator Dahle (California Legislature, 2023) <p>Summary</p> <ul style="list-style-type: none"> • Program was required to be at least one year long and forbid the educational institution to earn money for participation • Funds had to be used to develop, implement, and maintain the public free transit program • Agencies were required to report the outcomes

Based on this history, it is evident that bills on student transportation typically become stagnant or are vetoed. As described in Governor Newsom’s veto message for AB 1919, the state budget plays a role in whether student transportation bills get passed (California Legislature, 2022). Newsom states that bills requiring funding, such as AB 1919, “should be considered and accounted for as a part of the annual budget process.” This highlights the importance of establishing budgeted amounts of money for student transportation programs or dedicated funding sources to financially sustain these programs outside of the state budget.

Potential Strategies

In addition to student transit passes, other strategies exist to support transportation for community college students. We identified these potential strategies based on the stakeholder interviews, small group discussions, and legislative history.

Student Transportation Passes

As noted in the group discussion findings and history of transit pass legislation, there is an interest in providing affordable student transportation passes. The four students who had access to and adopted using transit passes were supportive of this initiative. According to research by Brozen, et al. (2022), students spend on average more for public transit passes than parking passes. As described by the community college stakeholders, however, lower enrollment rates and external factors (e.g., high inflation rates) have reduced the ability for colleges and students to fund student transit passes. State policy and funding could help to fill this gap. Similarly, while students appreciated the public transit passes, the pass benefits would be greater if they offered discounts and access to higher quality transit service (both spatial coverage and service frequency). As a complementary initiative, policies that support public transit network enhancements (e.g., routes with decreased headways, more stops, and stations near community colleges) can increase the benefits of public transit passes for students.

Enhancements to Public Transportation

The expert interviews and small group discussions highlighted the need for robust, frequent public transit service. Public transit improvements broadly, and for the services and routes that specifically service community college campuses, can help address community college students' transportation needs. One public transit improvement that two community college students were expressly interested in was reliable, real-time information. This would be particularly helpful for students who frequently use routes with long headways. In the group discussions, six students also expressed an interest in transit trip planning apps. The reliability of information, if not the route itself, could assist students in more efficiently planning their day. Public transit information and trip planning could be improved through policies like those that require all transit data to be reported via General Transit Feed Specification (GTFS).⁴ These data can then be leveraged by different platforms or services to improve trip planning and potentially trip payment options. The group discussions also revealed students' interest in open-loop public transportation payments as a strategy to make boardings and transfers easier and more convenient. This could be supported at the state level through continued efforts and funding for the [California Integrated Travel Project](#) to develop resources for public transit operators. Other measures to address student safety concerns, such as improved lighting at transit stops and implementation of crisis intervention specialists, could help students feel more comfortable riding public transportation on a regular basis to reach their community college. These measures can be supported by providing safety-targeted funding opportunities for resource-limited public transit agencies.

Pilot Programs

As mentioned in the expert interviews, interest exists in exploring strategies to address students' transportation needs through pilot programs. Community college students might be an ideal demographic to evaluate different transportation options because they typically attend community colleges for a short period of time (e.g., a few months to up to two years). This limited time duration can reduce concerns, such as offering students a transportation option that is not consistently available throughout their time at a campus. As described in Nichols, et al. (2023), community colleges present an opportunity to conduct transportation pilot programs for deploying new technologies and better understand transportation mode choice. Policies for community college transportation pilot programs could fund or facilitate relationships between campuses and mobility providers (i.e., microtransit and shared micromobility companies). To help reduce resource competition among community colleges, transportation pilot program policies could also allow nearby community colleges to pool resources and collaborate on the design and implement transportation pilot programs (i.e., developing a microtransit pilot program that provides service between two nearby campuses and their surrounding areas). Brozen, et al. (2022) reports that many community colleges do not offer transportation information beyond parking and transit passes, which could cause challenges for students who do not have reliable access to a car or public transportation that connects to their community college. As

⁴ GTFS is a common public transportation data format that allows information to be easily accessed and used (e.g., in trip planning applications).

another example, community colleges could build on findings from pilot programs (e.g., with microtransit providers to offer subsidized trips originating at or departing from community college campuses) to inform public transit route change suggestions. Alternatively, the schools could alter their existing policies and allow micromobility devices on their campuses or develop more robust carpooling programs. Pilot program policies could also explore alternatives to transportation, like supporting more affordable housing near college campuses.

Conclusion

Transportation plays an integral role in students' access to a community college, largely due to a lack of affordable housing on or near the campus. This research attempts to understand the transportation challenges that community college students face through a combination of stakeholder interviews and small group discussions with students. From September 2022 to October 2023, the research team completed 11 stakeholder interviews with community college and transportation agency representatives and held discussions with 15 students that represented five community colleges in California. Together, these engagements provided insights on the transportation challenges community college students face and the administrative challenges that campus administrators experience when trying to address student mobility needs.

The methods employed in this study revealed a number of limitations when conducting research with community college stakeholders (e.g., students, administrators, supporting transit agency staff). For example, despite the existence of 116 community colleges in California, the findings are limited by the small sample size of participating community colleges (n=5). The most cited barriers to participation were concerns about staff capacity and research fatigue among students. In addition, scheduling conflicts and academic breaks likely played a role in the limited student participation. It is also important to note the lack of information gathered from colleges in Southern California and the Central Valley, because different locations might have unique transportation challenges.

The stakeholder interview findings focused on available transportation options for students, typical student travel patterns, and desired resources. The stakeholders reported that community colleges are typically accessible by car, public transit, and active transportation. However, each mode has its challenges. For example, students who drive to campus must typically pay for parking, whereas students who use public transit might have to make transfers and experience long wait and journey times. Additionally, active transportation might not be feasible for students that live further away from campus.

The experts interviewed generally thought that students prefer to commute via personal vehicle because this mode typically offers the shortest travel time and is the most convenient option, allowing students the flexibility to come and go according to their own schedule. Flexibility is particularly important for students who work and attend school. The stakeholders also recognized that some students take advantage of and support transit passes. However, they also explained that student transit pass funding is at risk because this funding is typically approved by an entire student body who might not prioritize paying student fees to support transit passes. Other challenges from the stakeholder perspective include limited internal and external funding opportunities for transportation options, legal restrictions limiting the pooling of resources with nearby educational institutions, challenges meeting diverse mobility needs, and difficulties promoting alternatives to driving.

The small group discussions with students focused on transportation options, travel behavior, transportation challenges, and potential strategies to improve campus access. Reinforcing the interview findings, the students reported that the most used mode to access college campuses was personal vehicles. The students who did not drive to school typically used public transportation or carpooled (n=6). The student discussions also confirmed that students typically travel to their campus at least once a week with one-way commute times ranging from 10 to 30 minutes. A primary consideration that students reported when selecting their travel mode to school was travel time, which impacted the time available for work and study. Students also considered travel costs and modal safety when making commuting decisions. Participants expressed concerns about the high cost of driving, including parking fees and gas. Meanwhile, safety concerns were often associated with public transit because riders might have to wait at dark transit stops and encounter uncomfortable situations with other riders.

Regardless of a student's choice of travel mode, all students were asked about three potential strategies to reduce the burden of transportation: student transit passes, open-loop fare payment, and mobility wallets. In general, the students supported all three strategies because they provide a financial or convenience benefit to users. Student transit passes stood out as a popular strategy because students reported that free transit passes would provide the greatest benefit and also sounded appealing to some students who drive. Open-loop fare payment was supported for its convenience and time savings because it would eliminate the need for students to have exact change or search for a physical card prior to boarding. Similarly, mobility wallets were appealing to the students who regularly used public transit and would benefit from a travel time reduction and cost comparison of different routes. However, students did express concerns about privacy and the need to secure sensitive information with the open-loop fare payment and mobility wallet strategies.

The California Legislature has engaged in student transit pass policy development on five occasions within the past 10 years. However, none of the policies have been passed into law. Based on the findings of this research, supportive policies could address several areas, such as continued funding for student transit passes to reduce the financial burden on students commuting to their college campus. The students who use public transit services noted the importance of service improvements, such as enhanced real-time tracking and reliability, ease of transportation payments, and safety measures. Policies could also support community college participation in public transit pilot programs. Pilot programs could introduce additional transportation options on community college campuses, such as microtransit, shared micromobility, and ride matching or carpooling.

Given the number of limitations faced in this study, there are ongoing needs for research on community college access. This research could play a key role in closing knowledge gaps and increasing understanding from administrators, students, and transportation providers. It was evident during the small group discussions and recruitment process that California community college students contend with complex schedules and varying demands, which makes it difficult to engage in research with them. Future research should consider exploring different outreach methods to better align with student

schedules, campus policies (e.g., privacy and human subject concerns, survey fatigue, etc.), and increase the sample size of students participating in the research. Given the diverse geography of the state, future research should also include more community colleges because local geography influences transportation needs. Increased funding could help to provide resources to community college staff to participate in studies and incentivize administrators and students for their participation. When staff time and resources are constrained, they cannot work with students to identify their needs, despite existing enthusiasm and interest. Support from stakeholders is critical to understanding community college student transportation needs, equity, and accessibility. Additionally, it is important that research includes ongoing evaluations to identify lessons learned from research efforts and promote enhanced future research. Future research could also include engagement from other local and regional planning agencies or Caltrans.

References

Brozen, M., Hussain, R., and Matteson, N. (2022). *Understanding Transportation Programs and Services at California Community Colleges*. UCLA Institute of Transportation Studies. Retrieved January 4, 2024 from <https://escholarship.org/uc/item/99d6q2rn>.

California Community Colleges. 2023. *Vision 2030: A Roadmap for California Community Colleges*. Retrieved December 22, 2023 from <https://www.cccco.edu/-/media/CCCCO-Website/docs/report/Vision-2030-A-Roadmap-for-California-Community-Colleges.pdf>.

California Legislature. 2017. *AB-17 Transit Pass Pilot Program: free or reduced-fare transit passes*. California Legislative Information. Retrieved December 22, 2023 from https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB17.

California Legislature. 2018. *AB-2304 Reduced fare transit pass programs: report*. California Legislative Information. Retrieved December 22, 2023 from https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2304.

California Legislature. 2022. *AB-1919 Youth Transit Pass Pilot Program: free youth transit passes*. California Legislative Information. Retrieved June 13, 2023 from https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB1919.

California Legislature. 2023. *AB-610 Student Transit Pass Pilot Program: free student transit passes*. California Legislative Information. Retrieved June 13, 2023 from https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202320240AB610.

Community College League of California. 2021. *Affordability, Food, and Housing Access Taskforce Report: Addressing Affordable Transportation Needs*. Community College League of California. Retrieved October 18, 2023 from https://ccleague.org/sites/default/files/cclc_transportation-report_2021.pdf.

Nichols, A. M., Walker, J., and Shaheen, S. 2023. *Obstacles and Opportunities to Improving Transportation Access to Community College Education: A Review of the Education Access Literature*. TRB Annual Meeting.

Open States. n.d. *AB 2222 Transit Pass Program: free or reduced-fare transit passes*. *Open States*. Retrieved June 13, 2023 from <https://openstates.org/ca/bills/20152016/AB2222>.

Shaheen, S., Cohen, A., and Yelchuru, B. 2017. *Mobility on Demand: Operational Concept Report*. Intelligent Transportation Systems Joint Program Office, U.S. Department of Transportation. Retrieved October 18, 2023 from <https://rosap.ntl.bts.gov/view/dot/34258>.

Appendix A: Stakeholder Interview Protocol

This research is part of the California Resilient and Innovative Mobility Initiative (RIMI), which is focused on leveraging innovative transportation modes to address California transportation needs. For this project we are working with other stakeholders, including other University of California campuses and various California Community Colleges, to understand barriers to transportation that California Community College students may face. You are not required to answer all of the questions, and anything you say will be kept confidential. Do you have any questions before we begin?

Introduction

1. To start off, can you tell us a little bit about your role with the campus?
2. Are there unique transportation needs in your region that you think particularly impact your students?

Transportation Options

1. What transportation options are available to students?
2. What transportation challenges do you think students struggle with the most (e.g., affordability, unreliable public transit schedules)?
3. There is currently proposed legislation (e.g., California Assembly Bill 1919) that advocates for free public transit passes for certain demographic groups (e.g., individuals 18 years old or younger, students at certain educational institutions). Do you think students would use discounted or free public transit passes?
 - a. Would the amount of the discount (e.g., half priced fares, free fares) impact adoption?
 - b. How do you think having discounted or free public transit available to students would impact them?
 - c. Do you anticipate any adoption or use challenges with discounted free public transit passes?
4. Public agencies are also exploring the idea of seamless, open payment options. This is similar to being able to pay for goods and services through credit and debit cards uploaded to a mobile wallet (e.g., Apple Pay). However, work from some agencies (e.g., the California Integrated Travel Project) focuses on making seamless payment more accessible to individuals by facilitating payments through physical cards that can also be used for public transit fares and other goods and services (e.g., groceries). Do you think students would use seamless, open payments?
 - a. What adoption or use opportunities or challenges do you anticipate?
 - b. What outreach methods would you recommend to help with seamless, open payment adoption?

5. Another transportation service that public agencies are exploring is mobility wallets. Mobility wallets are platforms that provide access to various transportation modes (e.g., bikesharing, public transit) to help facilitate multimodal trips. Mobility wallets typically offer integrated fare payment and/or trip planning options. What are your initial thoughts on the idea of a mobility wallet for students?
 - a. Are there any opportunities or challenges you foresee with a mobility wallet?
 - b. What are some effective outreach strategies you would recommend to help with mobility wallet adoption?
 - c. What transportation options or information do you think is critical to have available on a mobility wallet?
6. What services, or service qualities (e.g., on demand options), do you think could help address the transportation challenges students may face?

Secondary Transportation Options Questions

To ask if time allows

1. Are there any partnerships you would like to explore to potentially help improve transportation options?
2. Where can students find information about available transportation options?
3. Do you think there is a certain transportation component that would be particularly beneficial for students to address (e.g., providing transportation information, offering free public transit passes, helping coordinate rides)?
4. How do you think transportation challenges impact students' success at the community college (e.g., difficulties balancing employment opportunities and school, increased financial burdens)?

Final Remarks

1. Is there anything else you would like to share with us?
2. Is there anyone else you recommend we speak with?
3. If we have any follow-up questions, can we reach out to you again?

Appendix B: Small Group Discussion Methodology

The small groups were recruited and facilitated through this multistep process.

1. Participant Recruitment
 - a. Fliers were disseminated on community college campuses by staff members who were previously established as points of contact. At some campuses, physical fliers were posted on the campus, while at others a digital flier was distributed via the school's telecommunication channels. The representative at each campus determined the approach. The flier included a link to a survey (see Appendix D: Small Group Discussion Survey) that collected information about students' general travel characteristics (e.g., vehicle ownership, number of days commuting to campus) and demographics.
 - b. The survey responses were reviewed, and students who represented the diversity of each campus and used various transportation modes were selected to participate. In some cases, the response rate was so low that any respondent who was a verified student and completed the survey was selected to participate.
 - c. The students who were selected were emailed or phoned, depending on their stated preferred communication method, to alert them of their selection.
2. Scheduling
 - a. After a student confirmed their interest in participating, a poll was distributed to gather their availability to optimize scheduling. The students were given about a 2.5-week lead time to provide their availability for a specific week. The message also included a response-by date, usually a week before the week of the focus group.
 - b. Students who did not respond to the availability poll were reminded to do so the day before the due date.
 - c. Based on the responses, the research team selected the day and time of the group discussion.
 - d. All students who responded to the community campus survey were informed of the discussion date and time, unless they had previously indicated that they are no longer interested.
3. Facilitating
 - a. The small group discussions were conducted via Zoom and lasted about 1.5 hours.
 - b. Participants were asked questions about their current and potential transportation options, challenges, and commuting schedules. See Appendix C: Small Group Discussion Protocol.
 - c. After the completion of the discussion, the participants selected which retailer they would like to have their \$50 incentive gift card purchased from. Participants could choose from a range of options (e.g., Amazon, Arco gas, Safeway, Target).
 - d. Gift cards were then purchased and distributed to the participants.

Five small group discussions were conducted with a total of 15 participants.

Appendix C: Small Group Discussion Protocol

This research is part of the California Resilient and Innovative Mobility Initiative (RIMI), which is focused on leveraging innovative transportation modes to address California transportation needs. For this project we are working with other stakeholders, including different University of California campuses and various California Community Colleges, to understand barriers to transportation that California Community College students may face. You are not required to answer all of the questions, and anything you say will be kept confidential. We also ask that everyone in the group keeps the information shared here confidential. Does anyone have any questions before we begin?

Introduction

1. To start off, can you tell us a little bit about yourselves and which accreditation or certification you are pursuing?
2. In a typical week, where do you travel to (e.g., campus, home, work)?
 - a. About how far away do you live?
 - b. About how far away is your job?

Transportation Options

1. Currently, how do you typically travel (e.g., by personal vehicle, public transit)?
2. What public transit options are available to you (e.g., bus, subway)?
 - a. Which public transit options do you use?
 - b. What makes you use these modes more than others? Alternatively, what makes you not use public transit modes?
 - c. What would encourage you to use public transit options?
3. How do you typically pay for public transit (e.g., fares every time you ride, monthly pass)?
 - a. What makes you use this payment option?
 - b. What do you like, or not like, about this payment option?

Transportation Challenges

1. What mode(s) do you typically use to get around (e.g., personal vehicle, carpool, public transit)?
 - a. What do you like about each of these modes?
 - b. What do you not like about each of these modes?
 - c. Are there other modes available to you that you choose not to use?
2. What are some of the biggest transportation challenges you face reaching campus (e.g., high cost, poor public transit service)?

Transportation Strategies

There is currently proposed legislation (e.g., California Assembly Bill 1919) that advocates for free public transit passes for certain demographic groups (e.g., individuals 18 years old or younger, students at certain educational institutions).

1. Would you use discounted or free public transit passes?
2. Would the amount of the discount (e.g., half priced fares, free fares) impact your willingness to try or use the public transit passes?
3. What concerns would you have about using discounted or free public transit options?
4. How do you think having discounted or free public transit would impact your life?

Public agencies are also exploring the idea of seamless, open payment options. This is similar to being able to pay for goods and services through credit and debit cards uploaded to a mobile wallet (e.g., Apple Pay). However, work from some agencies (e.g., the California Integrated Travel Project) focuses on making seamless payment more accessible to individuals by facilitating payments through physical cards that can also be used for public transit fares and other goods and services (e.g., groceries).

1. Would you use seamless, open payments?
2. What would make you want to try and/or use seamless, open payments?
3. What concerns would you have trying or using seamless, open payments?
4. How do you think having seamless, open payments available to you would impact your life?

Another transportation service that public agencies are exploring are mobility wallets. Mobility wallets are platforms that provide access to various transportation modes (e.g., bikesharing, public transit) to help facilitate multimodal trips. Mobility wallets typically offer integrated fare payment and/or trip planning options. What are your initial thoughts on the idea of a mobility wallet?

1. What would encourage you to try and/or use a mobility wallet?
2. Are there any opportunities or challenges you foresee with a mobility wallet?
3. What transportation options or information do you think is critical to have available on a mobility wallet?

To ask if time allows

1. What resources would make reaching campus easier (e.g., free public transit pass, subsidized Lyft rides, facilitated carpools)?
2. How would improved transportation access impact you (e.g., more time to study for classes, less stress, cost savings)?
3. Where do you typically get your transportation information from?
4. What is the most convenient place to get transportation information from?

Commute Schedule

To ask if time allows

1. About how many days a week do you commute to campus?

- a. Do you typically go to and from campus (versus staying on campus for extended periods of time)?
2. How do you typically reach campus?
3. What are some of the biggest decision factors impacting your class schedule (e.g., availability of classes you need for your accreditation, work schedule, family obligations)?
4. If there is an emergency (e.g., family emergency, last minute work scheduling change), how would you get around (e.g., Lyft, call a friend)?

Final Remarks

1. Is there anything else that you would like to share with us?
2. Are there any other research areas you would like us to explore?

Appendix D: Small Group Discussion Survey

We appreciate your time and effort in taking this survey. Your participation in this study is completely voluntary, and you may discontinue taking the survey at any time without penalty. You may choose to skip any questions that you do not want to answer.

Per UC Berkeley requirements, you must be 18 years of age or older to take this survey. By clicking “I agree to take this survey,” you confirm that you are 18 years of age or older and consent to participate in this research.

If you have questions about the survey or the procedures, you may email jcbroader@berkeley.edu.

1. Please provide a name and email address or phone number to contact you at:

Education

1. Are you currently enrolled at a California Community College?
 - a. Yes
 - b. No
2. Which campus are you currently enrolled in classes at?
3. What type of academic program are you enrolled in?
 - a. Associate degree for Transfer
 - b. Associate of Art
 - c. Associate of Science
 - d. Certificate
 - e. Noncredit certificate
 - f. Other, please specify:
4. How many units are you currently enrolled in?
 - a. Less than 4
 - b. 4 to 9
 - c. 10 to 15
 - d. More than 15
5. How many days a week do you commute to campus?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
 - e. 5

Employment

1. What is your current employment status?
 - a. Full time (i.e., 35+ hours per week), single job
 - b. Full time (i.e., 35+ hours per week), multiple jobs
 - c. Part-time (i.e., less than 35 hours per week), single job
 - d. Part-time (i.e., less than 35 hours per week), multiple jobs
 - e. Unemployed - searching
 - f. Unemployed - not searching
 - g. Retired
 - h. Other, please specify: _
2. Are you currently serving, or have you ever served, in the U.S. Armed Forces, Reserve, or National Guard?
 - a. Active Duty
 - b. Reserve
 - c. National Guard
 - d. Veteran, discharged
 - e. Never served

Transportation

1. Do you have access to a personal vehicle?
 - a. Yes
 - b. No
2. Who owns the vehicle?
 - a. Me
 - b. Family member
 - c. Friend
 - d. Other, please specify:
3. What vehicle-based mode(s) do you use to get around? Please select all that apply.
 - a. Carpool
 - b. Public transit - bus
 - c. Public transit - rail
 - d. Public transit - other
 - e. Rideshare (e.g., Lyft)
 - f. Shuttle
 - g. Taxi
 - h. Vehicle - borrowed (e.g., from a friend)
 - i. Vehicle - personally owned
 - j. Vehicle - rented (e.g., carsharing company)
4. What active transportation mode(s) do you use? Please select all that apply.
 - a. Bike - borrowed/rented
 - b. Bike - personally owned

- c. Bikesharing
- d. Scooter - borrowed/rented
- e. Scooter - personally owned
- f. Scooter sharing
- g. Walk

Demographics

Next, we have questions to help us categorize the results of this survey.

1. What gender do you identify as?
 - a. Female
 - b. Male
 - c. Other, please specify:
2. What is your marital status?
 - a. Single
 - b. Married
 - c. Separated
 - d. Divorced
 - e. Widowed
3. What is your age?
 - a. -
4. Do you have any children?
 - a. Yes
 - b. No
5. How old is your oldest child?
 - a. Child 1, age:
 - b. Child 2, age:
 - c. Child 3, age:
 - d. Child 4, age:
 - e. Child 5, age:
6. What is your race/ethnicity? Please select one.
 - a. American Indian/Alaska Native
 - b. Asian
 - c. Black/African-American
 - d. Hispanic or Latino
 - e. Native Hawaiian/Pacific Islander
 - f. White/Caucasian
 - g. Two or more races
 - h. Other, please specify:
7. What was your household's 2021, pre-tax income?
 - a. Under \$15k

- b. \$15k to \$24.9k
 - c. \$25k to \$34.9k
 - d. \$35k to \$49.9k
 - e. \$50k to \$74.9k
 - f. \$75k to \$99.9k
 - g. \$100k to \$149.9k
 - h. \$150k to \$199.9k
 - i. \$200k and above
8. Do you identify as having a disability?
- a. Yes
 - b. No

Final Questions

1. Would you be interested in participating in a focus group (about an hour and a half long) or an interview (about an hour long) on transportation options and challenges? You will be compensated for your time.
 - a. Focus group
 - b. Interview
 - c. No preference - focus group or interview
2. If we need to hold the focus group or interview remotely, do you have access to the internet and a smartphone or laptop?
 - a. Yes
 - b. No

Thank you for your time! We will reach out to you if you have been selected to participate.

