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Understanding Mobility-Related Challenges for AAPI Older Adults: A Preliminary Study in Southern California

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Report 24-45

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16. Abstract Nationwide, the Asian American Pacific Islander (AAPI) community is projected to constitute 11 percent of people 65 years and older in the United States by 2050 (He et al., 2005). The challenges limiting the transportation and mobility of AAPI older adults include, but are not limited to, language barriers, cultural barriers, anti-Asian hate, accessibility to public transit, traffic safety and public security concerns, and changes to mobility due to the COVID-19 pandemic. This project conducted an extensive literature review and a preliminary multi-language survey in Southern California to better understand mobility-related challenges for Asian American and Pacific Islander older adults. The results of this project can provide government agencies and organizations with recommendations for policy and program changes to benefit AAPI older adults and the broader communities.			
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Executive Summary

Older adults, specifically those aged 55 or older, made up 29% of the U.S. population in 2020, increasing from previous decades and marking a growth trend in this particular social group. A growing population entails a need for accommodation and unique opportunities for progress to adapt to a changing demographic and maintain the public's well-being. Access to adequate transportation is crucial to maintaining quality of life and independence for every member of society, and it is especially imperative for older adults to maintain mental, social, and physical welfare. This research focuses on the Southern California region but maintains the potential for application to other urban areas to address shifting demographics.

To provide equity in transportation improvements, it is important also to understand the diverse challenges that different ethnic groups face in conjunction with the barriers that older adults face in securing proper transportation. A generalized AAPI (Asian Americans and Pacific Islanders) label is used for a large and diverse group consisting of East Asians, South Asians, Southeast Asians, and many more ethnicities that, in turn, are split into even more diverse population groups with distinct differences in culture and language and typical socioeconomic status. Each of these factors then plays an active role in each group's needs and experiences with transportation and mobility. This results in a complex network of needs and challenges that first requires understanding each group's barriers and demographic information to unravel and develop an effective transportation solution.

A literature review of these factors uncovered findings about a few of the many issues that older adults and each demographic group face. Examples of these results include the travel behaviors of immigrants and the many factors that generally influence older adults' travel behaviors. Older immigrant adults also had their own individual barriers originating from the economic restraints and language barriers that older adults who immigrate typically face. Several key barriers influencing each group's travel behaviors were also identified, including perceived safety, English proficiency, and cultural elements. These findings were supplemented with a review of existing solutions and support organizations to determine their characteristics and how each can contribute to meeting the transportation needs of older adults. The literature review also revealed gaps in existing research regarding the individual groups that make up the AAPI community, which became the focus of the second segment of the research, a study conducted through a survey intended to capture the travel behaviors of specific ethnic groups.

This survey was meant to capture these travel behaviors and aimed to understand how specific barriers influenced individuals' transportation choices and their relation to their demographic characteristics. Some general findings were that crime, such as the threat of violence or harm, was the most common concern of the survey participants, with 53% citing it as a concern. Other barriers examined were traffic safety, language barriers, and general access to different transportation modes. Each of these barriers influenced individual choices to avoid specific modes.

For example, another result was that walking was avoided as a mode of transportation because of concerns about pedestrian safety, their own physical capabilities, and the danger of potential criminal activity. These findings could then be evaluated through the different lenses of the demographic information gathered in the survey to determine how each of these factors influences the expected travel behavior of an individual, which can then be used to identify potential solutions tailored to the needs of the older adults in a particular community.

Based on the identified needs and challenges, recommendations could then be provided, such as improving the accessibility of foreign-born residents by accommodating the language differences of the communities being served by a route. Additionally, public knowledge about low-cost and accessible transportation services needs to be improved to spread awareness of these existing programs to support individuals unable to drive personal vehicles.

1. Introduction

1.1 Research Background

In 2020, individuals aged 55 or older comprised about 29% of the U.S. population, marking a 4.1% increase compared to a decade prior, and nearly an 8% increase compared to the 2000s (Census Bureau, 2000, 2010, and 2020). The proportion of adults aged 55 and older in the U.S. population has steadily increased over the past two decades. As the population continues to age, it becomes increasingly vital to address the unique challenges and opportunities associated with an aging population. This is crucial to ensure the well-being, accessibility, and efficient transportation options necessary for maintaining the independence, quality of life, and inclusivity of all individuals within society.

Transportation access and mobility play a crucial role in enhancing quality of life and promoting social inclusion among older adults. It allows them to engage in social activities and community events, contributing to their sense of control, competence, and connectedness [1]. Research indicates that addressing transportation barriers can mitigate social isolation and loneliness, thereby reducing the risk of cognitive decline and promoting mental well-being [2-3]. Ensuring older adults have access to safe and reliable transportation options is essential for their overall health and active participation in society [4-5].

Older adults in the United States comprise a diverse group encompassing many different races, such as African American, American Indian and Alaska Native, Hispanic or Latino, and Asian American Pacific Islander (AAPI), among many others. Each of these groups faces its own transportation barriers.

In particular, the demographic composition of the AAPI community in the United States is highly diverse, with roots in various countries across Asia and the Pacific Islands, including East Asian nations like China, Japan, Korea, and Taiwan, South Asian countries such as India, Pakistan, Bangladesh, Nepal, and Sri Lanka, Southeast Asian countries like Vietnam, Cambodia, Laos, Thailand, the Philippines, and Indonesia, and Pacific Islander communities from Hawaii, Samoa, Fiji, Tonga, and Micronesia. These communities are diverse in culture, language, and heritage. Asian Americans and Pacific Islanders (AAPIs) communicate using more than 40 distinct languages and dialects [6]. Based on research, the AAPI population is one of the fastest-growing racial and ethnic groups in the country [6-8], with an Asian alone or combination population of over 24 million and a Native Hawaiian and Other Pacific Islander alone or combination population of 1.6 million in 2020 (U.S. Census Bureau, 2020). This community includes individuals with diverse linguistic, cultural, and socioeconomic backgrounds [13], which can influence their experiences and needs regarding transportation access and mobility.

The challenges that limit transportation and mobility for AAPI older adults include not only those commonly faced by all older adults, such as issues with hearing, eyesight, reaction times, balance, etc., but also specific challenges associated with being immigrants. Blumenberg (2008) mentions some transportation barriers immigrants face, including limited English proficiency, cultural differences, financial constraints, and limited education. Furthermore, AAPI older adults face specific mobility challenges related to their race, such as safety risks associated with anti-Asian hate [10], issues related to transportation [14], changes in transportation and mobility due to COVID-19, and economic disparities among AAPI communities [13], among others.

1.2 Research Problem

Previous studies have shown that immigrant travel patterns vary by race [15-16], underscoring the importance of understanding the mobility challenges encountered by the Asian American and Pacific Islander (AAPI) community, especially older adults. Although some AAPI older adults may have been included in prior research, there remains a lack of studies specifically focused on this demographic group. Therefore, this study aims to fill this gap by providing targeted insights into the specific needs and barriers experienced by older AAPI adults. This focused approach seeks to reveal the unique challenges faced by the AAPI population, thereby contributing to the development of more personalized and effective mobility strategies for this community.

1.3 Research Objective

The primary goal of this study is to explore and gain a comprehensive understanding of the mobility challenges faced by, but not limited to, Asian American and Pacific Islander (AAPI) older adults to provide recommendations for policy and practice.

1.4 Report Structure

The report begins with a background in Chapter 1 that provides context for the study, defines the research problem, and states the objectives. Chapter 2 reviews the existing literature, ranging from general concepts of mobility to the specific challenges faced by AAPI older adults. Chapter 3 delves into accessible and low-cost transportation solutions, communities, and non-profit organizations that significantly support mobility for older adults, particularly within the Asian American and Pacific Islander (AAPI) community. Chapter 4 is structured into two main sections: Methodology and Results. The Methodology section includes detailed information on the survey development. In contrast, the Results section presents the findings, providing demographic analysis, preferences for different transportation modes, awareness levels of low-cost transportation programs, and the degrees of concern regarding various transportation barriers. Additionally, it discusses how these barriers impact the mobility choices of the respondents. Chapter 5 discusses the key findings from the literature review and mobility survey. Chapter 6 offers recommendations based on the literature review and insights from this study. Finally, conclusions can be found in Chapter 7.

2. Literature Review

2.1 Transportation Access, Mobility, and Social Inclusion for Older Adults

Access to transportation is a critical aspect of mobility. It encompasses a range of transportation modes, each with unique implications for different segments of the population, including public transit, carpooling, private vehicles, walking, and cycling. "Mobility, as defined by Webber et al. (2010), is broadly understood as the ability to move oneself (e.g., by walking, by using assistive devices, or by using transportation) within community environments that expand from one's home to the neighborhood, and regions beyond" [17] (p. 433). The availability and accessibility of adequate transportation are crucial for older adults to maintain their independence and remain connected to necessary services, ensuring social inclusion, quality of life, and economic opportunities.

Social inclusion plays a crucial role in preventing social isolation, particularly among older adults, as they are most likely to rely on others to travel to meet their activities, which limits their social interactions and connections. "Transport mobility enables people to engage in certain experiences such as employment, social and leisure activities, shopping, and public and health services. Access and participation in such activities can lead to psychological well-being in the form of feeling in control and autonomous, competent, and connected with others and the community at large" [1]. Social engagement is crucial for older adults' overall well-being and quality of life. Those who experience a decline in social involvement from middle age to later stages of life are at the greatest risk of developing dementia [2]. Social isolation and loneliness are associated with poorer health and a higher risk of early death [3]. These conditions present unique challenges for older adults due to significant life changes commonly experienced, such as retirement, loss of a spouse or other social connections, and changes in health and abilities [18]. There is "a significant association between increased mobility (trip making/activities undertaken) and reduced risk of social exclusion" [1].

The availability and accessibility of adequate transportation also play crucial roles in contributing to the quality of life for older adults. The understanding of the quality of life for older adults can, in part, be defined by their ability to access community services and amenities, feel safe in their neighborhood, and participate in social engagements [4]. Moreover, Spinney et al., 2009 established a strong association between transport mobility benefits (psychological, exercise, and community) and overall quality of life.

On the other hand, economic opportunities are also crucial factors to consider. The results of the study "Immigrants and transport barriers to employment: The case of Southeast Asian welfare recipients in California" by Blumenberg, 2018 show that unrestricted access to vehicles is a strong and statistically significant indicator of employment across all racial and ethnic demographics (Blumenberg, 2018).

Basically, having adequate transportation means people can do different things that make them feel good and connected to others [18]. It is important to ensure that older people have access to diverse transportation options so that they can access essential services, maintain social connections, and participate fully in community life.

2.2 Immigration's Impact on Transportation Infrastructure and Travel Behavior

According to the American Community Survey (ACS) 5-year estimates, over 45 million immigrants live in the United States, comprising over 13% of the nation's population (according to American Community Survey (ACS) 5-year estimates, over 45 million immigrants live in the United States, comprising over 13% of the nation's population). The 2021 Lawful Permanent Residents Annual Flow Report, authored by the Office of Immigration Statistics (OIS) in the Department of Homeland Security (DHS), informed that nearly 740 thousand foreign-born individuals became legal permanent residents of the United States in that year. The Migration Policy Institute (MPI) estimated 11.2 million unauthorized immigrants in the United States in 2021.

Immigration has considerably influenced and will persist in impacting transportation infrastructure by increasing travel across all modes and changing the demographics of transit riders to include a higher proportion of foreign-born individuals who are more inclined to use alternative travel options like public transit, carpooling, bicycling, and walking than native-born adults [21]. Despite immigrants recently being significantly more inclined to utilize public transportation than native-born individuals, the overall usage of public transit remains comparatively low, and their reliance on transit tends to decrease over time (Blumenberg & Evans, 2010). According to the report "Commuting by Public Transportation in the United States: 2019" by Burrows, Burd, and McKenzie (2021) [41], only 5% of workers use public transportation to commute to work, while 84% get to work driving alone or carpooling. This fact is also noted by Blumenberg & Smart, 2010, who states that "[w]hile immigrants are far more likely than native-born Americans to use transit, they, like native-born Americans, are still more likely to travel by carpool than by public transportation—roughly twelve times as likely."

Research indicates that immigrants' use of public transportation has decreased over time in the United States [21]. As time progresses in the U.S., immigrant groups tend to assimilate into the automobile culture prevalent in American society. [15, 21, 24, 25]. Immigrants tend to adapt to the driving behaviors typical in the U.S. after approximately five years [21, 24]. On the other hand, established Asian immigrants (those who had lived in the U.S. for more than four years) assimilated into the automobile culture, exhibiting travel patterns similar to native-born Asian Americans [15]. However, it is important to note that not all racial/ethnic groups assimilate into this lifestyle in the same way or at the same pace.

2.3 Mobility Challenges of Older Adults

Older adults, defined as individuals aged 55 or older, make up about 30% of the U.S. population, according to the Census Bureau in 2022. This demographic is experiencing a phase in life characterized by varying lengths and individual experiences. Key programs and policies are focused on promoting and maintaining health, independence, and mobility among these aging individuals. As people age, they commonly experience changes in sensory and physical abilities, such as alterations in hearing and eyesight, use medical equipment and mobility aids, and have a caregiver [14]. Mobility—generally understood as the ability to move through the day, getting to the places and things needed, regardless of transportation mode—is typically dependent on the transportation options available, including walking, public transportation, various motor vehicles, and cycling.

One of the goals of ensuring an older adult continues to have transportation options and mobility is to maintain their ability to navigate within their community for daily needs. Many factors, such as chronic conditions, mobility limitations, availability of caregivers, accessibility, walkability, transportation options, ability to afford transportation or mobility aids, and use of devices or services that facilitate mobility, affect an older adult's life-space mobility [9]. They plays a critical role in determining how much older adults can maintain independence and mobility in their daily lives. A few life-space mobility studies go beyond the typical assessment of an older adult's physical ability to determine how the built environment affects mobility [27], and even suggest transportation policies for older adults.

2.4 Mobility Challenges for Older Immigrant Adults

Older adult immigrants represent a diverse demographic group with distinct mobility needs and challenges. As individuals who have migrated to a new country later in life, older adult immigrants bring with them diverse experiences, cultural backgrounds, and personal histories. However, this transition to a new environment can also present significant challenges, particularly in terms of accessing transportation services. Navigating unfamiliar transportation systems and understanding signs, instructions, and policies in a new language represent obstacles for older adult immigrants [26]. Many older people who immigrated late in life immigrated alongside their adult children and took care of their grandchildren without receiving monetary compensation for this work [27]. This situation contributes to the economic constraints that limit their ability to afford private or public transportation options or access specialized services tailored to their needs.

Many characteristics of transportation services contribute to mobility challenges, influencing immigrants' travel patterns and mobility [28]. Immigrants' travel patterns are influenced by many factors or barriers, in addition to the mobility challenges faced by all older adults. These include limited English proficiency, cultural differences, financial constraints [29], immigration status [15], lack of familiarity with transportation systems, and limited access to information and resources [9].

2.5 Mobility Challenges for Asian American and Pacific Islander (AAPI) Community

The Asian American and Pacific Islander (AAPI) community stands as one of the most rapidly expanding demographics within the United States [6-7]. Figure 1 illustrates that, over nearly two decades, from 2000 to 2019, the Asian population experienced an impressive 81% surge, marking a significant demographic shift. This growth trajectory, outpacing even the Hispanic and Native Hawaiian Pacific Islander populations with increases of 70% and 61%, respectively, during the same period, underscores the increasing cultural and societal influence wielded by the AAPI community across the nation.

The recent AAPI immigration accounts for a significant portion of the state's labor force recruitment, particularly targeting high-skilled individuals [13].

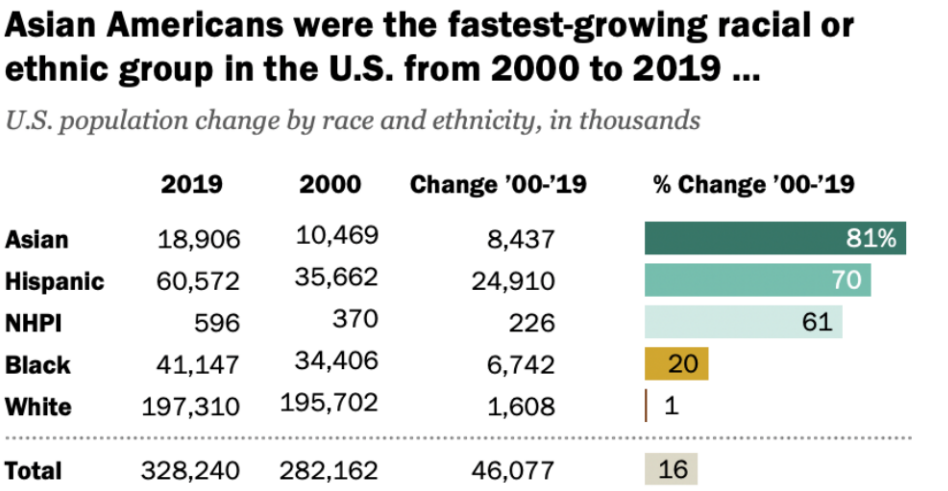

Figure 1. Asian Americans were the Fastest-Growing Racial or Ethnic Group in the U.S. from 2000 to 2019. (Budiman & Ruiz, 2021)

Nationwide, in 2012, AAPI individuals aged 55 years and older constituted about 21% of the total AAPI population, and by 2060, this demographic is expected to comprise approximately 33% of the total AAPI population [6]. The challenges limiting AAPI older adults' transportation and mobility include those mobility challenges faced by all older adults, such as physical disabilities and vision loss, as well as additional challenges specific to their immigrant conditions. These challenges encompass limited English proficiency, cultural differences, lack of familiarity with transportation systems, immigration status, limited access to information and resources, and financial constraints. Moreover, AAPI older adults face specific mobility challenges related to their race, including safety risks related to anti-Asian hate, changes in mobility due to the COVID-19 pandemic, economic disparities, and isolation and segregation resulting from their living areas.

2.5.1 English Proficiency

Language proficiency plays a crucial role in an individual's ability to navigate transportation systems, communicate with transit staff, and access information about available services. Language barriers may make it harder for travelers to understand the transit system, which can increase their uncertainty and fear and make them less likely to use public transportation [29]. AAPI communities with limited English proficiency may encounter difficulties in understanding transportation signage, announcements, and instructions, leading to feelings of confusion and frustration, especially among older adults.

Two terms are used to describe specific groups within the population who may face challenges related to language barriers: Limited English Proficient (LEP) population and Linguistically Isolated Households.

Limited English Proficient (LEP) Population: The U.S. Census Bureau defines the Limited English Proficient (LEP) population as individuals aged five years and older who report speaking English less than "very well." This category includes individuals who speak another language at home and have difficulty communicating in English.

Linguistically Isolated Households: Linguistically isolated households are defined by the U.S. Census Bureau as households where no member aged 14 years and older speaks only English or speaks English "very well." This indicates a lack of English proficiency among household members and potential challenges in communication within the household and with English-speaking individuals or institutions outside the household.

Based on recent data, 45% of AAPI Californians who speak Asian and Pacific Island languages at home have limited English proficiency, meaning they speak English less than "very well" (U.S. Census Bureau, ACS 1-Year Estimates, California, 2022). Limited English proficiency can pose a significant challenge for immigrant populations when using payment systems and navigating different transportation modes [9].

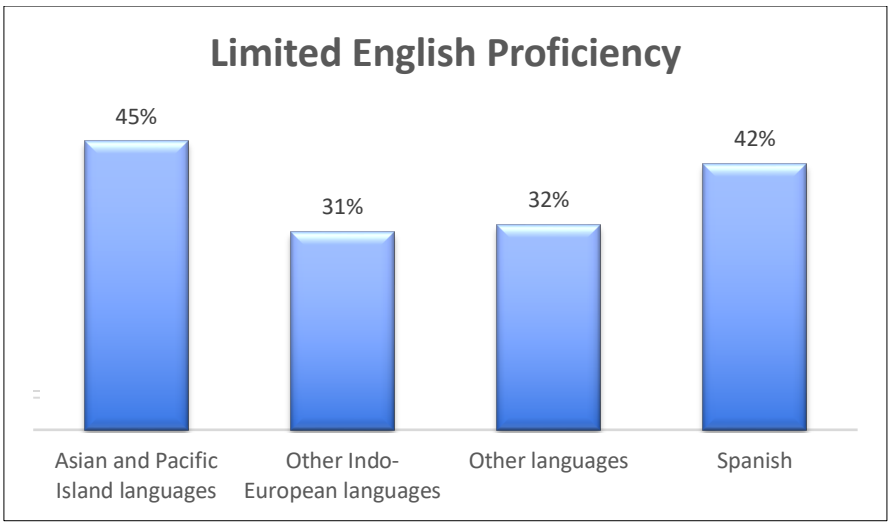

Figure 2. English Speak Less than Very Well by Race/Ethnicity.

Asian, multi-racial Asian, and Hispanic populations have the highest levels of limited English proficiency, with 33% of single-racial Asians, 30% of single and multi-racial Asians, and 29% of Hispanics [8]. Although the percentages vary by about 10 points compared to the ACS 1-Year Estimates, California, 2022, the results remain consistent with the fact that AAPI individuals have the highest levels of limited English proficiency among different racial/ethnic groups.

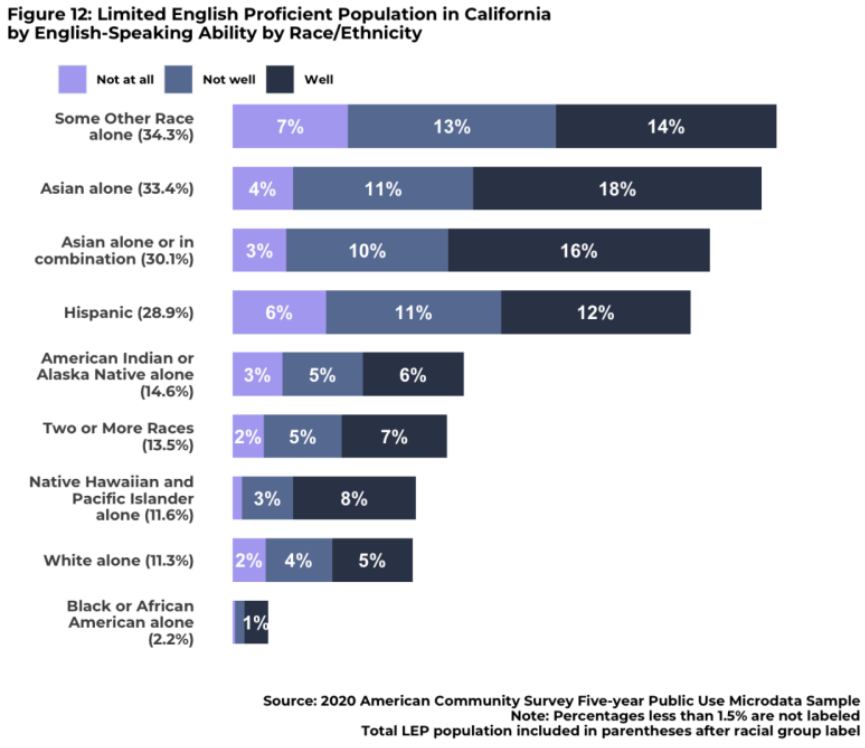

Figure 3. English Proficiency Levels by Race/Ethnicity in California. [8]

In terms of Linguistically Isolated Households, Asians and multi-racial Asians also have the highest levels of linguistic isolation [8].

Various studies indicate that the Native Hawaiian/Pacific Islander population generally exhibits lower levels of limited English proficiency (LEP) [6,8,13]. However, there is less consensus regarding which population has the highest level of LEP, but there is a common understanding that the Vietnamese population is among those communities with the highest level of LEP [6,8,13].

Figure 4 shows that Asian American adults living in California aged 65 or older have a limited English proficiency rate of about 70% (U.S. Census Bureau, ACS 1-Year Estimates, California, 2022). Once again, AAPI communities are the most affected by limited English proficiency. However, this level of limited English proficiency is even more concerning because older adults aged 65 or older are more prone to exacerbating problems such as social isolation and increasing the risk of health issues, dementia, and even mortality, as mentioned in the previous section "Transportation Access, Mobility, and Social Inclusion for Older Adults."

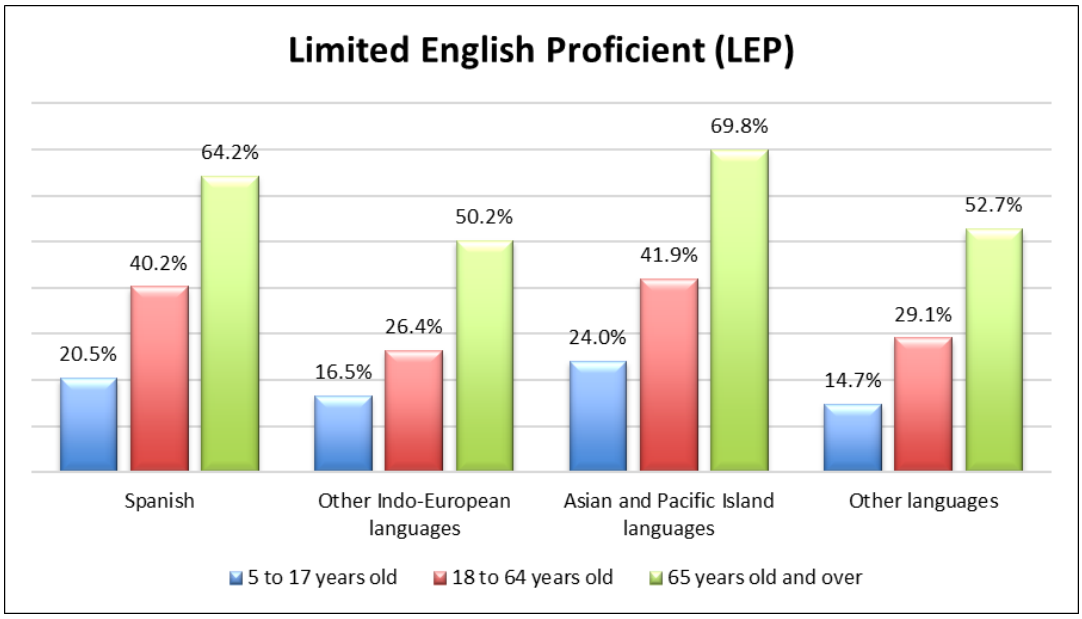

Figure 4. English Speak Less than Very Well by Race/Ethnicity.

2.5.2 Safety Risk Related to Anti-Asian Hate

Anti-Asian hate refers to instances of discrimination, violence, and bias aimed at individuals of Asian heritage due solely to their race or ethnicity. These actions can take on different shapes, ranging from verbal harassment and subtle forms of discrimination to physical attacks and hate crimes.

In recent years, discrimination and hate against the AAPI community have experienced a significant increase in the United States (Yellow Horse et al., 2022; U.S. Department of Justice Community Relations Service, 2023). California has the highest number of hate incident reports at 38.1%, followed by New York at 15.7% and Washington at 4.8%. The ethnic breakdown of those reporting hate incidents reveals that Chinese individuals account for 42.8%, followed by Korean individuals at 16.1% and Filipinix individuals at 8.9% [10, 30]. The AAPI community confronts racial prejudice, such as harassment on public transportation and verbal and physical attacks, especially since the beginning of the COVID-19 pandemic. In response, the White House has highlighted the crucial need to make the anti-AAPI plan a top priority [30].

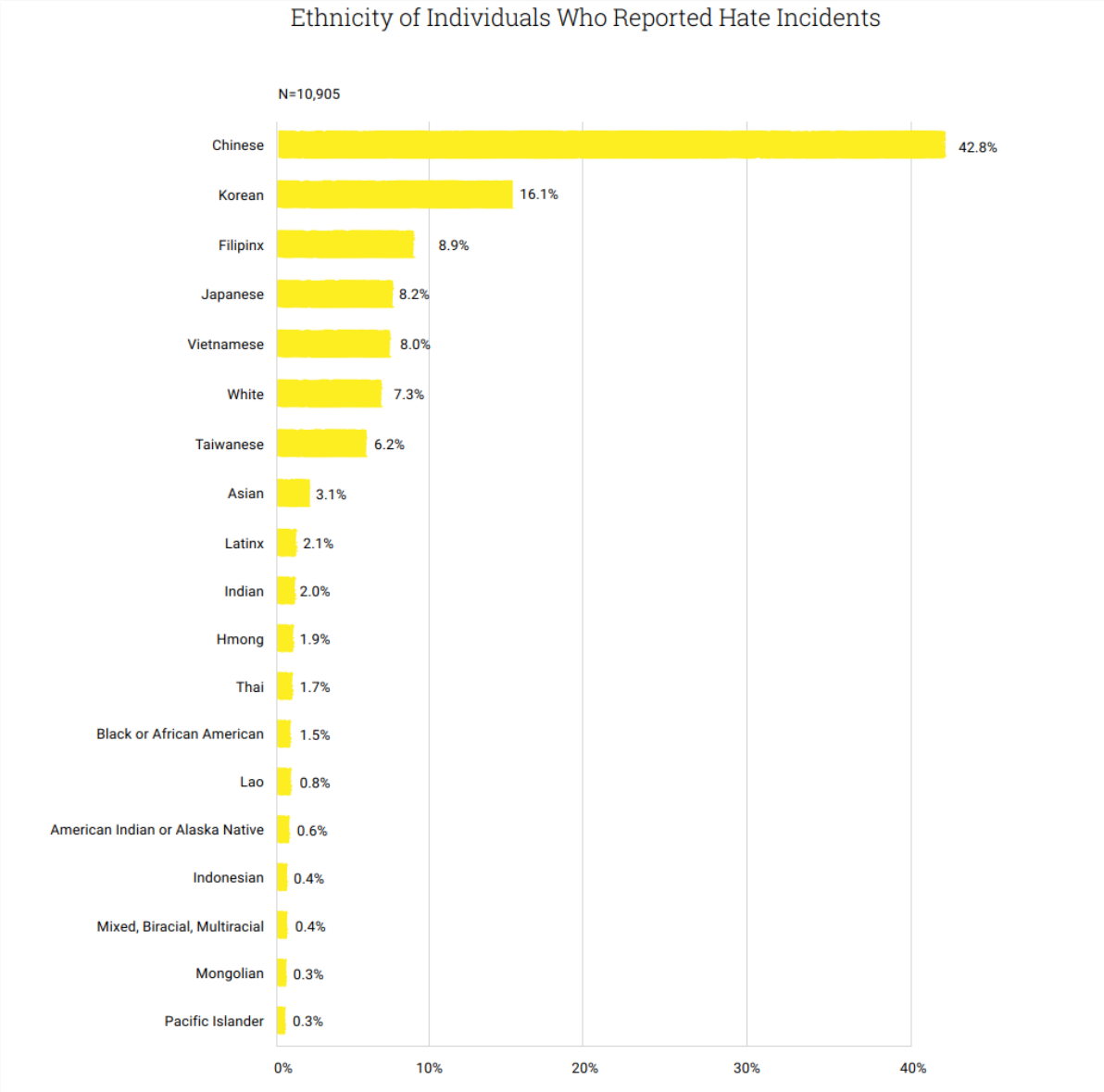

Figure 5. Ethnicity of Individuals Who Reported Hate Incidents. [10]

The Stop AAPI Hate National Report reveals a disturbing trend of 10,905 total hate incidents reported against the AAPI community between March 2020 and December 2021. Among these incidents, harassment (verbal hate speech, stalking, gesture, sexual harassment) emerges as the most prevalent form of discrimination, comprising 66.9% of reported cases, followed by physical attacks at 16.2%, and intentional avoidance of Asian Americans and Pacific Islanders at 16.1%. These discriminatory acts have occurred predominantly in public spaces, with 32.4% on public streets, 8.4% on public transit, and 8% in public parks. The prevalence of hate incidents in public spaces, including public streets and transit, underscores the significant barriers that AAPI individuals face in accessing public transportation safely. With 8.4% of reported incidents occurring on public transit, it's evident that AAPI individuals may experience discrimination and harassment while utilizing these essential services. Such experiences can create fear and discomfort, deterring individuals from using public transit and limiting their mobility options.

Twenty-four percent of the total hate incidents involve individuals aged 46 or older, highlighting the vulnerability of older members within the AAPI community to such targeted acts of hate.

2.5.3 Transportation Safety-Related Issues

Transportation safety-related issues, especially for older adults, remain a high priority among transportation professionals, so much so that the 2012 federal surface transportation bill included a Special Rule for older drivers and pedestrians, which remains in effect [31].

Based on a study conducted by the Governors Highway Safety Association in 2021, the average number of traffic fatalities per 100,000 population between 2015 and 2019, when broken down by race and ethnicity, indicates that Asian individuals had the lowest rates in 9 of 10 traffic fatality categories. These categories encompass total, total daytime, nighttime, speeding-related, police pursuit-involved, pedestrian, pedestrian hit-and-run, bicyclist, and motorcycle driver and passenger deaths. Nighttime bicyclist traffic deaths are the sole category where the lowest rate is recorded for Native Hawaiian/Other Pacific Islanders.

Race/Ethnic	Total Traffic Deaths	Total Daytime Traffic Deaths	Nighttime Traffic Death	Speeding-Related Traffic Deaths	Traffic Death involving Police Pursuit	Pedestrian Traffic Deaths	Pedestrian Hit & Run Traffic Deaths	Bicyclist Traffic Deaths	Nighttime Bicyclist Traffic Deaths	Motorcycle Driver and Passenger Deaths
American Indian/Alaska Nativea Native	145.6	58.5	75.6	42.8	2.2	30.7	7.6	2.1	1.1	8.1
White	55.2	29.3	23.3	13.9	0.4	7.2	1.2	1.2	0.5	9.1
Total Population	58.1	27.6	27.7	15.5	0.6	9.6	2.0	1.3	0.6	8.2
Black	68.5	25.2	40.4	20.1	1.6	15.0	4.0	1.5	0.9	7.0
Native Hawaiian/Other Pacific Islander	51.1	21.3	28.0	23.3	1.0	7.4	1.8	0.4	0.2	9.5
Hispanic	46.9	17.3	27.2	13.8	0.6	9.8	2.3	1.2	0.7	5.1
Asian	15.3	7.4	7.1	3.8	0.1	4.6	0.7	0.6	0.2	1.3

Figure 6. Traffic Fatalities by Race and Ethnicity.

According to Naumann and Beck (2013) [32], from 2001 to 2010, the traffic-related pedestrian death rates per 100,000 population for AAPI males and females were 1.96 and 1.46, respectively. However, for AAPI males aged 75-84 and those older than 85, the traffic-related pedestrian death rates per 100,000 population were 12.3 and 20.53, respectively. Similarly, the death rate for AAPI females aged 75-84 and those older than 85 was 8.82 and 6.87, respectively. Both rates are much higher than the overall AAPI population, evidencing that older adults are much more vulnerable.

2.5.4 Transportation and Mobility Changes Due to COVID-19

The COVID-19 pandemic has significantly reshaped transportation and mobility worldwide. With a substantial portion of the population transitioning to remote work, there has been a noticeable shift in work and commuting patterns among AAPI (Asian American and Pacific Islander) workers. According to a Puget Sound Regional Council report, the proportion of AAPI teleworkers increased from less than 5% in 2019 to 38% in 2021. This prompted a notable shift in commuting behavior among AAPI workers who continued to work outside the home. AAPI commuters saw a substantial increase in driving, with the drive commute mode share (as shown in Figure 7) rising from 77% to nearly 86%. In contrast, transit use (illustrated in Figure 8) declined by nearly 50%, dropping from 15% to less than 7%. These changes in commute modes were more pronounced among AAPI workers than in other racial and ethnic groups [42].

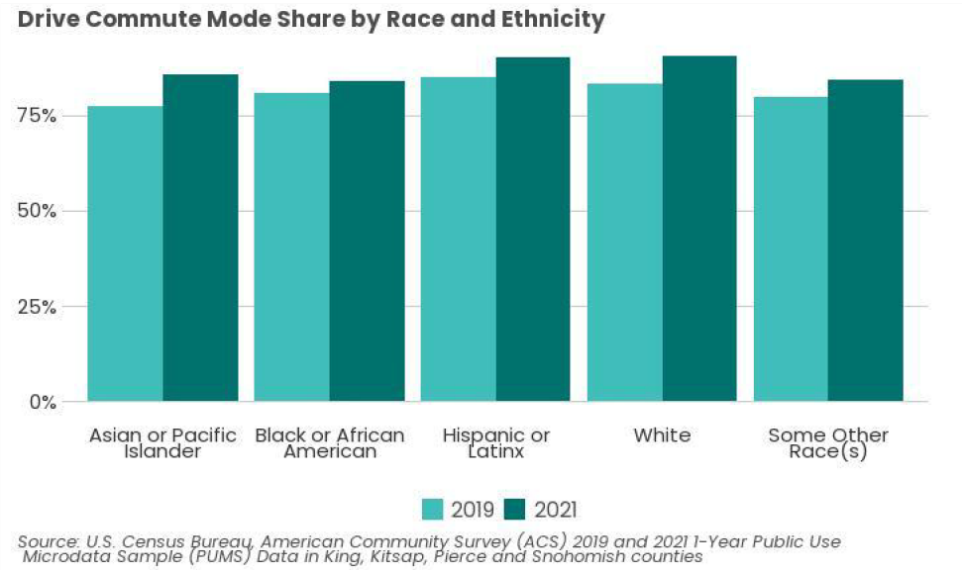

Figure 7. Drive Commute Mode Share by Race and Ethnicity. [42]

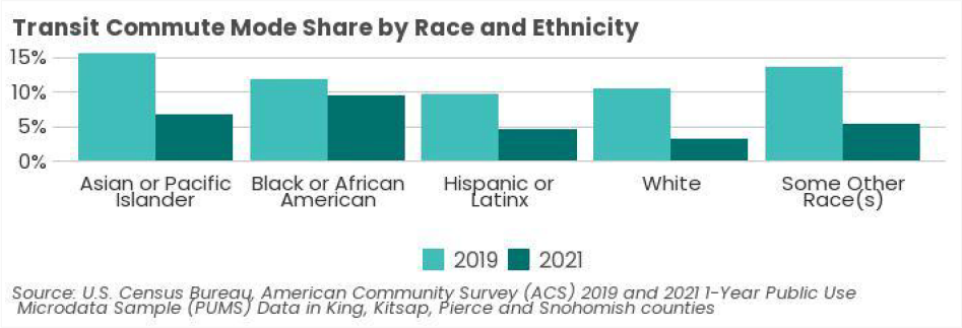

Figure 8. Transit Commute Mode Share by Race and Ethnicity. [42]

Transportation and mobility changes due to COVID-19 have been significant, impacting global trends profoundly. Lockdowns, travel restrictions, and social distancing measures have reshaped how people navigate their surroundings, affecting various transportation modes. Research indicates a substantial decrease in public transportation use, particularly among younger adults with disabilities and elderly individuals [14].

Figure 9 illustrates how the pandemic has altered transportation preferences among older adults. The data show a decline in the use of common transportation modes by this group since the onset of COVID-19, with public transportation experiencing the most significant impact—likely due to concerns about crowded environments—falling by 50% from 38% to 19%. Additionally, the data reveal that the most common way that older adults get around is walking, with 73% before COVID-19 and 63% since the pandemic began.

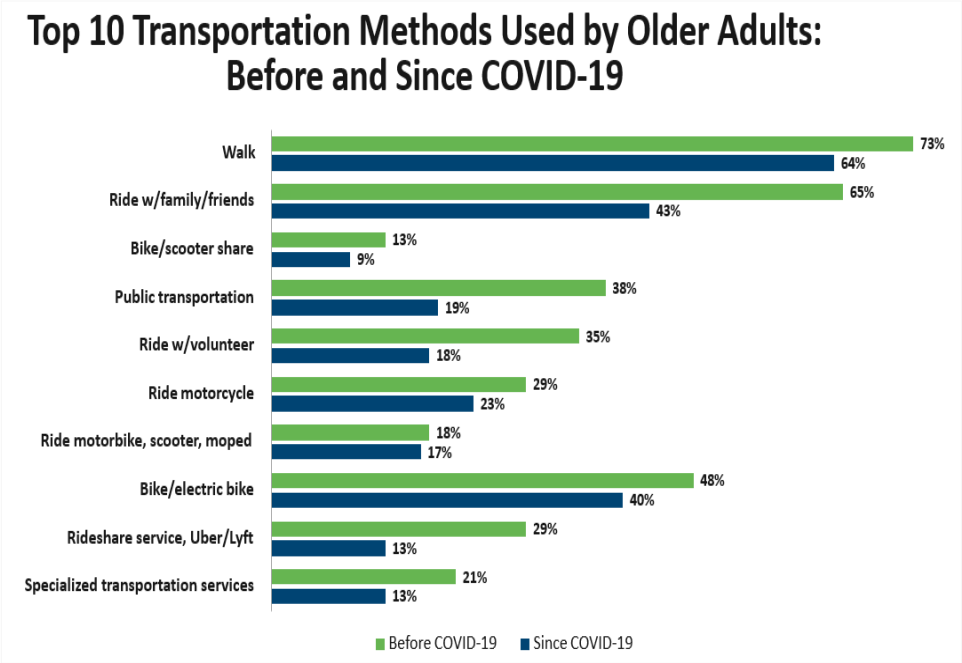

Figure 9. Ways of Transportation Utilized by Elderly Individuals: Pre and Post Covid-19. [14]

The previous figure shows that the top 5 transportation methods used by older adults since COVID-19 are walking, riding with family/friends, bike/electric bike, riding a motorcycle, and public transportation. Figure 10 presents the most common transportation modes used by older adults since the COVID-19 pandemic, breaking them down by ethnic groups and showing who is using each transportation mode. The most commonly used modes of transportation among AAPI older adults are walking (68%), riding with family or friends (43%), biking or using an electric bike (37%), and relying on public transportation (20%).

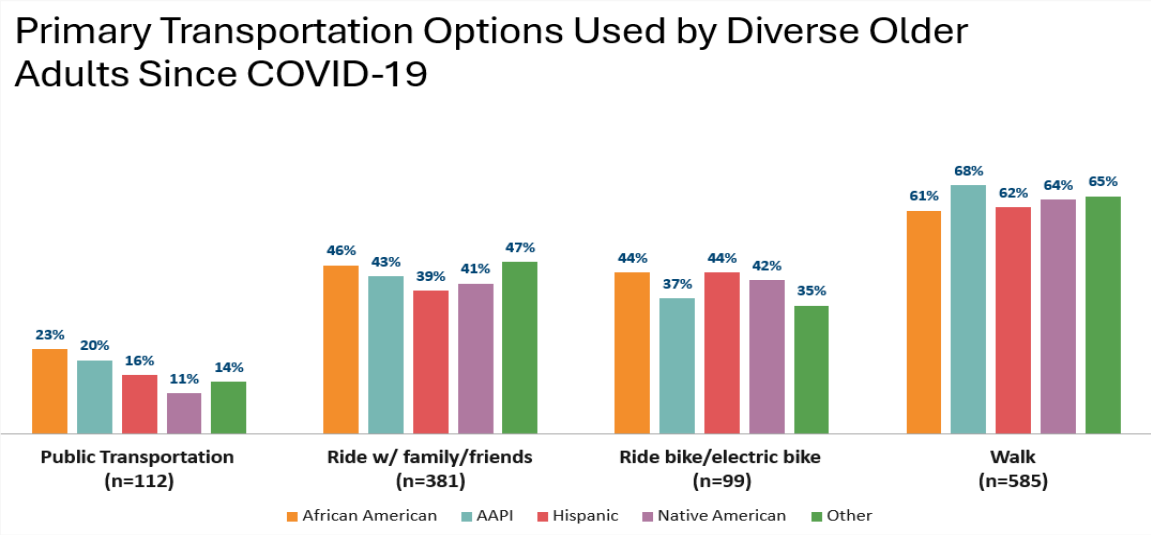

Figure 10. Primary Transportation Options Used by Diverse Older Adults since COVID-19. [14]

2.5.5 Economic Disparities Among AAPI Communities

This section will cover the model minority myth, specifically deconstructing the myth that AAPI individuals are universally successful, highly educated, and economically affluent. This myth suggests that AAPI individuals achieve higher success levels than other racial or ethnic groups. While on the surface, this stereotype may seem positive, it can be harmful as it oversimplifies the diverse experiences and challenges within the AAPI community. This model minority myth overlooks the diversity and complexity within Asian American and Pacific Islander (AAPI) communities.

Asian American and Pacific Islander (AAPI) communities in the United States are often described as an immigrant group of high achievers. According to the report "The Rise of Asian Americans," Asian Americans lead in income, education, and population growth among all racial groups in the United States [33]. However, these averages create a stereotype that is not entirely true for the whole AAPI community. While some AAPI subgroups have indeed achieved notable success in various fields, it is imperative to recognize that not all members of these communities share in this prosperity. Another report, "The Working Lives and Struggles of Asian Americans and Pacific

Islanders in California," reveals significant disparities among AAPI groups in terms of Californian AAPIs who are working and struggling with poverty and those who are not. Of course, these disparities are due to educational levels, migration status, English proficiency, and so on [13].

By understanding these disparities, engineers can better inform policies and initiatives aimed at addressing inequities and promoting economic opportunity for all members of AAPI communities.

Asian Americans typically have high incomes and strong educational backgrounds. More than six in ten (61%) adults aged 25 to 64 who migrated from Asia in recent years hold at least a bachelor's degree, twice the proportion among recent non-Asian immigrants [34]. However, this percentage drops to 49% when considering the Asian population living in the U.S., not just recent Asian immigrants. However, it still surpasses the U.S. population (28%) and other races such as White, Black, and Hispanic. This report also highlights that Asian Americans outperform other racial/ethnic groups in terms of income.

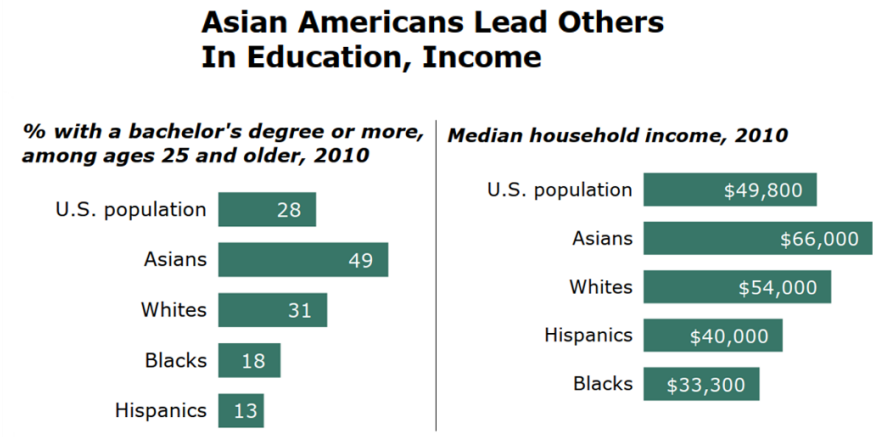

Figure 11. Percentage of Bachelor's Degree Attainment and Median Household Income by Race, 2010. [34]

On the other hand, a significant segment of AAPI Californians possesses high levels of education, with nearly half (46%) having attained a college or postgraduate degree, compared to only three in ten Californians (30%) with similar educational achievements (Ramakrishnan et al., 2019). The percentage of Californians holding bachelor's degrees is closer to the national average (30% versus 28%), while the percentage of Californian AAPI individuals holding bachelor's degrees is close to the national Asian average (46% versus 49%).

However, as mentioned above, these averages create a stereotype that is not entirely true for the whole AAPI community, as they hide significant disparities among AAPI groups, which can exceed more than 50 percentage points.

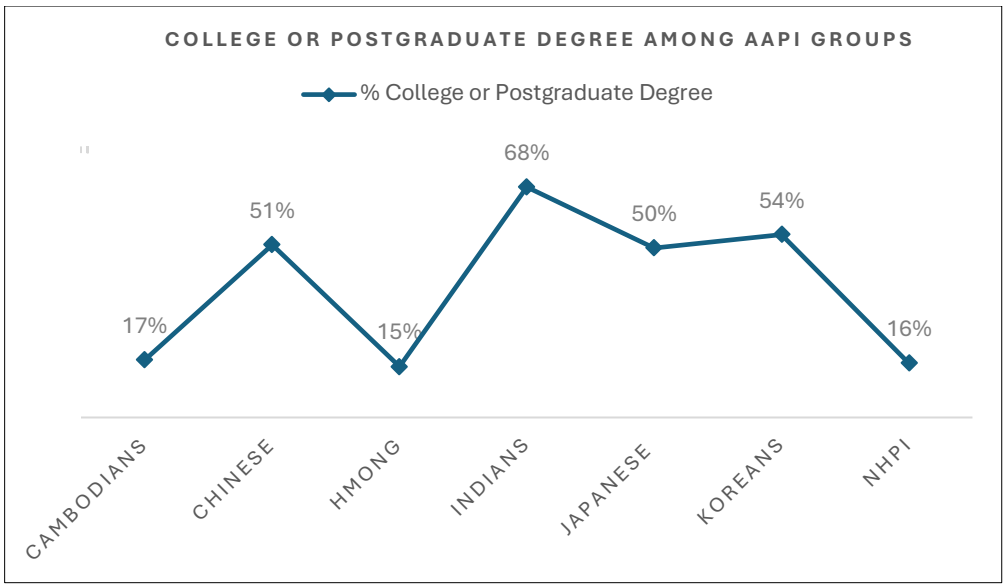

Figure 12. College or Postgraduate Degree Among AAPI Groups in California.

The chart illustrates significant disparities in educational attainment among different Asian American and Pacific Islander (AAPI) groups. It is interesting to note that the percentage of individuals holding a college or postgraduate degree varies widely. Indians lead with 68% of their population attaining this level of education, which is more than four times higher than that of the Hmong, Native Hawaiian or Other Pacific Islander (NHPI), and Cambodian groups, at 15%, 16%, and 17% respectively. This indicates a considerable variation in educational outcomes within the AAPI communities. Such disparities suggest that the AAPI demographic is highly diverse and cannot be viewed as a monolithic group [13].

Figure 11 highlights that the Asian population boasts the highest income levels compared to other racial groups, even surpassing the average income levels of the entire U.S. population. However, just as with education, income levels within the AAPI community conceal notable disparities. Kochhar and Cilluffo (2018) emphasize that these income gaps are particularly pronounced within the Asian demographic compared to other ethnic groups. This underscores the complexity and diversity within the AAPI community.

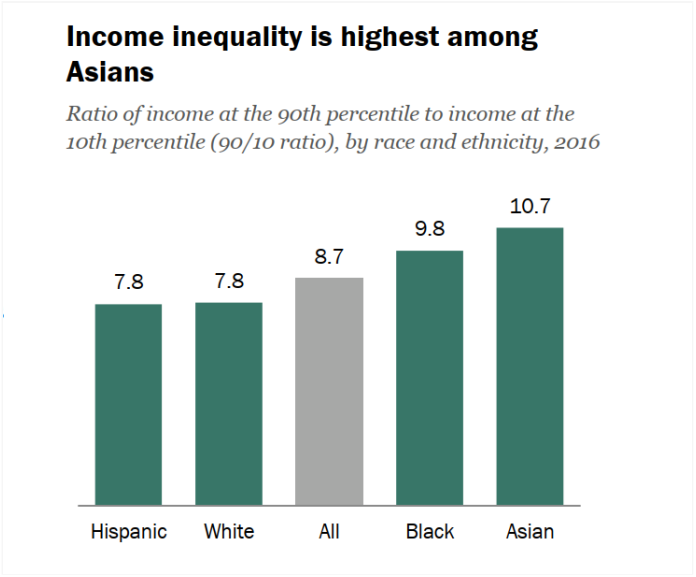

Figure 13. Income Inequality. [34]

On average, Asians earn the highest incomes among all racial and ethnic groups in the U.S. [33-35]. However, a significant and growing gap exists between affluent and lower-income Asians. For instance, in 2016, the wealthiest Asians made around $133,529, while the least wealthy made only about $12,478. This results in a considerable disparity, as indicated by the 90/10 income ratio, which stood at 10.7 for Asians in 2016 [34]. Moreover, significant disparities in wages and education are illustrated in the chart derived from the article titled "6 Charts That Dismantle The Trope Of Asian Americans As A Model Minority" [35].

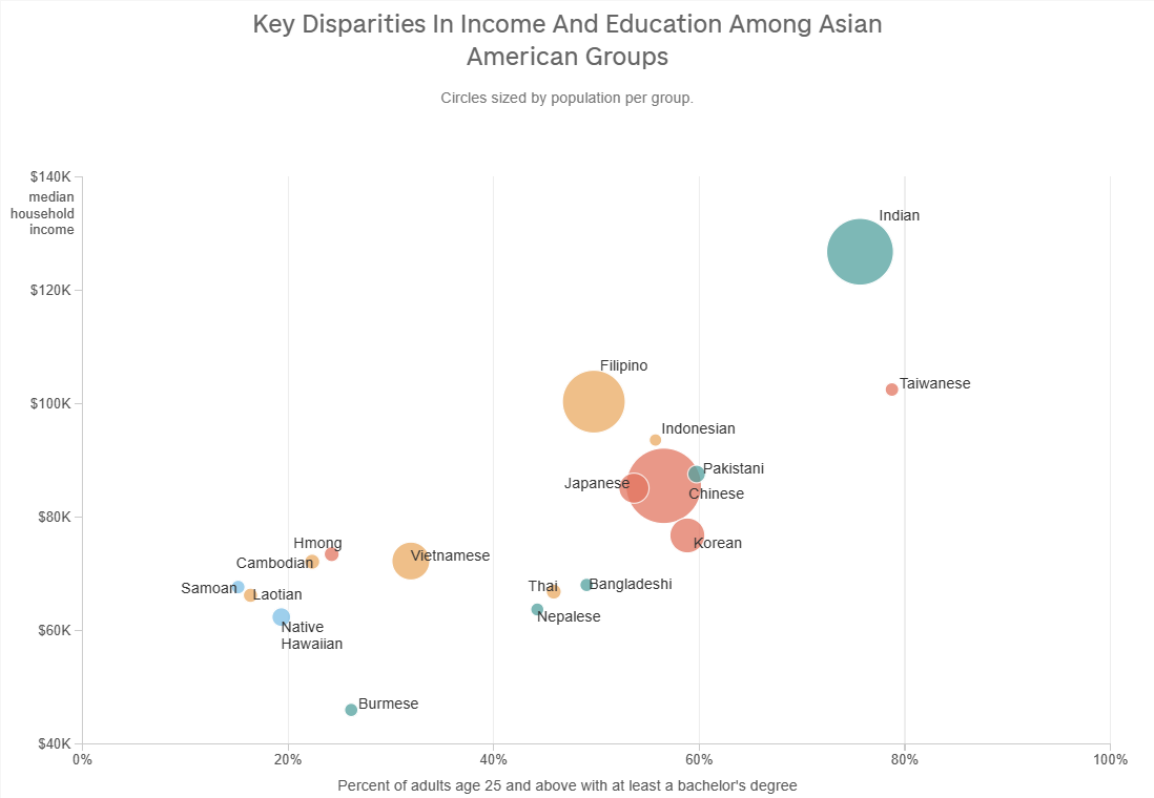

Figure 14. Key Disparities in Income and Education Among Asian American Groups. Adapted from "6 Charts That Dismantle the Trope of Asian Americans as a Model Minority," by C.H. Jin, 2021. [35]

The chart presents a comparison among various Asian American groups based on two parameters: median household income (on the vertical axis) and the percentage of adults aged 25 and above with at least a bachelor's degree (on the horizontal axis). The size of the circles represents the population size of each group.

From this chart, it can be concluded that there's a positive correlation between educational attainment and median household income among these groups. Groups with a higher percentage of bachelor's degree holders, like Indians and Taiwanese, tend to have a higher median household income, while those with a lower percentage, like the Burmese and Native Hawaiians, tend to have a lower median household income. The Chinese group stands out with the largest circle, indicating a large population size, high educational attainment (close to 60%), and median household income (above $80K). In contrast, groups like Burmese, Native Hawaiian, and Samoan have smaller population sizes, lower median household incomes, and a lower percentage of bachelor's degree holders.

2.5.6 Lack of Familiarity with Transportation Systems and Limited Access to Information and Resources

AAPI communities exhibit a lower level of public transportation usage, accounting for only 7% of total riders, according to LA Metro in 2022. This could be attributed to various factors such as English proficiency, experiencing or fearing Anti-Asian hatecrimes, and economic constraints. However, through this literature review, some pertinent insights emerged from a study focusing on the travel behavior of older Vietnamese immigrants. The study highlighted that most participants disagreed or strongly disagreed regarding their familiarity with using public transportation in their locality. Furthermore, the surveyed older Vietnamese adults indicated their disagreement or strong disagreement with their knowledge about how to use Dial-a-Ride services, including the rules and regulations, and how to obtain information about such services, with percentages of 72%, 76%, and 61%, respectively.

On the other hand, many elderly immigrants depend on friends and neighbors for rides, especially when family members are unavailable [29]. Furthermore, more than 53% of older adults get a ride with someone else [10]. However, family members, friends, neighbors, or caregivers are not always available to give a ride, limiting the independence and autonomy of older adults. On average, sixty-six percent of older adults who do not have transportation regularly say that they are unable to reach the locations they need to visit. The issue is particularly prevalent among Native Americans, with 80% facing this challenge, followed by Asian American Pacific Islanders (AAPI) at 70% (National Aging and Disability Transportation Center and V&L Research and Consulting, 2021). Older adults need transportation to primary destinations like medical appointments, supermarkets, visiting friends, etc. [9,13].

In recognition of this issue—namely, the limited awareness of low-cost transportation options, for example, Dial-a-Ride services, Access Paratransit, etc., and the significant portion of older adults requiring transportation to medical appointments, supermarkets, and other essential destinations—it becomes evident that targeted efforts are needed to bridge these informational gaps and empower older adults in particular AAPI communities to access essential destinations independently. Therefore, this report wants to contribute by allocating a subsection dedicated to encompassing condensed and pertinent insights gathered from diverse transportation services, including Dial-a-Ride, Access Paratransit, Medi-Cal Transportation, the Low-Income Fare is Easy (LIFE) program, the Reduced Fare TAP card, CityRide, and the Volunteer Driver Mileage Reimbursement (VDMR) program operating across LA County.

3. Accessible Transportation Solutions and Community Support

3.1 Low-Cost Transportation Options

This section on Low-Cost Transportation Options is tailored to assist older adults, especially within the AAPI communities, in navigating transportation choices that promote independence and accessibility. As people age, accessing essential services such as medical appointments, grocery shopping, running errands, and visiting friends can become challenging. This section focuses on programs that collectively address the transportation needs of vulnerable populations, such as seniors, individuals with disabilities, and low-income individuals, who may face challenges accessing essential services and appointments due to mobility limitations or financial constraints. By providing specialized transportation options, discounted fares, and reimbursement for volunteer drivers, these programs aim to enhance mobility, independence, and access to vital resources like healthcare and groceries. They play a crucial role in promoting inclusivity, improving quality of life, and ensuring that everyone has the opportunity to participate fully in their communities. The goal is to empower older adults to maintain their independence and quality of life by accessing the resources and support they need to thrive in their communities.

3.1.1 Dial-a-Ride

What is a Dial-a-Ride Service?

Dial-a-Ride, recognized as paratransit, is a specialized transportation service providing door-to-door or curb-to-curb assistance for seniors, individuals with disabilities, and those unable to utilize conventional fixed-route transit services. It offers personalized pick-up and drop-off directly from homes or specified locations, catering to various needs such as medical appointments, grocery shopping, running errands, and visiting friends.

How Does Dial-a-Ride Work?

Dial-a-Ride primarily operates on a reservation-based system, with passengers typically required to schedule their rides at least 24 to 48 hours in advance, and sometimes up to a maximum of 1 or 2 weeks, primarily by phone or online. A reservation made on the same day may be accommodated subject to availability. However, it is important to note that scheduling practices may vary depending on the city service. Passengers provide details such as pickup location, destination, desired pickup time, and any special assistance needed. Dial-a-Ride vehicles usually are equipped with features for passengers with disabilities. Once confirmed, the vehicle arrives within a specified window, and passengers are assisted onto the vehicle and transported to their destination. Additionally, passengers should be aware of eligibility criteria, fare structures, and operating hours specific to their Dial-a-Ride service.

Who is eligible for Dial-a-Ride?

Based on an examination of several Dial-a-Ride services from different cities, eligibility varies depending on the program and region served. Common criteria include age, often targeting older adults (55 years and older), or disability status, with services available for individuals whose disabilities prevent them from using traditional public transit. Residency is typically required and limited to residents of the service area. Some programs may also require passengers to demonstrate medical necessity for door-to-door transportation due to health-related reasons, such as difficulty walking long distances or accessing traditional transit stops.

How Much Does Dial-a-Ride Cost?

One of the significant advantages of Dial-a-Ride is its cost-effectiveness. Dial-a-Ride services offer varying pricing structures depending on the city. For example, eligible residents of Bellflower can travel within limited cities per one-way trip for only 50 cents, and short travel beyond the city boundaries exclusively for medical reasons costs $2.00 for a single trip (City of Bellflower's Parks & Recreation Department, n.d.). Other cities offer this service at $1.50 per one-way trip, while some charge $3.00 per trip. Monthly passes at $5.00 and occasional free rides are also available in certain locations. Specific pricing and criteria may vary, with some cities providing free rides or charging fixed rates regardless of destination. Payment options often include cash, prepaid tickets, electronic fare cards, or vouchers. Additionally, some programs may offer free or reduced fare programs for qualifying passengers.

Is Dial-a-Ride Available in My Area?

Many cities in LA county do offer some form of on-demand, door-to-door transportation, including Dial-a-Ride or similar programs like Community Shuttles, Volunteer Driver Programs, or Senior Programs. However, the availability and extent of these services can vary significantly from one city to another. (See Appendix A for details on the dial-a-ride service provided by various cities in LA County.)

Where Can I Find More Information About Dial-a-Ride Services?

Individuals seeking more information about Dial-a-Ride services can access resources by visiting the official websites or contacting Dial-a-Ride service providers directly via phone or email to request information or assistance. Furthermore, to enhance accessibility to information, Appendix A outlines areas served, eligibility criteria, eligible trip purposes, fares, website links, and languages in which the information is available, providing easy access to comprehensive information for individuals seeking transportation assistance in their respective cities.

3.1.2 Access Paratransit

What Is Access Paratransit Service?

Access is the designated ADA Complementary Paratransit service managed by the County of Los Angeles. It operates as a shared ride program, offering curb-to-curb transportation for vulnerable older adults and individuals with disabilities throughout Los Angeles County.

Who Is Eligible to Access Paratransit Service?

This transportation option is accessible to any individual eligible for ADA paratransit services. Access eligibility is determined through an in-person transit evaluation that assesses an individual's capacity to utilize accessible buses and trains within Los Angeles County. This evaluation doesn't rely solely on factors like disability, age, or medical diagnosis. First, download the Evaluation Information and Application Packet from the Access website, which is offered in English and Spanish, with alternative formats available upon request. Next, contact Access Customer Service to obtain an Access ID Number before scheduling a Transit Evaluation appointment. Once you have your ID number, proceed to fill out the application online or request a mail-in version. After completing the application, schedule an in-person assessment in English or Spanish and accommodate translation services or sign language interpretation if required. During the Transit Evaluation, bring valid photo identification, relevant disability documentation, and any mobility aids. Following the evaluation, expect notification of eligibility status within 21 days by mail. If the determination is delayed, you can continue using the service until notified. Should you disagree with the decision, you have 60 days to submit a written appeal. This process ensures equitable assessment and access to Access services for qualifying individuals.

How Does Access Paratransit Service Work?

To ride with Access, you need to schedule your trip a day in advance by calling the toll-free reservation phone lines between 6 am and 10 pm daily. Santa Clarita and Antelope Valley have different hours. When calling, select your region number and provide your Access Rider ID Number, pick-up and drop-off addresses, information about child passengers, mobility devices, and service animals, the number of passengers, pick-up time, and any cross-street or landmark details. You can also request a call-out or text notification to schedule a return trip. Make sure to note your confirmation number and confirm trip details before ending the call. Online Reservations is a user-friendly system that enables you to conveniently manage your upcoming trips with Access. You can book a trip to or from a previously visited address, edit existing trips, or cancel a trip using your smartphone, computer, or tablet.

How Much Does Access Paratransit Service Cost?

Payment for your trip is due when you board the vehicle, and it's based on the distance traveled. Here are the one-way trip fares:

$2.75 for trips under 19.9 miles

$3.50 for trips of 20 miles or more

$2.00 for trips in Santa Clarita or Antelope Valley

To pay for your Access ride, you can use cash (exact change only), major credit cards (except in Santa Clarita), or Access coupons, available in Base Fare for trips up to 19.9 miles, Plus Zone for trips of 20 miles or more (can be used alone or combined with Base Fare coupons), and Flex types for trips within Antelope Valley or Santa Clarita or in $2.00 denominations toward your Access trip. You can order coupons by mail, online, or buy them in person at designated locations. Coupons are non-refundable and not replaceable if lost or stolen.

Is Access Paratransit Service Available in My Area?

Access operates within the same general area as the local bus and rail routes in Los Angeles County. Access can transport you to your destination if your pick-up and drop-off locations are within ¾ of a mile of these routes. However, areas not near these local bus or rail lines are typically outside Access's service area.

Where Can I Find More Information About Access Paratransit Service?

Overview - Access Services: ASI (accessla.org)

Paratransit Eligibility - Access Services: ASI (accessla.org)

Rider's Guide - Access Services: ASI (accessla.org)

3.1.3 Medi-Cal Transportation

What Are Medi-Cal Transportation Services?

The Medi-Cal transportation services initiative offers eligible individuals assistance in accessing transportation for medical appointments and collecting prescriptions and medical supplies. Two transportation categories are available for appointments: Nonemergency Medical Transportation (NEMT) and Nonmedical Transportation (NMT).

Nonemergency Medical Transportation (NEMT) offers transport for those unable to use standard options due to medical or mobility issues, utilizing ambulances, wheelchair-accessible vans, or litter vans.

Nonmedical Transportation (NMT) provides solutions for individuals without specialized medical needs but lacking personal transportation access, utilizing private vehicles or public transit for appointments.

Who Is Eligible for Medi-Cal Transportation Services?

Nonemergency Medical Transportation (NEMT) is provided to individuals who are enrolled in the Medi-Cal program and are eligible to receive its benefits and whose health conditions prevent them from using regular transportation prescribed by a healthcare provider. On the other hand, Nonmedical Transportation (NMT) is available to full-scope Medi-Cal beneficiaries and pregnant women until the end of the month following the 365th day postpartum. They must confirm unmet transportation needs with their provider after exhausting other resources.

How Do Medi-Cal Transportation Services Work?

You can arrange transportation through your managed care plan if you are enrolled in one or directly through the county Medi-Cal office or a contracted transportation provider. Additionally, you have the option to request assistance by sending an email to DHCSNMT@dhcs.ca.gov *How Much Does Medi-Cal Transportation Services Cost?*

Medi-Cal provides transportation to and from appointments for healthcare services that are covered by the Medi-Cal program.

Are Medi-Cal Transportation Services Available in My Area?

Medi-Cal offers Non-Emergency Medical Transportation (NEMT) and Nonmedical Transportation (NMT). NMT services are provided in 44 counties across California, including in more than 48 cities in LA County, 14 in Orange County, approximately 20 in San Bernardino County, and 3 in Ventura County. For Non-Emergency Medical Transportation (NEMT), services are available in more than 53 counties across California. Specifically, there are more than 60 cities in LA County, 20 in Orange County, approximately 18 in San Bernardino County, and 6 in Ventura County.

Where Can I Find More Information About Medi-Cal Transportation Services?

Transportation (ca.gov)

Transportation General FAQ (ca.gov)

List-of-Approved-Nonmedical-Transportation-Providers.pdf

*List-of-Approved-NonEmergency-Medical-Transportation-Providers.pdf

3.1.4 The Low-Income Fare is Easy (LIFE) Program

What is the Low-Income Fare is Easy (LIFE) Program?
Metro Transit has made travel more cost-effective for low-income individuals with its Low-Income Fare is Easy (LIFE) Program. The program provides fare reductions that can be utilized to purchase weekly and monthly passes on Metro and any participating agencies in the LIFE program. Moreover, it offers the possibility for participants to receive 20 complimentary rides with any agency involved in the program.

Who is Eligible for the Low-Income Fare is Easy (LIFE) Program?

If you live in LA county and your household income meets certain thresholds, such as $44,150 or less for a single person, incrementally rising up to $73,150 for a household of six, you are eligible. Additionally, those currently benefiting from various social programs like CalFresh, EBT, Medi-Cal, reduced lunch programs, SNAP, Social Security, Social Security Disability, or TANF are also eligible to participate in LIFE.

How does the Low-Income Fare is Easy (LIFE) Program Work?

You can download your application in eight different languages. Follow the application instructions to complete and submit your form. Once approved for the program, you'll initially receive a 90-day pass that grants unlimited free rides across any participating transit system, loaded directly onto your TAP card. This period allows you to travel freely and access reduced-cost fares on these systems after that.

Following the first 90 days, the program offers 20 free regional rides each month. These can be conveniently added to your TAP card through a local TAP vendor, online, or over the phone.

To extend your savings, the program includes a fare-capping feature. After you've utilized your 20 free rides, additional travel costs can be covered by adding money to your TAP card for additional rides. The program ensures that after you pay for three rides in a single day or 11 rides in a week, your further trips are free, maximizing the program's financial benefits for frequent travelers.

How much does the Low-Income Fare is Easy (LIFE) Program Cost?

Metro LIFE riders can load 20 free regional rides onto their TAP card. Once used up, they'll pay $1.75 per ride using Stored Value until hitting either the 1-day (three rides in a day) or 7-day (11 rides in a week) cap.

Is the Low-Income Fare is Easy (LIFE) Program Available in My Area?

Suppose you're located within the areas served by any of the following transit operators. In that case, the Low-Income Fare is Easy (LIFE) program is available to you: Metro, Antelope Valley Transit Authority, Culver City Bus, Foothill Transit, Glendale Beeline, GTrans, LADOT, Lawndale Beat, Long Beach Transit, Montebello Bus Lines, Norwalk Transit, Pasadena Transit, Santa Clarita Transit, Santa Monica Big Blue Bus, and Torrance Transit. These operators' participation in the LIFE program ensures broad coverage across various cities, making the program accessible to a wide range of commuters seeking fare assistance.

Where Can I Find More Information About the Low-Income Fare is Easy (LIFE) Program?

LIFE (taptogo.net)

LIFE Program Application (taptogo.net)

Low Income Fare is Easy (LIFE) - LA Metro

TAP - Transit Access Pass - Los Angeles, California (taptogo.net)

3.1.5 Reduced Fare TAP Card

What is the Reduced Fare TAP Card?

The Reduced Fare TAP card is a form of transit pass designed to provide discounted fares for eligible individuals on public transportation systems. The Reduced Fare TAP card allows holders to access public transit services at a reduced cost compared to standard fares, making transportation more affordable and accessible for those who qualify.

Who is Eligible for the Reduced Fare TAP Card?

Usually Medicare recipients and customers with disability are eligible for the Reduced Fare TAP card. Depending on each transit agency, the minimum age requirement for seniors ranges from 60 to 65.

How Does the Reduced Fare TAP Card Work?

Riders can apply for a Reduced Fare TAP card in person at the Metro customer center or online. Then, you can load Stored Value (money) onto your TAP card to pay for individual rides. Your rides become free once you reach your daily cap ($2.50) or weekly cap ($5.00).

How Much Does the Ride with the Reduced Fare TAP Card Cost?

The fare is 35 cents during off-peak hours, which include weekdays from 9 am to 3 pm and 7 pm to 5 am, as well as weekends and federal holidays. Outside of these hours, the fare is 75 cents. The TAP card also offers the benefit of 2 hours of unlimited transfers to Metro rail and bus services in a single direction—roundtrips are not included. Additionally, there's a cost cap in place for TAP card holders: no more than $2.50 per day or $5 per week will be charged, ensuring that commuting remains affordable for qualifying riders.

Is the Reduced Fare TAP Card Available in My Area?

If you're located within the areas served by any of the following transit operators, the reduced fare is available to you: Angels Flight Railway, Antelope Valley Transit Authority (AVTA), Baldwin Park Transit, Beach Cities Transit, Burbank Bus, Carson Circuit, Compton Renaissance Transit System, Culver CityBus, Foothill Transit, Gardena GTRANS, Glendale Beeline, Glendora Transportation Division, Huntington Park Transit Unlimited, LA County Department of Public Works, LADOT Transit, Lawndale Beat, Los Angeles World Airports (LAWA), Long Beach Transit, Metro, Montebello Bus Lines, Monterey Park Spirit Bus, Norwalk Transit, Palos Verdes Peninsula Transit Authority, Pasadena Transit, Santa Clarita Transit, Santa Monica Big Blue Bus, and Torrance Transit.

Where Can I Find More Information About the Reduced Fare TAP Card?

Reduced Fares/Senior (taptogo.net)

Reduced Fares/ disability (taptogo.net)

Seniors 62+/ Medicare/ Customer with Disability - LA Metro

Senior Age Qualification for Reduced Fares by Transit Agencies (taptogo.net)

3.1.6 CityRide

What is CityRide?

CityRide, overseen by the Los Angeles Department of Transportation, offers discounted transportation to seniors and people with disabilities residing in Los Angeles City and specified

regions within Los Angeles County, operating as a curb-to-curb service. Cityride offers reduced costs for Cityride Dial-A-Ride services, the City of Los Angeles permitted taxicab rides, and free DASH bus rides for eligible individuals.

Who Is Eligible for CityRide?

People who are 65 years old or above, as well as those with disabilities who meet the criteria, residing in Los Angeles and specific regions of Los Angeles County (including Marina Del Rey, Kagel Canyon, Topanga, and areas near Calabasas, Chatsworth, Carson, and Long Beach), can take part in the Cityride program. Registration can be done online (https://register.cityride.net/) or by mailing in an application to register.

How does CityRide work?

Upon approval, participants receive a Cityride Card loaded with $84 in fare value. This card can be used for Cityride Dial-A-Ride (DAR) services, permitted taxicab rides, and free DASH bus rides.

Dial-A-Ride (DAR): DAR offers a curb-to-curb transportation service, where you need to be ready at the curb of your designated pickup or drop-off location. Drivers can assist with getting on and off the vehicle if necessary. **Dial-A-Ride (DAR)** provides Cityride users affordable, shared transportation for pre-booked trips up to 10 miles. The service includes vehicles equipped for wheelchair access, such as Cityride-branded vans and (depending on reservation demand) regular taxicabs, all available at a uniform low cost of $2 to $4 per trip. To book a DAR trip, call your area's service provider 1-2 business days in advance. DAR Telephone Reservation Hours: For non-medical trips, book a day in advance, Monday through Friday, 8 a.m. to 5 p.m. Book Monday trips by the previous Friday. Schedule medical appointments two days ahead, Monday to Friday, 2 p.m. to 5 p.m. For standby trips, call two hours before your trip, Monday to Friday, 8 a.m. to 5 p.m. For pickups before 10 a.m., call between 3 p.m. and 5 p.m. the day before. DAR operates trips Monday through Friday from 6:30 a.m. to 4:30 p.m.

Taxicab Service: Cityride offers its participants the option to use a discounted, on-demand taxicab service, available 24/7. To use this service, participants should call an authorized taxicab company in Los Angeles, mention any specific accessibility requirements, and be ready to present their Cityride Card along with another form of payment if needed. It's important to verify that the taxicab displays the official City of Los Angeles Department of Transportation Taxicab seal, ensuring it is part of the Cityride program, insured, and uses trained drivers. For those needing wheelchair-accessible transportation, ADA-compliant vans are available upon request. Participants can use the Cityride Card for taxicab services, with a maximum of $20 in fare value per trip. Any amount over $20 must be covered out-of-pocket by the participant.

DASH Bus Service: DASH bus rides are free. Show the driver your government-issued photo ID and Cityride Card with matching names on board. Use the bus stops marked for DASH, and signal for stops by pulling the bell cord or pressing the stop button. Front seats are reserved for those who are elderly or have mobility impairments.

How Much Does CityRide Cost?

Participants must register to join the program. An account is created upon registration approval, and participants receive a Cityride Card with $84 in fare value. You can re-order $84 of fare value once per quarter for $21 ($9 for low-income participants).

Fare	
CITYRIDE DIAL-A-RIDE (DAR)	
One-way 1-10 mile trip	
• $4 fare value when you book a trip for yourself • $2 fare value when you book a group trip • If you run out of fare value, you can pay $3 in cash for a standby trip	**$2.00** to **$4.00**
CITY OF LOS ANGELES PERMITTED TAXICABS	
• $4 to $20 in fare value per trip. You pay all costs over $20 • Taxicabs charge a metered rate (A 10-mile trip is approximately $30) • Fare value cannot be used to tip the driver	**$4.00** to **$20.00**
CITYRIDE SEMI-FIXED ROUTES	
Cityride Park La Brea or Cityride Via Marisol	
Cityride Participants and Senior/Individual with a Disability	**FREE**
Regular Fare	**.50¢**
DASH	
Cityride Participants	**FREE**
Senior/Individual with a Disability	**.25¢**
Regular Fare	**.50¢**

Figure 15. CityRide Fare (Los Angeles Department of Transportation, 2019).

Is CityRide available in my area?

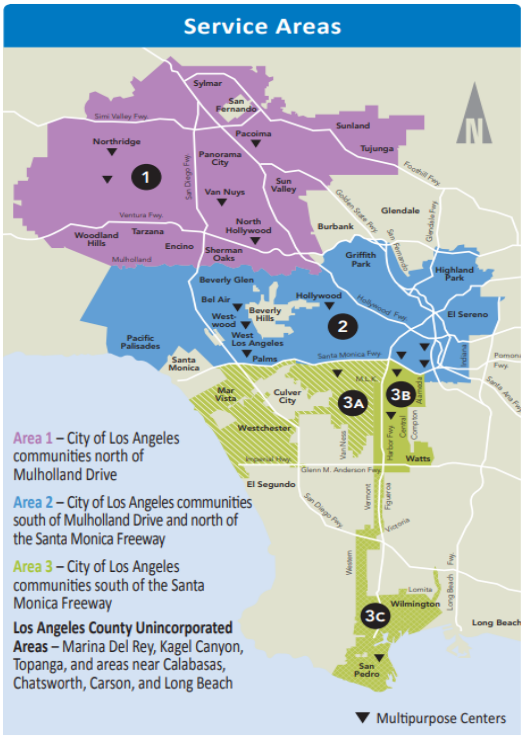

Figure 16. Service Areas for Cityride Program Dial-a-Ride (DAR) and Taxicab Service (Los Angeles Department of Transportation, 2019).

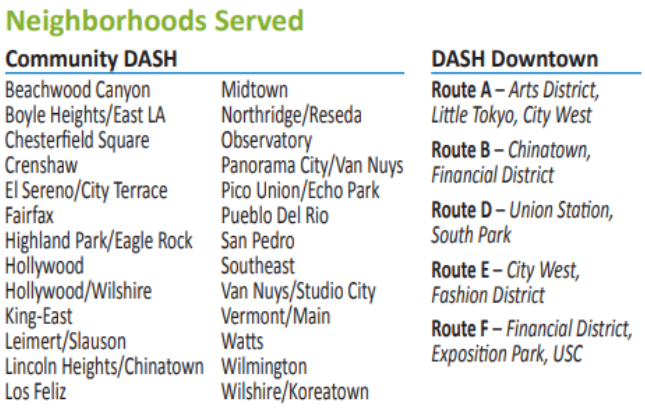

Figure 17. Service Areas for DASH Bus Service
(Los Angeles Department of Transportation, 2019).

Where Can I Find More Information About CityRide?

Cityride (ladottransit.com)

Cityride Registration

Cityride_ProgramGuide_April2019.pdf (ladottransit.com)

DASH Overview (ladottransit.com)

3.1.7 New Freedom: Volunteer Driver Mileage Reimbursement Program (VDMR)

What is Volunteer Driver Mileage Reimbursement Program (VDMR)?
Volunteer Driver Mileage Reimbursement Program (VDMR) is an initiative offered by the Los Angeles County Department of Workforce Development, Aging, and Community Services (WDACS). The Volunteer Driver Mileage Reimbursement Program (VDMR) is an initiative that provides compensation to volunteer drivers for the mileage they accumulate while transporting eligible clients to essential destinations. This program aims to support individuals with difficulty accessing transportation services by incentivizing volunteers to provide rides. Through VDMR, eligible clients can arrange for volunteer drivers to assist them with transportation needs such as medical appointments, grocery shopping, and social outings. The reimbursement helps offset the costs of using personal vehicles for volunteer activities, fostering community engagement and support for vulnerable populations.

Who is Eligible for the Volunteer Driver Mileage Reimbursement Program (VDMR)?
Eligibility for the program is open to anyone planning travel within Los Angeles County, with priority given to individuals aged 60 and above or dependent adults between the ages of 18 and 59 with disabilities. Acceptance is based on a first-come, first-served basis.

How Does the Volunteer Driver Mileage Reimbursement Program (VDMR) Work?
The County Mobility Manager establishes guidelines and mileage limits for approved trips upon confirming eligibility. Eligible clients are then tasked with recruiting their own volunteers to provide transportation services. Volunteer drivers can be chosen from a diverse range of individuals, including family members, friends, and neighbors. Volunteer drivers, using their own vehicles, accommodate clients with flexible scheduling arrangements. Subsequently, clients receive monthly mileage reimbursement for approved trips and are responsible for compensating volunteer drivers accordingly.

How Much Does the Volunteer Driver Mileage Reimbursement Program (VDMR) Cost?
The New Freedom Volunteer Driver Mileage Reimbursement Program is provided to eligible individuals free of charge every month. The program allows for unlimited monthly trips but restricts clients to a total mileage of 250 miles or fewer per month, reimbursed at a rate of 44 cents per mile.

Is the Volunteer Driver Mileage Reimbursement Program (VDMR) Available in My Area?

The program is accessible to anyone planning a trip within Los Angeles County.

Where Can I Find More Information About the Volunteer Driver Mileage Reimbursement Program (VDMR)?

New Freedom Taxicab Services Program – New Freedom Transportation Program (lacounty.gov)

VDMR-Fact-Sheet-5.18.pdf (lacounty.gov)

VDMR-Brochure-Tri-Fold-Word-7-26-19.pdf (lacounty.gov)

New Freedom Transportation Program (lacounty.gov)

3.2 Communities and Non-Profit Organizations

This section delves into the pivotal contributions of communities and non-profit organizations in addressing the multifaceted needs of aging individuals, particularly within Asian American and Pacific Islander (AAPI) demographics. These entities function as dedicated advocates and providers of indispensable services, totally devoted to safeguarding the welfare and dignity of seniors throughout the United States. From delivering culturally sensitive assistance to combating discriminatory practices and ensuring equitable access to essential resources, the efforts of these organizations underscore the profound impact of community-driven initiatives in fostering inclusivity and fairness.

3.2.1 NAPCA - National Asian Pacific Center on Aging

Established in 1979, the National Asian Pacific Center on Aging (NAPCA) serves as a leading advocate and provider of services for elderly individuals within the diverse Asian American and Pacific Islander (AAPI) communities across the United States. Based in Seattle, Washington, NAPCA operates as a nonprofit organization dedicated to safeguarding the rights and addressing the needs of aging individuals. Offering a range of services, including guidance on federal programs like Medicare, Medicaid, and Social Security, as well as a multilingual helpline, NAPCA is a vital support system for aging individuals seeking assistance and advice. With a strong commitment to advocacy, diversity, empowerment, and excellence, NAPCA strives to ensure dignity and well-being for every AAPI senior. Through persistent advocacy, NAPCA amplifies the voices of AAPI seniors, celebrates the diversity within communities, and empowers aging individuals to live fulfilling and independent lives. Upholding a steadfast commitment to excellence, NAPCA maintains high service delivery and community support standards, aiming to surpass expectations in all aspects of its work. As a crucial resource and advocate for aging individuals within AAPI communities, NAPCA embodies a dedication to inclusivity, equity, and social justice, contributing to a brighter and more equitable future for all.

3.2.2 AARP – American Association of Retired Persons

AARP is a prominent non-profit organization in the United States that focuses on issues affecting older adults, including advocacy, healthcare, employment, and financial security. While not specific to any particular ethnic or racial group, AARP provides resources, programs, and services that benefit older adults from all backgrounds, including those from Asian American and Pacific-Islander communities. They advocate for policies that support older adults' well-being and offer various benefits and discounts to their members.

3.2.3 ITN – Independent Transportation Network America

ITN is a non-profit organization that focuses on providing transportation services for seniors and visually impaired individuals. They aim to help older adults maintain their independence and mobility by offering a safe and reliable transportation option. Additionally, ITN America advocates for continuous mobility among older adults and individuals facing mobility obstacles, endorsing eco-friendly, community-centric transportation solutions through spearheading a nationwide transport network informed by thorough research, policy scrutiny, technological advancements, and educational initiatives. ITN America operates a network of volunteer drivers who provide rides to members, allowing them to access essential services, such as medical appointments, grocery shopping, and social activities. The organization utilizes a membership-based model where individuals pay for rides using a system of ride credits. ITN America's services are available to people of all backgrounds, including those from Asian American and Pacific Islander communities.

3.2.4 Stop AAPI Hate

Stop AAPI Hate is a prominent coalition in the United States dedicated to combatting racism and discrimination targeting Asian Americans and Pacific Islanders (AAPI). The coalition employs a multifaceted approach to address the complex issues surrounding hate and bigotry towards AAPI communities. Central to their efforts is the collection and dissemination of data on anti-AAPI hate incidents, providing critical insights into the prevalence and nature of these offenses. Additionally, Stop AAPI Hate engages in robust advocacy efforts, pushing for civil rights protections to safeguard AAPI individuals from discrimination and ensure their full participation in society. Moreover, the coalition advocates for holistic solutions to confront all forms of hate, offering support to victims and survivors while fostering safer and more equitable communities for everyone. Furthermore, Stop AAPI Hate emphasizes the importance of education equity, advocating for ethnic studies and educational initiatives that amplify the diverse histories and contemporary experiences of AAPI communities. By tackling the root causes of hate and promoting systemic change, Stop AAPI Hate endeavors to create a more inclusive and just society for all.

3.2.5 NADTC – National Aging and Disability Transportation Center

The National Aging and Disability Transportation Center (NADTC) aims to promote the availability and accessibility of transportation options for older adults, people with disabilities, and caregivers. Their focus encompasses enhancing mobility and ensuring that transportation services are efficient, effective, high-quality, and well-coordinated to maximize federal investments. NADTC provides technical assistance, information, and referral services, develops training, implements communication and outreach strategies, and supports community initiatives to improve transportation access.

4. Survey Methodology and Results

4.1 Methodology

The second part of this project is conducting a survey. The survey design for this study was meticulously developed to capture the mobility-related challenges, preferences, and needs of, but not limited to, Asian American and Pacific Islander (AAPI) adults aged 55 or older residing in the Greater Los Angeles Metropolitan Area. The primary objective was to collect data that would yield valuable insights into various aspects, including demographics, transportation preferences, access to transportation services, awareness of specific programs, travel concerns, alterations in travel behavior prompted by these concerns, and recommendations for enhancements.

4.1.1 Questionnaire Development

The research team collaboratively created a draft questionnaire and invited the experienced AAPI organization leaders and a cohort of college students from different cultural backgrounds to comment on and revise it. A pilot version of the survey was tested with a small group representative of the target population to ensure the questions' clarity, relevance, and cultural sensitivity. Feedback from the pilot study led to revisions aimed at improving comprehensibility and engagement.

4.1.2 Questionnaire Languages

Except for one team member, all participants involved in the questionnaire development were from AAPI communities and proficient in at least one AAPI language. Initially, the questionnaire was designed in English and subsequently translated into Spanish, Simplified Chinese, Traditional Chinese, Japanese, Tagalog, Vietnamese, Korean, and Russian. Each translation was handled by a team member proficient in the respective AAPI language, ensuring accuracy and cultural nuance.

4.1.3 Questions Types and Structure

Single-choice, multiple-choice, and yes/no questions were employed to gather demographic information. (See Appendix 2 for the entire survey.)

4.2 Results

It is worth noting that this section contains preliminary results of the mobility survey described in the previous section, which is still open to the public. Also, it is important to mention that the mobility survey was created to include participants from all races/ethnicities and all age ranges. However, the following results are based solely on AAPI individuals aged 55 or older.

Percentages that sum to more than 100% indicate that participants could select more than one option.

4.2.1 Demographic Analysis

The majority of participants are female, constituting 56% of the group, with males making up the remaining 39%. A significant majority, 87%, are either U.S. citizens or permanent residents. 86% of participants were born outside the U.S., and 43% have lived in the U.S. for over 20 years. In terms of educational levels, 64% of the participants have attained some college/associate, or bachelor's degree or higher, indicating a relatively high level of education among the group. A majority, 59%, do not primarily speak English at home, and live with family members (64%). Income levels vary, with 21% earning under $25,000 annually. In terms of English proficiency, 78% speak English less than fluently.

The average sample size is 155 responders, all AAPI aged 55 or older.

Table 1. Demographic Analysis for Sample of AAPI Individuals Aged 55 or Older

Variable	N	%
Gender		
Female	87	56%
Male	60	39%
Are you a U.S. citizen or do you have permanent residency status?		
Yes	135	87%
No	9	6%
How long have you lived in the United States?		
I was born here	21	14%
Less than one year	2	1%
1 to 5 years	13	8%
6 to 20 years	42	27%
More than 20 years	66	43%
Other	0	0%
What is your highest level of education?		
Less than high school	10	6%
High school	33	21%
Some college/associate degree	48	31%
Bachelor's degree or higher	51	33%
Do you mostly speak English at home?		
Yes	51	33%
No	92	59%
Who else lives in your home with you?		
I live alone	12	8%
Family member(s)	99	64%
Non-family member(s)	2	1%
Pet(s)	2	1%
What is your annual household income from all sources?		
Under $25,000	33	21%
$25,000 to 49,999	19	12%
$50,000 to 74,999	25	16%
$75,000 to 99,999	25	16%
$100,000 and above	38	25%
How well can you speak English?		
Not at all	9	6%
Very little	18	12%
Basic phrases	31	20%
Fluent but not native	33	21%
Native speaker	1	1%

4.2.2 Transportation Preferences

The results indicate a clear car dependency among AAPI older adults, with walking being the second most common mode of transportation at 54%, followed by public transit at 16%. Details can be found in Figure 18. It is worth noting that no older adult reported using paratransit services in the 7 days before taking the survey.

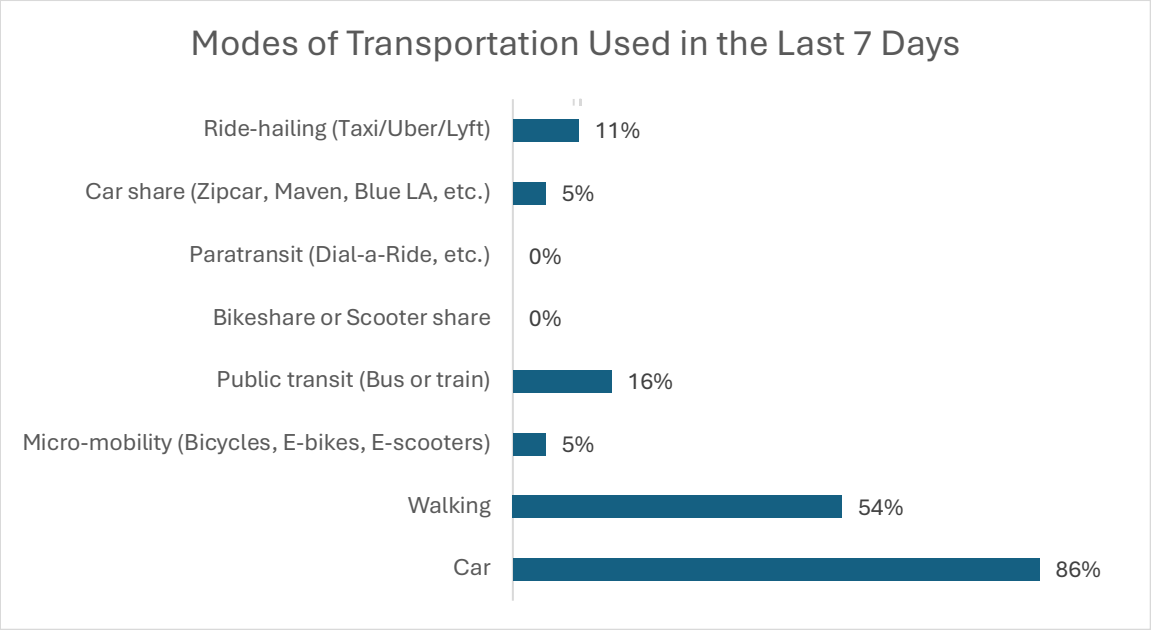

Figure 18. Transportation Preferences: Modes Used by Individuals in the Last 7 Days.

4.2.3 Low-Cost Transportation Program Knowledge

Figure 19 shows the highest percentage of respondents, 58%, unaware of any of the low-cost transportation options asked. Of the known programs, Access service has the highest awareness at 19%, with Medi-Cal and Paratransit/Dial-a-Ride each at 17%. The Reduces Fares Tap car and metro LIFE Program are recognized by 8% and 6% of the participants, respectively. On the other hand, regarding awareness of low-cost transportation programs, 25% of the participants know of only one program. Additionally, 8% are aware of the two programs. More details can be found in Figure 20.

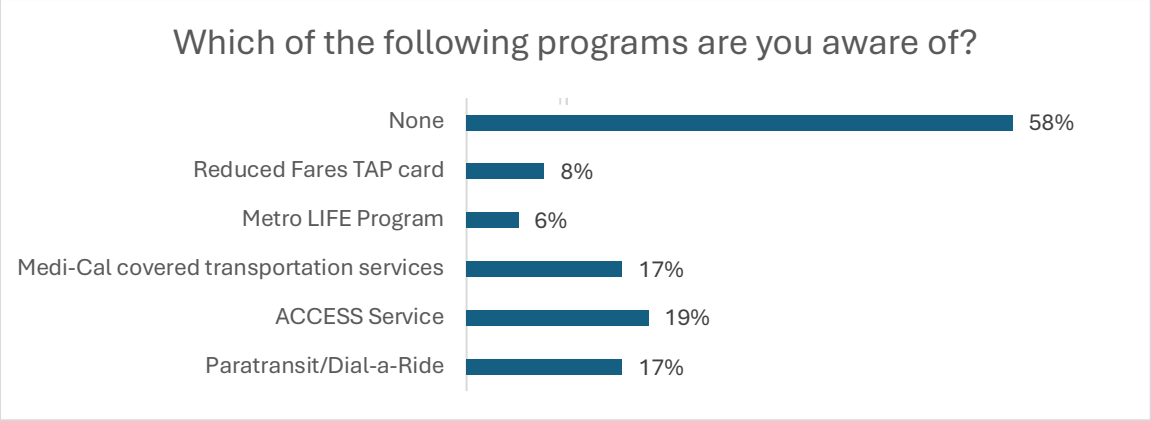

Figure 19. Awareness of Low-Cost Transportation Programs.

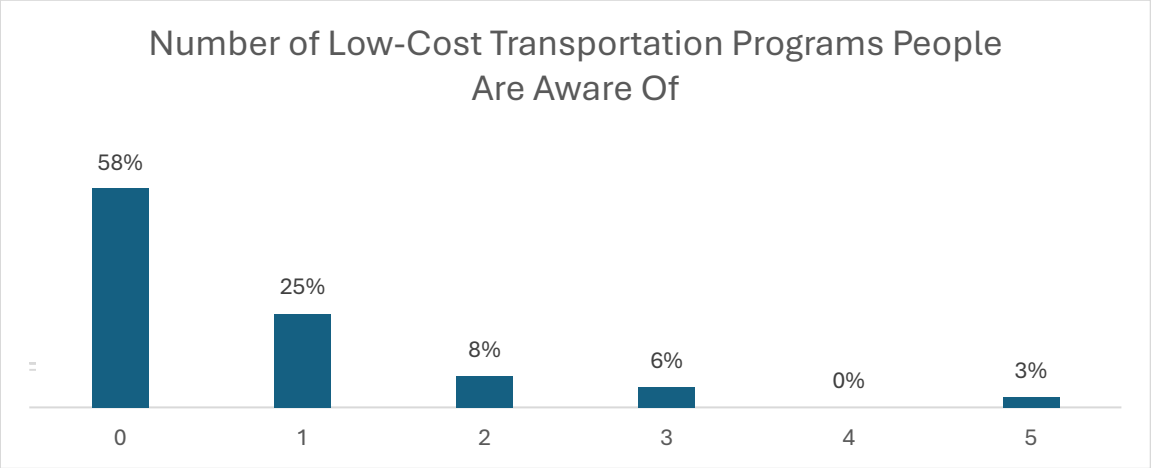

Figure 20. Number of Low-Cost Transportation Programs People are Aware of.

4.2.4 Levels of Concern Regarding Transportation Barriers While Traveling

Figure 21 displays results regarding people's concerns about several transportation barriers while traveling. The most concerning barrier is crime (threat of violence/harm), with 53% of the participants mentioning they are concerned or very concerned. Traffic safety and the language barrier are also significant, with 42% feeling the same level of concern. Concerns about lack of access to required facilities/vehicles affect 39% of individuals. On the other hand, technology concerns people the least, with 48% not concerned or less concerned.

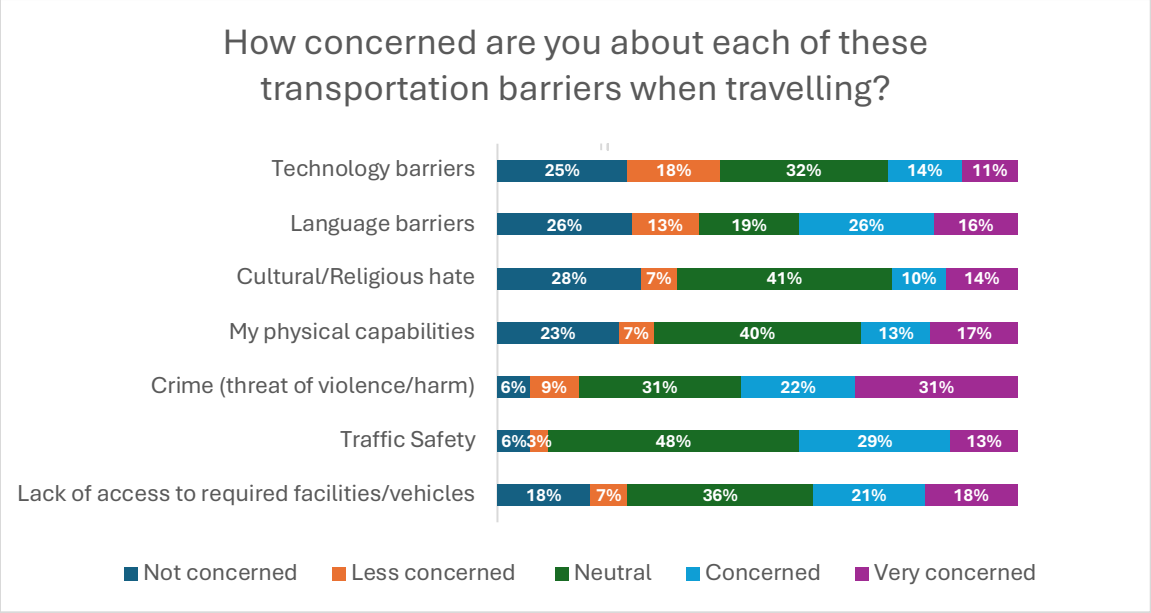

Figure 21. Levels of Concern Regarding a List of Transportation Barriers.

Figure 22 compares the percentages of respondents who avoid using various transportation options—such as micro-mobility (bikes, e-bikes, e-scooters), transit, driving, and walking—due to the concerns listed in the previous figure, with the exception of technology barriers, which are the least concerning to people.

People primarily avoid walking due to concerns about traffic, physical capabilities, and crime, with 50%, 54%, and 70% of respondents, respectively. Similarly, 54% of respondents avoid using transit because of physical limitations, while 70% do so due to their concerns with crime. Micro-mobility options, such as bikes, e-bikes, and e-scooters are avoided by 67% due to cultural or religious hate. Moreover, on average, 30% of individuals who are neutral, concerned, or very concerned about language barriers avoid trips across all forms of transportation, including bike or scooter-sharing services, micro-mobility, transit, cars, or walking.

Figure 22. Comparative Analysis of Transportation Avoidance Due to Concerns.

4.2.5 Factors Improving Respondents' Mobility

The data highlight that the highest percentage of respondents, 73.3%, believe that improving road conditions and reducing transit travel time are the most effective measures for enhancing mobility. Additionally, enhancing security measures such as ensuring criminals are held accountable and increasing the number of security cameras also received significant support, each attracting approval from 53.3% of participants. Other factors like increasing law enforcement presence, providing pedestrian/bike-friendly infrastructure, and offering real-time bus arrival information were considered important by fewer respondents.

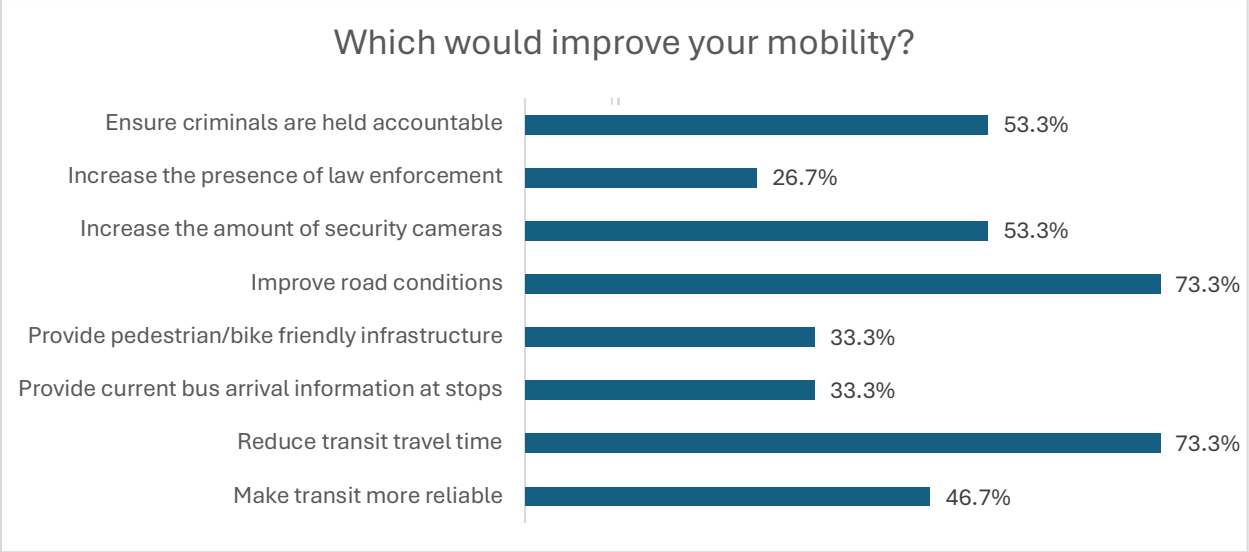

Figure 23. Factors Improving Respondents' Mobility.

4.2.6 AAPI Older Adults' Transit Experience

Based on feedback from regular AAPI riders, navigating schedules, maps, and fare information present moderate challenges, especially for older adults and those with limited English proficiency. Key difficulties include the following:

- **Schedules**: Riders report that both printed and digital schedules are difficult to understand due to a lack of multilingual options and overly complex route information.
- **Maps**: Many AAPI riders, particularly older adults, find transit maps visually overwhelming, with excessive detail that makes it hard to identify key routes and stops. This challenge is further compounded when bus routes have different stop locations for inbound and outbound services.
- **Fare Information**: Riders often struggle with fare rules, transfer policies, and different payment methods, especially when fare changes or promotions are not clearly communicated.
- **Arrival and Departure Information**: Real-time updates are not consistently available. While some transit agencies provide real-time information, smaller bus stations generally lack display systems for such updates. Additionally, many older AAPI adults are unfamiliar with accessing real-time information through smartphones, and the displays often lack translations, causing confusion among non-English speakers.

Riders provided several suggestions to enhance their experience:

- **Multilingual Support**: Offering maps, schedules, and real-time updates in multiple languages, particularly those commonly spoken in AAPI communities, would greatly help.
- **Simplified Maps**: Developing clearer, simplified maps focused on major routes and landmarks could significantly reduce confusion.
- **Fare Clarity**: Riders suggest providing clearer explanations of fare systems, including visual guides for payment methods, fare caps, and transfer rules.
- **Improved Digital Tools**: Making transit apps and websites more user-friendly and language-inclusive would ease navigation, especially for older adults.
- **Enhanced Real-Time Information**: Reliable and consistent real-time updates in multiple languages would instill more confidence in riders during their travels.

While many AAPI riders are able to navigate the transit system, there are significant barriers, particularly for non-English speakers and older adults. By offering more multilingual resources, simplifying transit information, and providing reliable real-time updates, public transit agencies can greatly improve the experience for AAPI riders.

5. Findings

5.1 Key Finding from Literature Review

Stanley et al. (2011) confirm a significant connection between increased mobility (number of trips/activities done) and reduced risk of social isolation, establishing this relationship as important in both urban and rural areas studied in their research. Holt-Lunstad et al. (2005) emphasize that living alone, lacking social connections, and experiencing limited social interactions are all signs of social isolation, which is associated with a higher risk of mortality, ultimately leading to poorer health outcomes and shorter lifespans. Banister and Bowling (2004) found that access to community services and amenities, feeling secure in one's neighborhood, and active participation in social engagements are essential transportation elements that significantly impact the quality of life for older adults. Public transportation is important and crucial for addressing social isolation and loneliness among older adults (Henning-Smith et al., 2020).

Immigrants have made significant contributions to the growth of ridership, showing a greater inclination to use public transportation compared to native-born individuals. However, immigrants' reliance on transit tends to decrease over time (Blumenberg & Evans, 2010). Blumenberg and Shiki (2007) also found that recent immigrants are considerably more inclined to use transit for commuting compared to native-born adults. Moreover, after the initial five years in the U.S., all immigrant groups experienced a shift towards using automobiles; nevertheless, the pace of this shift differs significantly among racial and ethnic groups. Blumenberg (2008) shows that transportation patterns and behavior vary by race and ethnicity. Furthermore, language barriers can limit travelers' understanding of the transit system, thereby reducing the likelihood of transit ridership. Additionally, it shows that having unlimited access to cars was a strong and statistically significant predictor of employment across all racial and ethnic groups. Tal & Handy (2009) found that recent and long-term immigrants show different travel patterns from US-born individuals, depending on their birthplace. Their models suggest that immigrants generally adopt typical US travel patterns within five years.

In terms of English proficiency by race/ethnic groups, AAPI individuals have the highest levels of limited English proficiency (LEP) and linguistic isolation among different groups (AAPI Data,2022; U.S. Census Bureau, ACS 1-Year Estimates, California, 2022; AAPI Data, 2022). Studies examining English proficiency across AAPI groups show that Native Hawaiian/Pacific Islanders generally have lower LEP levels (Blacher, 2013; AAPI, 2022; Ramakrishnan et al., 2019). Vietnamese populations are often cited among those with the highest LEP levels (Blacher, 2013; AAPI, 2022; Ramakrishnan et al., 2019). In particular, Asian American older adults (aged 65 or older) living in California have a limited English proficiency rate of about 70% (U.S. Census Bureau, ACS 1-Year Estimates, California, 2022). Once again, AAPI communities are the most affected by limited English proficiency.

California leads in Anti-Asian hateincident reports at 38.1%, followed by New York at 15.7% and Washington at 4.8%. The breakdown by ethnicity shows Chinese individuals reporting 42.8%, followed by Korean individuals at 16.1%, and Filipinx individuals at 8.9% (Yellow Horse et al., 2022). The Stop AAPI Hate National Report documents 10,905 total hate incidents reported between March 2020 and December 2021. Harassment, including verbal hate speech and physical attacks, comprises 66.9% of reported cases, followed by physical attacks at 16.2% and intentional avoidance at 16.1%. Predominantly, these incidents occur in public spaces, with 32.4% on public streets. 24% of the total hate incidents involve individuals aged 46 or older, highlighting the vulnerability of older members within the AAPI community to such targeted acts of hate.

Older AAPI adults, particularly those aged 75-85 and above, had substantially higher pedestrian death rates compared to the overall AAPI population (Naumann and Beck, 2013). This underscores the increased vulnerability of older adults to traffic-related pedestrian fatalities.

In the Seattle Metropolitan area, teleworking among AAPI workers increased significantly from less than 5% in 2019 to 38% in 2021, leading to notable changes in commuting behavior. AAPI commuters have seen a significant decline in transit use, from 15% to less than 7% (Puget Sound Regional Council, 2023). Since the start of the pandemic, the top five transportation methods used by older adults include walking, riding with family/friends, biking, riding a motorcycle, and public transportation. Among diverse older adults since COVID-19, walking is the most used transportation mode; nearly 70% report using it (NADTC and V&L Research and Consulting, 2021). COVID-19 has led to changes in transportation preferences among older adults. Public transportation use has decreased significantly, dropping from 38% to 19%, likely due to concerns about crowded environments. Walking remains the most common mode of transportation for all older adults, with 73% using this mode before COVID-19 and 63% using this mode since the pandemic began. In particular, for AAPI older adults, the distribution of transportation modes is as follows: walking (68%), riding with family or friends (43%), biking or using an electric bike (37%), and relying on public transportation (20%) (NADTC and V&L Research and Consulting, 2021).

Asian Americans lead in income, education, and population growth in the U.S. (Pew Research Center, 2018), but it is important to note significant disparities among the AAPI groups. Educational attainment varies widely among AAPI groups, with Indians leading at 68% holding college or postgraduate degrees, compared to Hmong, NHPI, and Cambodian groups at 15%, 16%, and 17%, respectively (Ramakrishnan, 2019). Asians have the highest average incomes in the U.S., but the community has an enormous wealth gap. In 2016, the wealthiest Asians made around $133,529, while the least wealthy made only about $12,478, resulting in a significant income disparity (Pew Research Center, 2018). Figure 14 compares various Asian American groups based on median household income and educational attainment, suggesting a positive correlation between education and income (Kulkarni, 2021).

AAPI communities exhibit a lower level of public transportation usage, comprising only 7% of LA Metro riders in 2022. Mauldin et al. (2023) found that older Vietnamese adults lack familiarity with local public transit and Dial-a-Ride services, with disagreement rates of over 70% regarding usage and information. Dabelko-Schoeny et al. (2021) note that elderly immigrants often rely on friends for rides when families are not available. Additionally, 53% of older adults get rides from others (Mauldin et al., 2023). 66% of those lacking transportation regularly cannot reach needed destinations, with the AAPI community above the average at 70% (National Aging and Disability Transportation Center (NADTC) and V&L Research and Consulting (2021)).

5.2 Key Finding from Mobility Survey

71% of AAPI individuals aged 55 or older speak English less than fluently, a statistic consistent with findings in the literature review.

The three most common transportation modes AAPI older adults use are cars, walking, and public transit, accounting for 86%, 54%, and 16%, respectively. Conversely, the least utilized transportation modes are paratransit (such as Dial-a-Ride) and bike share or scooter share, with a null percentage usage shown in this preliminary survey analysis.

58% of AAPI older adults are not aware of any low-cost transportation options, including Reduced Fares TAP card, Metro LIFE Program, Medi-Cal transportation services, ACCESS, and Paratransit/Dial-a-ride. ACCESS service has the highest awareness at 19%, while the LIFE Program has the least awareness at 6%.

Regarding educational levels, 64% of AAPI older adults have attained some college/associate degree or bachelor's degree or higher, indicating a relatively high level of education among the group.

The transportation barriers that concern AAPI older adults the most are crime (threat of violence/harm), traffic safety, and language barriers, at 53%, 42%, and 42% of respondents, respectively. Only 24% of them are concerned or very concerned about cultural/religious hate.

The most significant transportation barriers causing AAPI older adults to alter their travel behavior are crime, physical capabilities, and traffic safety, with 48%, 45%, and 40% of respondents, respectively. This is followed by concerns regarding cultural/religious hate and language barriers, which stand at 37% and 29%, respectively. Less impactful concerns, such as lack of access to required facilities/vehicles and technology barriers, cause changes in transportation behavior for only 25% of AAPI older adults. In terms of factors that would improve respondents' mobility, a substantial majority, 73.3%, believe that enhancing road conditions and reducing transit travel times are crucial. Additionally, security enhancements, specifically ensuring criminals are held accountable and increasing the number of security cameras, also hold significant importance, each supported by 53.3% of participants.

6. Discussion and Recommendations

6.1 Recommendations Based on Literature Review

Banister & Bowling (2004) recommended that policymakers and planners address both the positive and negative aspects of accessing local services and facilities, feeling safe in one's neighborhood, and engaging in social activities. These elements are essential aspects of transportation that significantly impact the quality of life for older adults, ensuring their well-being and inclusivity within their communities.

Henning-Smith et al. (2020), in a report prepared for the National Center for Mobility Management titled "The Role of Transportation in Addressing Social Isolation in Older Adults," listed several strategies that can be implemented to enhance transportation services for older adults and address social isolation. Firstly, collecting data on trip purposes, including social trips, is crucial for tailoring transportation services to their needs effectively. Secondly, conducting research on older adults' perceptions of transportation is essential to understand their preferences and how transportation impacts their social needs and health. Thirdly, involving older adults in planning transportation services and regularly assessing their needs ensures their voices are heard in decision-making processes. Fourthly, increasing collaboration between transportation and public health sectors can help address social isolation, with a focus on data collection to highlight the benefits of working together. Additionally, enhancing coordination between state agencies responsible for transportation, aging services, and health can optimize resources and better serve older adults. Moreover, providing more affordable, convenient, safe, and accessible transportation options, as well as expanding beyond medical needs to include social purposes, is crucial. Lastly, addressing public perception and awareness by reducing stigma and disseminating information about transportation options can encourage older adults to utilize public transportation services more effectively.

Blumenberg and Evans (2010) suggest that to retain immigrants as a vital customer base for public transportation, transit managers must comprehend immigrant riders' travel behavior and preferences to sustain their reliance on transit. Immigrants often prioritize improved coverage, frequent service, safety, comfort, and seamless transfers. Prioritizing these enhancements in immigrant-heavy urban neighborhoods can retain immigrant riders and discourage car usage. Additionally, offering substitutes for conventional fixed-route, fixed-schedule transit, such as taxis, vanpools, minibuses, and bicycles, can further accommodate immigrant needs and preferences.

Blumenberg and Shiki (2007) propose policy adjustments intended to either decelerate the assimilation process or attract new riders to transit in California.

Blumenberg (2008) suggests that transit agencies must ensure their services are accessible to foreign-born neighborhood residents. Specifically, they should address language barriers.

Moreover, in terms of promoting the economic integration of low-income families, she suggests including initiatives to enhance access to automobiles, as having unrestricted access to cars is linked to job opportunities for people of all races and ethnic backgrounds.

Hu et al. (2021) suggest that transportation agencies should adapt their services to better serve immigrants, with a particular focus on engaging newly arrived immigrants. This might involve offering information in immigrants' native languages and providing culturally sensitive services to create a welcoming and safe atmosphere. Furthermore, targeted outreach and engagement with newly arrived immigrants can help identify any unmet transportation needs or factors contributing to rapid shifts in automobile usage. By actively involving immigrant communities and organizations, transportation agencies can promote a diverse and inclusive living environment that addresses the needs of all residents.

Da & Garcia (2015) suggest that immigrants aged 65 and over should have access to free public transportation (bus and subway) during non-peak hours in cities.

Stop AAPI Hate collaborates with policymakers to provide solutions to protect the AAPI community from Asian Hate. They propose creating a statewide strategy to combat street harassment, acknowledging its impact on mental health and mobility, particularly for women and vulnerable groups, as crucial. States must define street harassment as a public health issue and launch public awareness campaigns against it. Additionally, they propose implementing gender-sensitive measures to improve rider safety on public transit, as safety concerns often deter women from using public transportation. Transit agencies should develop initiatives based on disaggregated ridership data to address street harassment. Strengthening civil rights protections at businesses to combat bias-motivated harassment against AAPI customers is imperative. This includes employee training and facilitating incident reporting. Furthermore, investing in community-based support for hate victims is crucial. These efforts should include mental health services with a focus on accessibility and cultural sensitivity. Community-based violence prevention programs are also vital.

Governors Highway Safety Association (2021) suggests (among other recommendations) the necessity of prioritizing safety initiatives in marginalized communities that have suffered from historical bias and disinvestment. They stress the importance of directing resources toward infrastructure improvements and safety measures in these underserved areas. Additionally, the report highlights the significance of ensuring diverse representation in leadership positions within transportation agencies and on traffic safety committees. This diversity is seen as crucial for developing and implementing effective safety plans that address the needs of all communities. Furthermore, the report advocates for the development of proactive, research-based interventions aimed at preventing traffic accidents before they occur rather than relying solely on reactive enforcement measures.

Ramakrishnan et al. (2019) emphasize the importance of understanding the diverse needs of AAPI populations through various research methods such as surveys, administrative data collection, and community engagement. Additionally, they highlight the need for policies and philanthropic investments targeting AAPI individuals facing poverty, including Pacific Islanders and Southeast Asian populations like Hmong and Cambodians. However, focusing solely on these groups would overlook the majority of the AAPI population in California struggling with poverty, including Chinese, Filipinos, Indians, Vietnamese, and Koreans. The recommendations caution against the "model minority myth" stereotype and stress the importance of addressing the economic struggles of all AAPI individuals to achieve mobility and prosperity for all in California.

Mauldin et al. (2023) said one strategy to address the information gap about public transportation and paratransit services is to enhance culturally appropriate marketing and implementation efforts. This may include creating materials in Vietnamese (the study focused on Vietnamese older adults but could apply to different ethnicities), conducting targeted outreach, and hiring personnel fluent in Vietnamese. Another approach is subsidizing private ride providers, which could help overcome the barrier related to comfort by having a well-known person provide rides, potentially optimizing expenditure allocation without needing additional infrastructure development.

6.2 What Has Been Done So Far?

In terms of transportation options, multiple transportation choices have been implemented in the last decades to help older adults and individuals with disabilities promote independent travel and stay connected to needed services. These transportation options include Dial-a-Ride, Paratransit, Medicaid Non-Emergency Medical Transportation (NEMT), Transportation Voucher Programs, Volunteer Transportation Programs, and Travel Training, many of which were discussed in detail in Chapter 3.

Travel Training Programs are services provided by public transit agencies and local groups to help older adults and people with disabilities travel on their own. One example of this successful program is the RTA Travel Training program in Chicago, which has educated more than 2,500 disabled people per year on how to use public transportation. The program offers three types of training: Trip Training, which consists of one-on-one sessions to practice using buses and trains for regular travel; Individual Transit Orientation, which offers personalized sessions introducing bus and train accessibility; and Group Transit Orientation, which provides group presentations at agencies serving people with disabilities and older adults, covering public transportation options (Regional Transportation Authority, 2014).

In addressing safety risks related to Asian hate, in 2021, President Joe Biden claimed to stand against racism, xenophobia, and intolerance directed at Asian Americans and Pacific Islanders. He mandated the Department of Justice (DOJ) and the Department of Health and Human Services (HHS) to collaborate with the COVID-19 Health Equity Task Force and community-based organizations to issue guidance “aimed at raising awareness of hate crimes during the COVID-19

pandemic." In 2022, the DOJ and HHS issued a guidance document that provides an overview of the increment of hate incidents and crimes during COVID-19 to AAPI communities and several steps that the authority can take to address both hate crimes and hate incidents. The document is titled "Raising Awareness of Hate Crimes and Hate Incidents During the COVID-19 Pandemic" (US Department of Health and Human Services, 2022).

In terms of English proficiency, Executive Order 13166, issued on August 11, 2000, mandates federal agencies to review the services they offer, ensuring meaningful access to services for individuals with limited English proficiency (LEP), extending to recipients of federal financial assistance. In that context, the US Department of Transportation (DOT) issued its latest updated guidance document, the "Language Access Plan," in September 2023. This plan encompasses six elements and corresponding action steps. To mention just one of several strategies that DOT will implement to assist communities with limited English proficiency (LEP), the telephone interpretation service will be available in more than 125 languages, 24 hours a day, throughout the year (US Department of Transportation, 2023).

In recognition of the increasing older population in recent years and the significant increase in the coming decades, the U.S. Department of Transportation Federal Highway Administration (FHWA) published in 2014 the third edition of a Highway Design Handbook focusing on older adults, this time titled "Handbook for Designing Roadways for the Aging Population." The Handbook is structured into two main sections. The first part comprises suggested interventions for 33 elements of traffic control or geometric design, which are categorized into five groups: Intersections, Interchanges, Roadway Segments, Construction/Work Zones, and Highway-Rail Grade Crossings. These recommendations are based on research findings demonstrating their advantages for older road users. Additionally, the handbook features 18 "Promising Practice" treatments, reflecting contemporary strategies that show promise in reinforcing safety for aging drivers. Part II of the handbook delves into the reasoning behind each treatment, providing comprehensive rationale and supporting evidence (U.S. Department of Transportation FHWA, 2014).

Moreover, states where traffic fatalities and serious injuries for drivers and pedestrians over 65 increased during the most recent 2-year period must include strategies and recommendations from the "Handbook for Designing Roadways for the Aging Population" in the subsequent State Strategic Highway Safety Plan according to The Older Drivers and Pedestrians Special Rule at 23 U.S.C. 148(g)(2) (Walker, 2022, pp. 5–7).

6.3 Discussion and Recommendations Based on This Study

To address the high levels of limited English proficiency among AAPI communities, transportation agencies should prioritize offering signage, schedules, and information routes in as many languages as possible. In low-cost transportation programs, on the other hand, websites, registration forms, and schedule reservations by phone must be available in as many languages as

possible. This improvement ensures that more older adults can easily access the information, promoting greater independence among older individuals and eliminating the need to rely on family or friends for assistance in handling their trips.

For populations becoming aware of the problem of anti-Asian hate, it is essential to initiate educational campaigns aimed at raising awareness of the impact of such hate on the AAPI community. These campaigns should emphasize the significant increase in incidents and crimes due to attacks of discrimination and hate experienced by AAPIs while encouraging community efforts to combat such behavior.

Continuing the research by increasing the sample size and expanding the survey to other cities and states is crucial for gaining a deeper understanding of the diverse needs and challenges within Asian American and Pacific Islander (AAPI) communities.

Additionally, promoting awareness about the economic disparities experienced among the AAPI population clarifies the misconception that AAPI individuals are universally successful, highly educated, and economically affluent. It is essential that policymakers prioritize the inclusion of AAPI communities in policy discussions and resource allocation processes, which will lead to better and more equitable results for all members of these communities.

To improve the mobility of AAPI older adults, it is essential to reduce travel time, improve road conditions, and increase the number of security cameras.

7. Conclusion

The main objective of this study was to understand mobility-related challenges for AAPI older adults. Drawing upon comprehensive analyses from both the literature review and the mobility survey, this study has identified critical barriers to transportation access for AAPI older adults. More broadly, it has deepened the understanding of the extensive implications of transportation mobility, which extends beyond merely facilitating trips. For older adults, mobility represents a crucial aspect of their quality of life, enabling social inclusion and promoting overall well-being. This chapter consolidates the research findings discussed in previous chapters and highlights the influential factors that shape the mobility experiences of this group. Furthermore, it outlines recommendations and suggests future research directions that could continue to inform and improve transportation policies and practices for AAPI older adults.

7.1 Overview of Major Findings

The comprehensive literature review conducted in this study has revealed crucial insights into mobility and immigrant travel behavior. Firstly, it underscores the profound impact of increased mobility, social connections, and access to community services on the quality of life among older adults, effectively mitigating social isolation and loneliness. Public transportation plays a crucial role in addressing these issues, facilitating community engagement and mobility (Stanley et al., 2011; Holt-Lunstad et al., 2005; Banister and Bowling, 2004; Henning-Smith et al., 2020). Immigrants initially favor public transit but shift to cars over time (Blumenberg & Evans, 2010; Blumenberg & Shiki, 2007), adopting typical US travel patterns within five years (Tal & Handy, 2009). Transportation behaviors vary by race and ethnicity, with car access being crucial for employment (Blumenberg, 2008).

In terms of transportation mobility challenges faced by AAPI older adults, this study reveals through the literature review that AAPI individuals, particularly older adults, face the highest levels of limited English proficiency (LEP) and linguistic isolation (AAPI Data, U.S. Census Bureau). Native Hawaiian/Pacific Islanders generally have lower LEP levels, while Vietnamese populations often have the highest rates (Blacher, Ramakrishnan, et al.). In terms of Asian hate, the ethnicity most affected is Chinese individuals, followed by Koreans. The Stop AAPI Hate National Report documents a total of 10,905 incidents between 2020 and 2021, with harassment comprising 66.9% of cases. Incidents mainly occur in public spaces, and 24% involve individuals aged 46 or older, highlighting the vulnerability of older AAPI community members to targeted hate. Older AAPI adults, particularly those aged 75-84 and over 85, had substantially higher pedestrian death rates compared to the overall AAPI population (Naumann and Beck, 2013). On the other hand, teleworking among AAPI workers has increased significantly, leading to changes in commuting behavior and a notable decline in transit use (Puget Sound Regional Council, 2023). Specifically, since the onset of the pandemic, the transportation modes most used by AAPI older adults include walking (68%), riding with family or friends (43%), biking or using an electric bike (37%), and

relying on public transportation (20%) (NADTC and V&L Research and Consulting, 2021). The literature review also revealed significant economic and educational disparities among AAPI communities. Sixty-eight percent of Indians hold a college or postgraduate degree, which is more than four times higher than that of Hmong, NHPI, and Cambodian groups. Chinese, Japanese, and Koreans have a similar level of education, but it is also more than three times that of Hmong, NHPI, and Cambodian groups. Asian communities have the highest level of income inequality compared to other races/ethnicities. AAPI individuals show lower public transportation usage (LA Metro, 2022). A Vietnamese study shows that older adults often lack knowledge of how to use public transportation and its schedules and awareness of Dial-a-Ride services. Additionally, more than half of older adults rely on others for rides (Mauldin et al., 2023).

The second part of this study involved the design, implementation, and analysis of a mobility survey. A summary of the main findings from the mobility survey is as follows: A majority of participants are female, constituting 56% of the group. A significant majority are either U.S. citizens or permanent residents. 86% of participants were born outside the U.S. and 43% have lived in the U.S. for over 20 years. In terms of educational levels, 64% of the participants have attained some college/associate or bachelor's degree or higher. 59% do not primarily speak English at home, and predominantly live with family members. Income levels vary, with 21% earning under $25,000 annually. In terms of English proficiency, 78% speak English less than fluently. The three most common transportation modes for AAPI older adults are cars, walking, and public transit. Conversely, the least utilized transportation modes are paratransit (such as Dial-a-Ride) and bike share or scooter share. Among low-cost transportation options, such as Reduced Fares TAP card, Metro LIFE Program, Medi-Cal transportation services, ACCESS, and Paratransit/Dial-a-ride, 58% of AAPI older adults are not aware of any of them. The transportation barriers that concern AAPI older adults the most are crime (threat of violence/harm), traffic safety, and language barriers. The most significant transportation barriers causing AAPI older adults to alter their travel behavior are crime, physical capabilities, and traffic safety. Less impactful concerns among AAPI older adults are the lack of access to required facilities/vehicles and technology barriers. In terms of factors that would improve respondents' mobility, a substantial majority of respondents, 73.3%, believe that improving road conditions and reducing transit times are crucial for mobility. Additionally, 53.3% support security measures like ensuring accountability for criminals and increasing security cameras.

Furthermore, by contrasting insights from the literature review with the preliminary results from this mobility survey, the study obtained the following findings: The level of education (some college/associate or bachelor's degree or higher) shown in the survey (64%) is higher than the average of 49% found in Figure 11 or the 46% mentioned by Ramakrishnan et al., 2019. These results can be explained by the lower participation (at this preliminary stage) of Cambodians, Hmong, and NHPI communities, which have lower educational levels, thus influencing the average. In terms of the results of English proficiency, this finding aligns with the literature review (Figure 4). On the other hand, the results indicate a clear car dependency among AAPI older

adults. This is understandable considering that 43% of the sample has been living in the U.S. for more than 20 years, and as Chapter 3.2 references, immigrant groups often assimilate into the automobile-centric culture of American society after five years. Excluding car use, walking is the most popular mode of transportation, aligning with past research that identifies walking as the predominant mode of transportation among older adults in a list where car use is excluded (Figure 9-10). In terms of the ACCESS program and paratransit services, the results show that participants are aware of these programs at a rate of 18%, which closely aligns with the 72% of older Vietnamese individuals who strongly disagree or disagree with knowing how to use Dial-a-Ride services like ACCESS or Paratransit (page 28).

7.2 Recommendations and Suggestions

The literature review provided important recommendations and suggestions. For instance, Henning-Smith et al. (2020) recommend collecting data on trip purposes, involving seniors in planning, and fostering collaboration between transportation and public health sectors to address social isolation. Streamlining coordination between state agencies and providing affordable, safe, and accessible transportation options are crucial. Additionally, efforts to reduce stigma and raise awareness encourage older adults to utilize services effectively, promoting community engagement and well-being. Blumenberg and Evans (2010) suggest that transit managers should understand and cater to the preferences of immigrant riders—such as improved coverage, frequent service, safety, comfort, and smooth transfers—to keep them as key users of public transportation. Blumenberg and Shiki (2007) propose policy adjustments intended to either decelerate the assimilation process or attract new riders to transit in California. Hu et al. (2021) suggest that transportation agencies should engage directly with immigrant communities by offering information in native languages and providing culturally sensitive services to create a welcoming environment. Da & Garcia (2015) suggest that immigrants aged 65 and over should have access to free public transportation during non-peak hours in cities. Stop AAPI Hate suggests creating a statewide strategy to combat street harassment, particularly focusing on its impact on mental health and mobility. They also recommend gender-sensitive measures to improve rider safety on public transit and urge transit agencies to use disaggregated ridership data to address street harassment. Additionally, investing in support for hate victims, including accessible and culturally sensitive mental health services, along with community-based violence prevention programs, is crucial. The Governors Highway Safety Association (2021) emphasizes prioritizing safety initiatives and allocating resources for infrastructure improvements in marginalized communities. Additionally, the report underscores the importance of diverse representation in leadership positions within transportation agencies and traffic safety committees to develop inclusive safety plans. Furthermore, it advocates for proactive, research-based interventions to prevent traffic accidents rather than relying solely on reactive enforcement measures. Ramakrishnan et al. (2019) suggest the importance of understanding the diverse needs of AAPI populations through various research methods, such as surveys, administrative data collection, and community engagement. Mauldin et al. (2023) propose enhancing culturally appropriate marketing efforts for public transportation and

paratransit services, including materials in languages like Vietnamese, targeted outreach, and hiring fluent personnel. They also suggest subsidizing private ride providers to overcome comfort barriers and optimize expenditure allocation without extra infrastructure development.

In addition to the recommendations identified in the literature review, this study offers its own suggestion for addressing the challenges faced by AAPI communities. Firstly, to address high levels of limited English proficiency among AAPI communities, transportation agencies should prioritize multilingual signage, schedules, and information routes. In low-cost transportation programs discussed in Chapter 3, such as Dial-a-Ride, Access, Medi-Cal Transportation, LIFE Program, Reduced Fare TAP card, CityRide, and Volunteer Driver Mileage, it is essential to provide multilingual support on websites, registration forms, and phone reservations to ensure that older adults can access essential information independently, reducing reliance on others for trip assistance. Moreover, it is important to dedicate educational efforts to spread awareness of those transportation programs, as the results suggest limited public knowledge about them overall. On the other hand, educational campaigns are crucial to raise awareness about anti-Asian hate among the population. These campaigns should highlight the increasing incidents and crimes targeting the AAPI community while also encouraging community efforts to combat such discrimination and hate. Promoting awareness of economic disparities and dispelling misconceptions about AAPI's success is vital for policymakers to prioritize inclusion and equitable resource allocation for all community members. Based on survey responses, this study also suggests reducing transit travel time, improving road conditions, and increasing the number of security cameras to enhance the mobility of AAPI older adults. Further research, including larger sample sizes and broader survey outreach, is essential for gaining a deeper understanding of the diverse needs and challenges within Asian American and Pacific Islander (AAPI) communities.

7.3 Summary of Actions Taken to Address Transportation Challenges

Finally, several actions have been taken to address transportation challenges aimed at improving mobility for older adults. Various transportation choices, such as Dial-a-Ride, Access, Medi-Cal Transportation, the LIFE Program, Reduced Fare TAP card, CityRide, and Volunteer Driver Mileage (as discussed in Chapter 3), have been implemented to reduce travel costs and facilitate independent travel. These options aim to maintain their independence and connection to necessary services such as healthcare and grocery shopping, as well as to enable participation in social activities. Additionally, Travel Training Programs (page 73) have been implemented to educate thousands of disabled individuals annually on using public transportation. These programs offer one-on-one and group training sessions, aiming to empower individuals with the skills and knowledge needed to navigate public transportation effectively. Efforts to address Anti-Asian hatehave also been made by issuing a guidance document, “Raising Awareness of Hate Crimes and Hate Incidents During the COVID-19 Pandemic,” that provides an overview of the increment of hate incidents and crimes during COVID-19 to AAPI communities and several steps that the authorities can take to address both hate crimes and hate incidents. In terms of English proficiency,

Executive Order 13166 mandates federal agencies to ensure meaningful access to services for individuals with limited English proficiency (LEP). In that context, the US Department of Transportation has released its "Language Access Plan," which includes strategies such as telephone interpretation services in over 125 languages. The "Handbook for Designing Roadways for the Aging Population," released in 2014 by the Federal Highway Administration (FHWA), is a valuable resource for professionals, offering practical insights on highway design, operation, and traffic engineering tailored for older adults. It complements established standards and guidelines, providing a comprehensive framework for accommodating the needs of older individuals on the road. Moreover, states where traffic fatalities and severe injuries for drivers and pedestrians over 65 increased during the most recent 2-year period must include strategies and recommendations from that handbook in the subsequent State Strategic Highway Safety Plan, according to The Older Drivers and Pedestrians Special Rule at 23 U.S.C. 148(g)(2).

Appendix A: Insights from Dial-a-Ride Services by city within LA County

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of Agoura Hills	Any destination within City limits and the Malibu Lake area. There are also trips to Westlake Village, Thousand Oaks, and Oak Park for an increased fare.	-	City residents who are 50 years of age or older, or those with a disability.	Any Purpose	$1.50- $3.00	Transporation Services | City of Agoura Hills, CA (agourahillscity.org)	English
City of Arcadia	Any destination within City limits	Yes	City residents who are 62 years of age or older, or those with a disability. (proof of residency required)	Medical Purpose only	$0.50 $5 monthly pass	City of Arcadia, CA (arcadiaca.gov)	English, Spanish, Chinese, Korean
City of Artesia	Any destination within City limits and select locations outside the city	Yes	City residents who are 60 years of age or older, or those with a disability.	-	Free	Transportation and Safety | Artesia, CA - Official Website (cityofartesia.us)	English
City of Azusa	Any destination within City limits	Yes	City residents who are 55 years of age or older, or those with a disability., (valid LACTOA or ACCESS SERVICES Card required).	Any Purpose	-	Dial-A-Ride | Azusa, CA - Official Website (civicplus.com)	All Language

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Pur-pose(s)	Fares (per one-way trip)	Website	Website Language
City of Bell	-	-	City residents who are 60 years of age or older, or those with a disability.	-	-	Transit Services | City of Bell	English, Spanish
City of Bellflower	Any destination within City limits and travels a short distance outside of city limits for medical purposes	Yes	City residents who are 55 years of age or older, or those with a disability.	Any Purpose	$0.50- $2.00	Bellflower, CA	All Lan-guage
City of Bell Gar-dens	Any destination within City limits	-	City residents who are 60 years of age or older, or those with a disability.	-	$0.25	Dial-a-Ride | Bell Gardens, CA	English, Spanish
City of Beverly Hills	Any destination within City limits and certain areas adjacent to the city for medical appointments only	-	City residents who are 62 years of age or older, or those with a disability.	Any Purpose	-	Senior & Disabled Transportation (beverlyhills.org)	English
City of Bradbury	-	Yes	Passenger must have a disability that requires them to use an ADA accessible vehicle.	-	-	City of Bradbury, CA	English
City of Calabasas	Any destination within city limits, and nine specific locations outside the city	Yes	City residents who are 65 years of age or older, or those with a disability, or have a serious medical condi-tion	Any Purpose	$0.50- $2.00	ShowDocument (cityofcala-basas.com)	English

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of Carson	Any destination within City limits as well as the extended boundaries which include the area within Del Amo Blvd, Atlantic Blvd, Pacific Coast Highway, and Hawthorne Blvd	Yes	City residents who are 60 years of age or older, or those with a disability,	Any Purpose	$2.00	Dial-a-Ride (carson.ca.us)	English
City of Cerritos	Any destination within City limits, Artesia, and portions of La Palma and Norwalk (Tier 1). In addition, Dial-A-Ride provides service to and from any medical facility or hospital within a three-mile radius of Tier 1 boundaries (Tier 2), and to City approved medical facilities and hospitals outside Tier 2 boundaries (Tier 3).	Yes	City residents who are 55 years of age or older, or those with a disability.	-	$1.00- $3.00	City of Cerritos | Dial-A-Ride	All Language
City of Commerce	Within a 10-mile radius of City Hall	Yes	City residents who are 50 years of age or older, or those with a disability.	Any Purpose	Free	Dial-A-Ride Service | Commerce, CA	English and Spanish

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of Compton	Any destination within City limits and satellite points outside of the city including Kaiser - Bellflower, Downey and Harbor City, Harbor General, Martin Luther King and St. Francis Hospitals	Yes	City residents who are 55 years of age or older, or those with a disability.	Any Purpose	$0.25	Transportation Services | Compton, CA (comptoncity.org)	English
City of Diamond Bar	All areas	Yes	City residents who are 60 years of age or older, or those with a disability.	Any Purpose	• $0.50-$1.50 • Beyond service areas, $3.15 per mile after the cab leaves the designated boundaries.	Diamond Ride | Diamond Bar, CA (diamondbarca.gov)	All Language
City of Downey	Any destination within City limits, and travels to Kaiser Bellflower Medical Offices and Cerritos Community College	Yes	City of Downey residents who are 65 years of age, or those with a physician-certified disability which prohibits the use of public transportation.	Any Purpose	$0.50	Downey Dial-A-Ride | City of Downey, CA (downeyca.org)	English, Spanish

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of El Monte	Any destination within City limits, except for medical appointments within a five-mile radius from City Hall.	Yes	City residents who are 55 years of age or older, or those with a disability.	-	-	Dial-A-Ride | El Monte, CA (elmonte.ca.us)	All Language
City of Glendale	Any destination within City limits and county areas of Montrose, La Crescenta, and within the cities of Glendale and La Cañada Flintridge	Yes	City residents who are 65 years of age or older, or those with a disability.	Any Purpose	$1.50	Dial-A-Ride | City of Glendale, CA (glendaletransit.com)	English, Spanish, Armenian
City of Glendora	Any destination within City limits and outside of the City limits to approved medical facilities for medical appointments only.	-	City residents who are 62 years of age or older, or those with a disability.	-	$0.50 - $4.00	Dial-A-Ride | City of Glendora	English
City of Hawaiian Gardens	Any destination within City limits, Lakewood, Long Beach, Downey, Bellflower, Norwalk, Paramount, Artesia, Cerritos, Los Alamitos, Cypress, and Buena Park	Yes	City residents who are 55 years of age or older, or those with a disability, disabled passenger 5 year and above.	-	Free	Full page fax print (hgcity.org)	English

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of Huntington Park	Any destination within City limits, including transportation within a two (2) mile radius of the City's borders, along with the listed Approved Satellite Points	Yes	City residents who are 65 years of age or older, or those with a disability.	Any Purpose	$1.00	Dial-A-Ride-Brochure---Final-Bilingualsc-August-2016 (hpca.gov)	English, Spanish
City of La Canada Flintridge	Any destination within City limits, Glendale, La Crescenta, Montrose, Altadena and areas of Pasadena west of Lake Avenue.	Yes	City residents who are 60 years of age or older, or those with a disability.	Any Purpose	Free	Transportation | City of La Cañada Flintridge (cityoflcf.org)	14 languages
City of La Puente	Any destination within City limits and to medical and dental appointments up to 5 miles outside of the City limits.	Yes	City residents who are 55 years of age or older, or those with a disability.	-	$0.25	Transit Services - City of La Puente	7 languages
City of Lawndale,	Any destination within City limits	-	City residents who are 60 years of age or older	Any Purpose	Free	Lawndale Senior Transit Program - City of Lawndale, CA (lawndalecity.org)	All Language

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of Lomita	The service area is limited to trips originating and terminating in the area between Hawthorne Blvd and Vermont Ave and between Sepulveda Blvd and Pacific Coast Highway and where the city boundary crosses over the highway.	Yes	City residents who are 65 years of age or older, or those with a disability.	-	$1.00	Dial-A-Ride (Swipe Card) Program - City of Lomita (lomitacity.com)	English
City of Long Beach	Any destination within City limits and Lakewood, Signal Hill, Paramount	Yes	Long Beach, Lakewood, Signal Hill, or Paramount residents who are 18 years of age or older with a disability. An active member of Access Services before time of application for Dial-a-Lift.	-	$2.00	Dial-A-Lift | ridelbt.com Long Beach Transit	English
City of Manhattan Beach	Any destination within City limits. Rides are also available to medical and other designated sites in Hermosa Beach, Redondo Beach, and Torrance.	-	City residents who are 55 years of age or older, or those with a disability.	Any Purpose	$0.25- $0.50	Dial-A-Ride | City of Manhattan Beach	English, Spanish

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of Maywood	Any destination within City limits, including within two (2) miles of City limits for medical appointments only, and to approved satellite points.	Yes	A person(s) with disabilities. An individual who is sixty-two (62) years old or older. Resident of the City of Maywood (proof of residency required)	Any Purpose	$1.00	Dial-A-Ride Paratransit | Maywood, CA (cityofmaywood.com)	All Language
City of Montebello	Any destination within City limits. Medical trips are allowed outside City boundaries, but within the designated DAT service area.	Yes	City residents who are 62 years of age or older, or those with a disability. or Medicare card holders.	-	$1.00	Dial-A-Taxi - City of Montebello (montebelloca.gov)	All Language
City of Norwalk	Any destination within City limits	Yes	City residents who are 60 years of age or older, or those with a disability.	Any Purpose	$1.00	Dial-A-Ride | City of Norwalk, CA	All Language
City of Paramount	Any destination within City limits	-	City residents who are 55 years of age or older, or those with a disability, and anyone residing ¾ of a mile outside a regular City transportation bus stop	Any Purpose	$1.00	Paramount_Transportation_Opportunities_2013 (paramountcity.com)	English

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of Pasadena	Any destination within City limits, San Marino, Altadena, and the unincorporated areas of Los Angeles County (i.e., Chapman Woods, Kinneloa area, and the unincorporated area of the City of San Gabriel) .	Yes	60 years and older or for those under 60 years with an Access membership or a LACTOA Disabled Reduced Fare TAP card.	-	$0.75	Dial-a-Ride - Pasadena Transit (cityofpasadena.net)	English, Armenian, Chinese, Korean, Spanish, Tagalog
City of Redondo Beach	All rides must begin or end in Hermosa Beach, Redondo Beach, or at one of the satellite locations.	Yes	City residents who are 62 years of age or older, or those with a disability.	-	$1.00	The WAVE Dial-A-Ride (redondo.org)	All Language
City of Sierra Madre	Any destination within City limits. Out-of-town trips can go no more than two miles beyond the City, but may travel to a variety of the medical facilities in Pasadena, Arcadia, or Duarte.	Yes	City residents who are 62 years of age or older, or must have a form, signed by a physician, attesting to a disability which hinders mobility and the use of MTA buses.	-	$0.50	Dial-a-Ride - Sierra Madre (cityofsierramadre.com)	English

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of South Pasadena	Any destination within City limits, Transportation is also provided to Huntington Memorial Hospital in Pasadena & surrounding medical offices, as well as in Arcadia (limited locations) & Alhambra (limited locations).	Yes	City residents who are 55 years of age or older, or those with a disability.	Any Purpose	$0.50	6367217090833300 00 (southpasade-naca.gov)	English
City of Temple City	Any destination within City limits and select destinations within the cities of Arcadia, El Monte, San Gabriel and Rosemead.	Yes	City residents who are 60 years of age or older, or those with a disability.	-	-	Dial-A-Ride | Temple City, CA - Official Website (temple-city.ca.us)	English, Chinese
City of Walnut	Any destination within City limits and within 5 miles outside of City limits Special Services (listed on brochure)	Yes	seniors or disabled	Any Purpose	$1.00- $3.00	Dial a Cab | City of Walnut, CA	All Language
City of West Covina	Any destination within City limits. The service area extends 3 miles outside city limits for medical trips only.	Yes	City residents who are 55 years of age or older, or those with a disability.	Any Purpose	$0.50	Transit Services | City of West Covina	All Language

City	Areas Served	Registration Required	Eligibility to Ride	Eligible Trip Purpose(s)	Fares (per one-way trip)	Website	Website Language
City of West Hollywood	Any destination within City limits and Beverly Hills and the surrounding areas	-	City residents who are 62 years of age or older, or those with a disability.	Any Purpose	Free	Cityline Dial-A-Ride Flex | City of West Hollywood (weho.org)	English
City of Westlake Village	Any destination within City limits, and Thousand Oaks, Agoura Hills, and Oak Park.	Yes	City residents who are 65 years of age or older	-	$4.00	Senior and Disabled Dial-A-Ride | Westlake Village, CA - Official Website (wlv.org)	English
City of Whittier	Any destination within City limits.	-	City residents who are 60 years of age or older, or those with a disability.	Any Purpose	• Dial-a-ride uses pre-paid ride cards. • $5 (10 trips) • $10 (20 trips).	Dial A Ride and DAR PLUS | Whittier, CA - Parks, Recreation and Community Services (whittierprcs.org)	Englis, Spanish

Appendix B: Older Adults Transportation Survey

Q1 Please use the highlighted dropdown menu to select your preferred language and then click button at the bottom to continue.

Q2 You are being invited to participate in a research study, which the Cal Poly Pomona Institutional Review Board (IRB) has reviewed and approved for conduct by the investigators named here. This form is designed to provide you - as a human subject/participant - with information about this study. The investigator or his/her representative will describe this study to you and answer any of your questions; you are entitled to a copy of this form. If you have any questions about your rights as a subject or participant, complaints about the informed consent process of this research study or experience an adverse event (something goes wrong), please contact the Research Compliance Office within Cal Poly Pomona's Office of Research at 909.869.4215. More information is available at the IRB website, http://www.cpp.edu/~research/irb/index.shtml

Project Title: Understanding Mobility-Related Challenges for Older Adults
Protocol Number: IRB-23-167
Principal Investigator: Dr. Yongping Zhang, phone number: 626.623.0321;
email: yongpingz@cpp.edu.

This project aims to better understand mobility-related challenges for older adults in order to provide government agencies and organizations recommendations for policy and program changes to pursue. On average, these questions will take about 10 minutes to complete, and we do not anticipate you experiencing any negative feelings when responding to these questions. Your participation in this study is completely voluntary and anonymous.

Q6 Statement of project understanding

I have read the above information and am aware of the potential risks and complications. I fully understand that I may withdraw from this research project at any time or choose not to answer any specific item or items without penalty. I also understand that I am free to ask questions about techniques or procedures that will be undertaken. I am aware that there is no compensation for my participation. Finally, I understand that information obtained about me during the course of the study will be kept anonymous and cannot be traced.

Q8 Please let us know that you are 18 years or older and agree to participate. If you decide not to participate you will be exited from the survey. Thank you.

- ○ Yes
- ○ No

Q9 Thank you for considering taking part in the study of the mobility needs of older adults. We understand that you have decided not to complete the survey.

Q51 Would you like to enter in to an optional raffle for an opportunity to win a $50 Amazon Gift Card?

- ○ Yes
- ○ No

Q52 What is the best way to contact you in if you are selected to receive a prize?

- ○ Phone number _____
- ○ Email _____
- ○ Mail _____

Q63 Which race or ethnicity best describes you? (Please choose only one.)

- ○ American Indian or Alaskan Native
- ○ Asian
- ○ Pacific Islander
- ○ Black or African American
- ○ Hispanic
- ○ White / Caucasian
- ○ Multiple Ethnicities / Other (please specify)
  _____

Q64 What is the culture with which you identify?
Check all that apply

- ○ Chinese or Chinese-American
- ○ Filipino or Filipino-American
- ○ Vietnamese or Vietnamese-American
- ○ Korean or Korean-American
- ○ Japanese or Japanese-American
- ○ Cambodian or Cambodian-American
- ○ Other - Write In _____

Q65 What is the culture with which you identify? Check all that apply

- ○ Mexican
- ○ Puerto Rican
- ○ Cuban
- ○ Other - Write In _____

Q75 Enter your 5 digit zip code

_____

Q13 What is your age? Select from the age groups below.

- ○ Under 50
- ○ 50 to 54
- ○ 55 to 59
- ○ 60 to 64
- ○ 65 to 69
- ○ 70 to 74
- ○ 75 to 79
- ○ 80 and older

Q14 Which statement best describes your gender?

- ○ Male
- ○ Female
- ○ Other

Q15 Are you a U.S. citizen or do you have permanent residency status?

- ○ Yes
- ○ No

Q16 How long have you lived in the United States?

- ○ I was born here
- ○ Less than one year

- 1 to 5 years
- 6 to 20 years
- More than 20 years
- Other

Q17 What is your highest level of education?

- Less than high school
- High school
- Some college/associate degree
- Bachelor's degree or higher

Q67 Which of these were completed within the US?

- Less than high school
- High school
- Some college/associate degree
- Bachelor's degree or higher
- None of these

Q66 Do you mostly speak English at home?

- Yes
- No

Q53 How well can you speak English?

- Not at all
- Very little
- Basic phrases
- Fluent but not native
- Native speaker

Q18 Who else lives in your home with you?
Check all that apply

- I live alone
- Family member(s)
- Non-family member(s)

- ○ Pet(s)

Q55 What is your annual household income from all sources?

- ○ Under $25,000
- ○ $25,000 to 49,999
- ○ $50,000 to 74,999
- ○ $75,000 to 99,999
- ○ $100,000 and above

Q20 What kind of house do you live in?

- ○ Single family home
- ○ Townhouse
- ○ Apartment or condo
- ○ Retirement Community
- ○ Other - Write In _____

Q30 Do you use any of the following?

- ○ Cane
- ○ Walker
- ○ Wheelchair
- ○ Other - Write In _____
- ○ I do not use any of these

Q22 Which of these have you used in the last 7 days?
Check all that apply

- ○ Car
- ○ Walking
- ○ Micro-mobility (Bicycles, E-bikes, E-scooters)
- ○ Public transit (Bus or train)
- ○ Bikeshare or Scooter share
- ○ Paratransit (Dial-a-Ride, etc.)
- ○ Car share (Zipcar, Maven, Blue LA, etc.)
- ○ Ride-hailing (Taxi/Uber/Lyft)

Q24 Which ways of traveling do you prefer?
Drag each of these transportation options placing them from highest preference to lowest.

_____ Car

_____ Walking

_____ Micro-mobility (Bicycles, E-bikes, E-scooters)

_____ Public transit (Bus or train)

_____ Bikeshare or Scooter share

_____ Paratransit (Dial-a-Ride, etc.)

_____ Car share (Zipcar, Maven, Blue LA, etc.)

_____ Ride-hailing (Taxi/Uber/Lyft)

Q25 Do you have access to a car when needed? *This means that you either own a car or can travel by a car owned by someone else you know.*

- ○ Yes, I can drive my own car.
- ○ Yes, I can drive a shared car.
- ○ Yes, I can always get a ride from others.
- ○ Sometimes I can not get a ride from someone or drive the shared car.
- ○ No, I rarely can get a ride from someone or drive the shared car.

Q72 Which of the following programs are you aware of?

- ○ Paratransit/Dial-a-Ride
- ○ ACCESS Service
- ○ Medi-Cal covered transportation services
- ○ Metro LIFE Program
- ○ Reduced Fares TAP card
- ○ Other _____
- ○ None

Q73 Please answer the following questions concerning the previously selected programs.

	Do you qualify for the prorgram?			Are you enrolled?		Do you use the service regularly?	
	Yes	No	Don't know	Yes	No	Yes	No
Paratransit/Dial-a-Ride	○	○	○	○	○	○	○
ACCESS Service	○	○	○	○	○	○	○
Medi-Cal covered transportation services	○	○	○	○	○	○	○
Metro LIFE Program	○	○	○	○	○	○	○
Reduced Fares TAP card	○	○	○	○	○	○	○
Other	○	○	○	○	○	○	○
None	○	○	○	○	○	○	○

Q69 How concerned are you about each of these categories when travelling?

	Not concerned (1)	Less concerned (2)	Neutral (3)	Concerned (4)	Very concerned (5)
Lack of access to required facilities/vehicles	○	○	○	○	○
Traffic Safety	○	○	○	○	○
Crime (threat of violence/harm)	○	○	○	○	○
My physical capabilities	○	○	○	○	○
Cultural/Religious hate	○	○	○	○	○
Language barriers	○	○	○	○	○
Technology barriers	○	○	○	○	○

Q71 Answer yes or no if each category applies to the sentence on the left.

Answer yes or no if each category applies to the sentence on the left.

	Lack of access to required facilities/vehicles		Traffic Safety		Crime		My physical capabilities		Cultural/Religious hate		Language barriers		Technology barrier	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
I avoid walking because of my concerns with...	○	○	○	○	○	○	○	○	○	○	○	○	○	○
I avoid driving because of my concerns with...	○	○	○	○	○	○	○	○	○	○	○	○	○	○
I avoid using transit because of my concerns with...	○	○	○	○	○	○	○	○	○	○	○	○	○	○
I avoid using micro-mobility (bikes, e-bikes, e-scooters) because of my concerns with...	○	○	○	○	○	○	○	○	○	○	○	○	○	○
I prefer buying things online because of my concerns with...	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Q46 Please share some of the challenges or barriers you experienced while traveling to places.

_____

Q47 Please select from the list which would improve your mobility or add your own.

- ○ Make transit more reliable
- ○ Reduce transit travel time
- ○ Provide current bus arrival information at stops
- ○ Provide pedestrian/bike friendly infrastructure
- ○ Improve road conditions
- ○ Increase the amount of security cameras
- ○ Increase the presence of law enforcement
- ○ Ensure criminals are held accountable
- ○ Other - Write In _____

Q48 We are hoping to talk with a few people answering the survey. Would you be willing to speak with us?

- ○ Yes
- ○ No

Q50 What is the best way for us to contact you?

- ○ Phone number _____
- ○ Email _____
- ○ Mail _____

Abbreviations and Acronyms

AAPI	Asian American and Pacific Islanders
COVID-19	Coronavirus Disease 2019
LEP	Limited English Proficiency
ACS	American Community Survey
OIS	Office of Immigration Statistics
DHS	Department of Homeland Security
VDMR	Volunteer Driver Mileage Reimbursement

Bibliography

1. Stanley, J.K., Hensher, D. A., Stanley, J. R., & Vella-Brodrick, D. Mobility, social exclusion and well-being: Exploring the links. Transportation Research Part A: Policy and Practice 2011, 45(8), 789-801.

2. Saczynski, J.S., Pfeifer, L. A., Masaki, K., Korf, E. S., Laurin, D., White, L., & Launer, L. J. The effect of social engagement on incident dementia: the Honolulu-Asia Aging Study. American journal of epidemiology 2006, 163(5), 433-440.

3. Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. Loneliness and social isolation as risk factors for mortality: a meta-analytic review. Perspectives on psychological science 2015, 10(2).

4. Banister, D., & Bowling, A. . Quality of life for the elderly: the transport dimension. Transport policy 2004, 11(2), 105-115.

5. Spinney, J.E., Scott, D. M., & Newbold, K. B. Transport mobility benefits and quality of life: A time-use perspective of elderly Canadians. Transport policy 2009, 16(1), 1-11.

6. Blacher, K. Asian Americans and Pacific Islanders in the United States aged 55 years and older: population nativity and language NAPCA 2013, 1(1).

7. Budiman, A., & Ruiz, N. G. Asian Americans are the fastest-growing racial or ethnic group in the U.S. Pew Research Center 2021.

8. Data., A. State of Asian Americans, Native Hawaiians, and Pacific Islanders in California. 2022.

9. Mauldin, R.L., Mattingly, S., Haque, M., Connolly, J. P., Thomas, L., Tarbet, Z., ... & Parekh, R. Transportation Behavior Among Older Vietnamese Immigrants in the Dallas-Fort Worth Metroplex: Well-Being, Geospatial Mobility, and Potential Indicators for Ride Providers' Geospatial Burden. 2023.

10. Yellow Horse, A.J., Jeung, R., & Matriano, R. Stop AAPI Hate National Report Stop AAPI Hate 2021.

11. Association, G.H.S. An analysis of traffic fatalities by race and ethnicity. 2021.

12. Council, P.S.R. Commuting behaviors of Asian Americans and Pacific Islanders. 2023.

13. Ramakrishnan, K., Wong, J., Jones, R. P., Jackson, N., Orces, D., & Greenberg, D. The working lives and struggles of Asian Americans and Pacific Islanders in California.

14. Center, N.A.a.D.T. Transportation needs and assessment of diverse older adults, younger adults with disabilities and caregivers. 2021.

15. Hu, L. Changing travel behavior of Asian immigrants in the US. Transportation research part A: policy and practice 2017, 106, 248-260.

16. Blumenberg, E., & Shiki, K. Transportation assimilation: immigrants, race and ethnicity, and mode choice 2007.

17. Webber, S.C., Porter, M. M., & Menec, V. H. Mobility in older adults: a comprehensive framework. The gerontologist 2010, 50(4), 443-450.

18. Henning-Smith, C., Worrall, C., Klabunde, M., & Fan, Y. The role of transportation in addressing social isolation in older adults. 2020.

19. Gibson, I. Annual flow report: U.S. Lawful Permanent Residents 2021. Available online: http://ohss.elevation-us.com/sites/default/files/2023-12/2022_0405_plcy_lawful_permanent_residents_fy2021v2.pdf

20. Van Hook, J., Gelatt, J., & Ruiz Soto, A. G. . A turning point for the unauthorized immigrant population in the United States. . Available online: https://www.migrationpolicy.org/news/turning-point-us-unauthorized-immigrant-population

21. Blumenberg, E., & Shiki, K. Moving in and moving around: immigrants, travel behavior, and implications for transport policy. Transportation Letters 2009, 1(2), 169-180.

22. Blumenberg, E., & Evans, A. E. Planning for demographic diversity: the case of immigrants and public transit. Journal of Public Transportation 2010, 13(2), 23-45.

23. Blumenberg, E., & Smart, M. . Getting by with a little help from my friends… and family: immigrants and carpooling. Transportation Letters 2010, 37, 429-446.

24. Tal, G., & Handy, S. . Travel behavior of immigrants: An analysis of the 2001 National Household Transportation Survey. Transport Policy 2010, 17(2), 85-93.

25. Hu, L., Nicholas J. Klein, and Michael J. Smart. Comparing immigrant commute travel adaptation across and within racial/ethnic groups. Transport Policy 2021, 110, 112-122.

26. Murakami, K. 'English. English. Everything English': Why doesn't Metro speak more languages? Available online: https://www.washingtonpost.com/express/2018/11/28/english-english-everything-english-why-doesnt-metro-speak-more-languages/

27. Da, W.W., & Garcia, A. Later life migration: Sociocultural adaptation and changes in quality of life at settlement among recent older Chinese immigrants in Cana. Activities, Adaptation & Aging 2015, 39(3), 214-242.

28. Dabelko-Schoeny, H., Maleku, A., Cao, Q., White, K., & Ozbilen, B.). "We want to go, but there are no options": Exploring barriers and facilitators of transportation among diverse older adults. Journal of Transport & Health 2021, 20.

29. Blumenberg, E., & Evans, A. E. Immigrants and transport barriers to employment: The case of Southeast Asian welfare recipients in California. Transport Policy 2008, 15(1), 33-42.

30. CRS responds to hate crimes against Asian Americans and Pacific Islanders. Available online: https://www.justice.gov/crs/highlights/AAPI-hate-crimes

31. Walker, C.J. Highway Safety Improvement Program Special Rules Guidance. Available Online: https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/Section148_SpecialRule_Guidance.pdf

32. Naumann, R.B., & Beck, L. F. Motor vehicle traffic-related pedestrian deaths — United States, 2001–2010. Available online: https://www.cdc.gov/mmwr/pdf/wk/mm6215.pdf

33. The rise of Asian Americans. Pew Research Center's Social & Demographic Trends. Available online: https://www.pewresearch.org/social-trends/2012/06/19/the-rise-of-asian-americans/

34. Income inequality in the US is rising most rapidly among Asians. Available online: https://www.pewresearch.org/social-trends/2018/07/12/income-inequality-in-the-u-s-is-rising-most-rapidly-among-asians/

35. 6 charts that dismantle the trope of Asian Americans as a model minority. Available online: https://www.npr.org/2021/05/25/999874296/6-charts-that-dismantle-the-trope-of-asian-americans-as-a-model-minority

36. Results of our 2022 customer experience survey. Available online: https://thesource.metro.net/2022/10/27/results-of-our-2022-customer-experience-survey/

37. US Department of Health and Human Services. Raising awareness of hate crimes and hate incidents during the COVID-19 pandemic. 2022.

38. Travel training program educates people with disabilities on how to use public transportation. Available online: https://www.rtachicago.org/about-rta/press-releases/travel-training-program-educates-people-with-disabilities-on-how-to-use-public-transportation

39. Improving access to services for persons with limited English proficiency. Available online: https://www.justice.gov/node/118556

40. Handbook for designing roadways for the aging population. Available online: https://safety.fhwa.dot.gov/older_users/handbook/aging_driver_handbook_2014_final.pdf

41. Burrows, M., Burd, C., & McKenzie, B. Commuting by public transportation in the United States: 2019. American Community Survey Reports 2021, 802.

42. Commuting behaviors of Asian Americans and Pacific Islanders. Available online: https://www.psrc.org/media/7650

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