Transportation Needs Assessment for Mecca

Figure 1: Community Outreach Event in Mecca

Clean Mobility Options Voucher Pilot Program (CMO)
Submitted on January 31, 2022
Prepared by: The LEAP Institute

"CMO is part of California Climate Investments (CCI), a statewide initiative that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy, and improving public health and the environment — particularly in disadvantaged communities."

Clean Mobility Options

California Climate Investments
Cap and Trade Dollars at Work

THE LEAP INSTITUTE

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Acknowledgements

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On site partners:

- Comité PODER (Pueblos Organizando por la Dignidad Enpoderamiento y Responsabilidad/Communities Organziing for Dignity Empowerment and Responsability) of Thermal
- Luis Olmedo, Executive Director, Comite Civico de Valle
- Matthew Maldonado, Comite Civico de Valle

Mecca Advisory Committee

- Bea Gonzalez, Trustee Area 2, Desert Community College District and Coordinator at Coachella Valley Unified School District
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- Juan Alvarez, Proyecto Purepecha, The LEAP Institute

Of course, none of this would be possible without the residents of Mecca. We would especially like to thank community members who took the time to provide input, conducted outreach, and completed the transportation needs assessment.

Thank you to the California Air Resources Board (CARB) for providing essential funding toward clean transportation investments in vulnerable communities through the California Climate Investments program, and CALSTART for their invaluable assistance.

Executive Summary

Project Sites:

- **Mecca**, a community with a large indigenous population, has been ignored due to their level of poverty, education, and cultural background.

Project Goals and Objectives:

- Increasing access for low-income residents and disadvantaged communities to economic opportunity, medical facilities, schools, parks, grocery stores, and other daily essential needs.
- Providing tailored clean mobility options to address resident needs identified through a community transportation needs assessment and to meet equity goals.
- Reducing greenhouse gases and criteria pollutants from the combination of reduced vehicle trips and use of electric vehicles rather than internal combustion engine vehicles.
- Reducing private vehicle ownership and vehicle miles traveled (VMT).
- Reducing transportation costs for residents.
- Informing cities and developers of best practices for right-sized parking and mobility options for affordable housing developments.

The Transportation Needs Assessment is a Community Mobility Options (CMO) project by the nonprofit organization The Latino Equity Advocacy and Policy Institute (The LEAP Institute) addressing the needs for clean forms of transportation in vulnerable communities throughout California. The LEAP Institute received $50,000 per county totaling $150,000 from California Air Resources Board (CARB), a California government-centered agency for clean air, to design and implement a plan to improve transportation options in the disadvantaged communities of Mecca. The project provides access to new, clean mobility options including an electric vehicle car sharing program and a mix of additional mobility options based on residents' needs, such as transit passes, bike sharing, and e-scooter sharing. The project increases access to economic opportunity, medical facilities, schools, parks, grocery stores, and other daily needs, while also working to reduce vehicle trips and greenhouse gases to meet the state's broader climate goals. The CMO's Transportation Needs Assessment is funded by California Climate Investments (CCI), a statewide initiative that puts billions of Cap-And-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy, and improving public health and the environment—particularly in disadvantaged communities.

Introduction

The Latino Equity Advocacy & Policy Institute (The LEAP Institute) is a 501 (c) 3 nonprofit corporation and is the sole responsible applicant for this grant. Rey León is the Chief Executive Officer and has been authorized by the Board of Directors to file and execute these applications on behalf of The Latino Equity Advocacy and Policy Institute. The LEAP Institute is a Latino-Valley based environmental justice community institution in Fresno, California. Its mission is to engage Valley communities to increase social justice awareness, strengthen grassroots leadership and empower Latinos, farmworkers, immigrants, and youth to achieve environmental, sustainable justice while improving community health.

The LEAP Institute, formerly known as Valley LEAP, was initiated in 2008, incorporated in 2017 and obtained non-profit status in 2018.The LEAP Institute is the pioneer of the Green Raiteros rural ridesharing program in the San Joaquin Valley. The program provides a few services including a volunteer ride-share service with cost-effective transportation to underserved farmworker communities. It increases access to public health, education and economic empowerment while reducing air pollution and greenhouse gasses by using electric vehicles. This program has been in effect since 2018.

Project Background

Previous Studies & Plans for Mecca Transportation

Riverside County Neighborhood Mobility Plan 2017 (the Neighborhood Mobility Plan for the Communities of Thermal and Oasis and the Regional Mobility Plan for the Unincorporated Communities of the Eastern Coachella Valley) is a proposed vision for the ECV region. In May of 2017, Riverside County began preparing a neighborhood plan aimed to identify the mobility needs of residents in Thermal and Oasis. The country would begin to develop corresponding solutions that would begin to address the challenges faced by the region. The Neighborhood Mobility Plan for the Communities of Thermal and Oasis was adopted by the County of Riverside Board of Supervisors in January of 2019.

This Plan, for North Shore and Mecca, is seen as an expansion of the Thermal and Oasis effort, applying the same comprehensive community-based planning process to these communities. The North Shore and Mecca planning process kicked off in November 2018, identifying similar mobility needs and synthesizing a plan specific to these neighborhoods. Mobility challenges and recommendations for the unincorporated ECV at the regional scale were also identified through this process, bridging the needs of Thermal, Oasis, North Shore, and Mecca residents and connecting them to the broader Coachella Valley region. These findings can be found in the Regional Mobility Plan for the Unincorporated Communities of the Eastern Coachella Valley.

Throughout the Plan development, residents expressed an interest in going beyond a traditional transportation planning approach; they saw the possibility for a mobility plan to prioritize challenges of transportation and mobility within their communities.

The plan was funded by a Caltrans Sustainable Communities Planning Grant awarded to the County of Riverside in December 2017. The Sustainable Communities Planning Grant has a mission to promote a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability. In applying for this grant, the County's goal was to expand the comprehensive community- based planning approach used in the neighboring communities of Thermal and Oasis to North Shore and Mecca. https://rctlma.org/trans/Project-Information/Transportation-Planning-Projects

Project Team

The project team consists of The LEAP Institute, CCI, and CMO, a public interest organization focused on equitable shared mobility. CCI provides project administration and budgetary oversight whereas The LEAP Institute leads project design and implementation. CMO helped develop the needs assessment survey, conducted the analysis of the survey results, and will assist with the vendor selection process for car sharing and additional mobility services.

Rey León, LEAP Executive Director: Rey León has a 27-year track record as a Valley activist and organizer. He has been active in co-founding numerous partnerships to advance social justice and community self-determination in the eight-county region of the San Joaquin Valley. He has successfully advanced air quality public policy, environmental justice and community engagement on environmental health issues. Mr. León is co-founder of the Central Valley Air Quality Coalition and an Honorary Life-time member. He is serving his second term as Mayor of the City of Huron, where he won re-election by receiving 95% of the vote. Mr. León has been organizing in the Valley for farmworker public health, environmental, climate and economic justice since 1994 and for the past fifteen years has been advocating and successfully building coalitions, community capacity, advancing public policy; placement of the first PM 2.5 air quality monitor on the West Side of the Valley in 2006, systems change; developing the first ever environmental justice strategy and committees for both the San Joaquin Valley Air Pollution Control District and the Fresno County Council of Governments before 2010. He is the founder and Executive Officer of The Latino Equity Advocacy & Policy Institute (The LEAP Institute). Through the LEAP Institute, Rey continues to organize with the grassroots agencies and other partners to promote sustainable development, clean energy alternatives, green jobs and reduction of pollution GHGs in concentrated clusters of poverty in the central San Joaquin Valley). Additionally, the LEAP manages the Kings County environmental violations reporting system and network (aka. Kings IVAN) with the community and a myriad of agencies from all levels of government. Resulting achievements include leadership development of farm workers, community cleanups, further research and pollution mitigation. Mr. León, through LEAP, successfully works with Valley communities to achieve environmental and climate justice.

Russell Teall, LEAP Chief Development Officer: Russell Teall is the President of Biodico Renewables, LLC, a company which he founded as a special purpose vehicle for developing, commercializing, and raising capital for distributed renewable energy systems for charging EVs. Under Teall's leadership the Biodico family of companies began in 1992 and successfully patented biorefinery production techniques for a wide variety of feedstocks. Beginning with laboratory-scale demonstrations, these technologies eventually led to full-scale commercial operations in California, Nevada, Colorado, Texas, and Australia. These plants utilized Teall's patented process with capacities of 3-20 million gallons per year and produced biodiesel predominantly from recycled fryer oils, with the capability of using a wide variety of other feedstocks, including crude vegetable oils and animal fats. The Biodico family of companies are continuing to actively develop improvements to the biofuel and renewable energy platform. The most recent generation of equipment brings automation and telemetry to on-site renewable energy production as part of an integrated self-sustaining system, utilizing biodiesel production, anaerobic digestion, solar, wind and energy storage.

Community Transportation Needs Assessments

Prior to implementing car sharing and mobility hubs services, the project team led a community transportation needs assessment process ("needs assessment") to understand residents' current travel behavior and identify their transportation resources, needs, gaps in transit and challenges. The LEAP Institute method of operation with communities is always about learning what the community has, appreciates and what they need or want. It is important to begin where the local community finds itself in and learn from them to understand the community dynamics. This is a critical first step in identifying barriers, opportunities, and solutions best suited to meet the unique needs of residents in each community. The needs assessment also explored residents' interest in each potential clean mobility option (e.g., bike sharing, e-scooters, transit passes) to determine which to prioritize for each site.

The needs assessment was designed to:

- Understand residents' current transportation habits, needs and wants.
- Understand challenges faced by residents in accessing and utilizing various mobility options for themselves and their family.
- Gauge residents' current knowledge and interest in learning about clean mobility and using new shared mobility options.
- Understand the demographic profile of the residents. (100% Latino, mostly farmworker families, seniors)
- Collect baseline data to measure progress on project goals, e.g., access to destinations, mode shift, and car ownership.

Conducting a needs assessment is a valuable first step to empower residents to start carving out how investments can be used to provide them the transportation solutions they require for their communities. This is a key lesson for pilot project design, and an approach that can be modeled in other communities that want to increase access to clean transportation and mobility options.

Project Areas: Mecca

The Mecca community needs to conduct a transportation need assessment to assist them in identifying their transportation needs and evaluating gaps that will help in planning for future clean mobility projects. LEAP will focus on the lack of infrastructure and clean mobile transportation needs. It will address the concerns that are vital to the disadvantaged community where the poor, indigenous population have been ignored due to their level of poverty, education, immigrant status and cultural background. Some of these concerns include the length of time waiting for public transportation service, the lack of shade and lighting at the bus stops, better access to jobs, education, recreation, medical care, and overall lack of safety when it comes to accessing public transportation. LEAP will work with the community to collaboratively develop solutions in connection with the residents so that they may have options available to them that are door-to-door for medical and direct commute for students to their educational institutions.

The Leap Institute has reviewed other local and regional transportation plans conducted in Riverside County. These plans have served to highlight the disparity that exists between the

impoverished Mecca and other communities in the East Coachella Valley with the more affluent communities in the West Coachella Valley. They focus on the limitation of the communities and the lack of infrastructures and resources that are out of reach for the local agencies to address. These studies are done by agencies, committees and other people who are politically involved. As stated by the Greenlining Institute's Mobility Equity Framework "Decades of local, regional, and state transportation plans and investments in California have not adequately responded to the mobility needs of low-income communities of color, reinforcing unequal land-use patterns and contributing to disproportionate health and economic impacts.[1]

The community of Mecca and especially the area inhabited by the P'urhépecha [2] lacks adequate and affordable clean transportation options. The Sunline Public Transportation System has two routes servicing the area daily. One has a travel frequency of every 60 minutes, and the other every 180 minutes. There is not enough ridership to increase the frequency, so it is not feasible to do so. While the system is very active, it is still not sufficient to provide better access to jobs, education, recreation, medical care and healthy foods. Vanpool is available, but it requires the employer to be involved and must have adequate ridership to be provided. Paratransit Provides service to those certified under ADA who cannot ride the fixed route bus service; however, it operates as a deviated fixed route so that the rider must access the regular route to have access, making it difficult for an elderly or sick person to rely on. The lack of sidewalks and connectivity makes it difficult for the residents to ride or walk safely to their destinations. Although we must note that sidewalk infrastructure is becoming more available in Mecca.

The indigenous Mexican population and especially the P'urhépecha are populations historically excluded from participating in community and transportation planning events in the Eastern Coachella Valley. Although they are Mexican, not always do they speak, read, or write Spanish fluently. They are often discriminated against and made fun of even by their own Mexican compatriots. Their greatest ability is to work hard, so they labor in the agricultural fields in Riverside County. An article in the Los Angeles Time (2008) [3]described them as the "poorest of the poor" isolated by geography, language, and discrimination. This makes it hard for them to participate in community meetings and planning discussions because of their language and educational barrier. Most recently, an entire community transportation planning project was conducted in the community. Despite the large representation of this group in the community, the materials were not translated to the Purépecha language. The majority did not have this language or cultural access and could not participate fully in the decisions that were made about their transportation needs.

The LEAP Institute on the other hand worked with Juan Alvarez, Purhpecha Project leader, to translate the surveys and other materials to P'urhepecha. LEAP Executive Director, himself of P'urhepecha roots, worked with a group of P'urhepecha and help organize the Comité PODER

[1] https://greenlining.org/wp-content/uploads/2019/01/MobilityEquityFramework_8.5x11_v_GLI_Print_Endnotes-march-2018.pdf

[2] P'urhépecha is the name of the indigenous people originating from the Mexican state of Michoacan who still speak their native language and practice traditional customs. The P'urhepecha culture and people have been migrating to California since the early 20th century and were the majority of workers who migrated to work in the United States during the Bracero era between 1942 and 1964.

[3] https://www.latimes.com/archives/la-xpm-2008-apr-28-me-purepecha28-story.html

(poder means power in Spanish and is acronym for People Organizing for Dignity Empowerment and Responsibility). A committee of P'urhepecha that LEAP provided training and workshops to and compensated members to deploy over 200 transportation needs assessment surveys in the Mecca area.

Purpose of the Report

The purpose is to increase transportation safety by proposing implementable, environmentally sustainable, and context-sensitive solutions to identify and amend barriers to transportation for community members. The goals of this Plan are to:

- Promote multi - modal mobility at both the regional and neighborhood scales.
- Equitably increase bicyclist and pedestrian safety.
- Promote shared mobility and transit use.
- Improve communication between transit agencies, stakeholders, and community members and organizations.
- Enhance public health and environmental justice.
- Decrease greenhouse gas emissions.

The effort will contribute to making Riverside County's transportation system more multi-modal as per the State of California's 2008 Complete Streets Act (AB 1358). This law requires local governments to consider all users— including bicyclists, pedestrians, and transit users in addition to motorists, as well as users of all ages and abilities— in planning for all streets. Furthermore, the Global Warming Solutions Act, (AB 32, 2006) and the Sustainable Communities and Climate Protection Act (SB 375, 2008) aim to reduce greenhouse emissions, including from transportation. By improving transportation options for lower emission travel by bicyclists, pedestrians, and transit users, Riverside County will be making progress toward the objectives of this legislation. Many strategies here address basic mobility needs; therefore, this Plan will serve as the first step towards broader, more complex mobility improvements needed in North Shore and Mecca.

Methods

Timeline

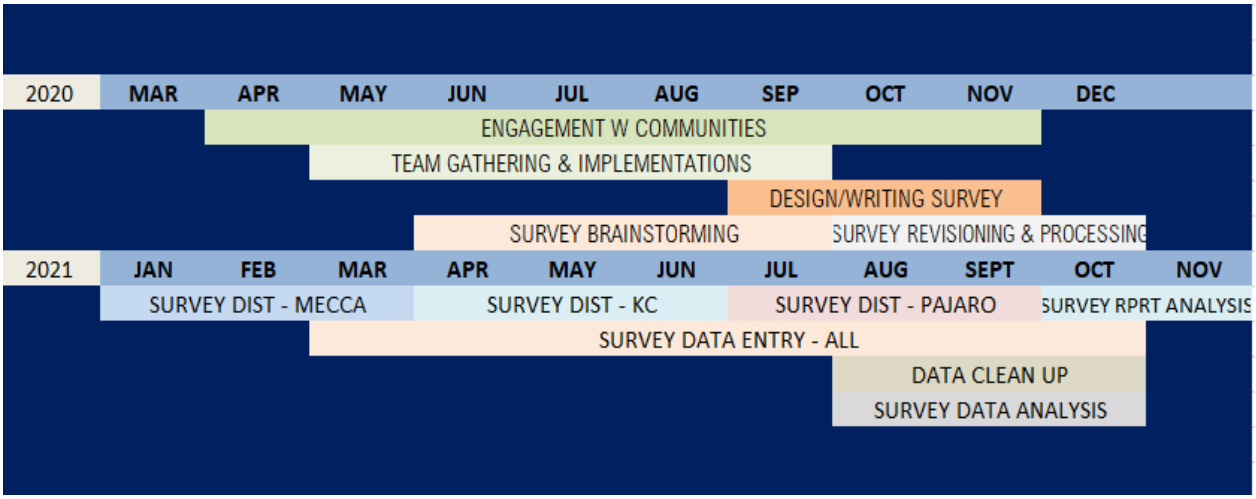

Figure 1: Timeline

The overall timeline of when the activities conducted were established spanned across a one-year gap. The initial process consisted of engagement with the community residents to contribute to the effort and to begin to consider actual implementation of the program in Mecca. From there, survey brainstorming was done in order to be able to conduct the best survey questions needed to gather the information required to proceed with the analysis and expansion to the said areas. After the brainstorming had been accomplished and decided, designing, and writing the survey along with implementing the survey into Alchemer for further analysis once data collection was completed. Throughout the first half of the year, a team was set forth and established for survey distribution and collection in all intended areas. For the second half of the year, data entry proceeded; along with entering the survey results and analysis for further and final interpretations.

Transportation Access Data Analysis - Selecting Indicators

Many accessibility indicators were used and implemented into the survey to measure the current transportations that is accessible to the community currently. Some factors include access to medical care facilities, pharmacies, social services, groceries and shopping, community meetings, school functions[4], and to attend schools, colleges, and universities. Reliability of the current transportations in use was also in question to measure how safe and reliable it currently is.

Means to determine this were asked in a survey to determine if they currently have transportation to a certain destination, and how long it currently takes them to reach their destination. Accessibility options determine affordability. The reason for these indicators specifically is to determine how accessible the community is to get to important destinations currently, also with

[4] Community Advisory members thought that community and school functions were essential to include.

how long it takes them accordingly to get to each of the different sites. These indicators were thoroughly thought out by the organizational team to access deeper information on the community for more accurate data on measuring their current accessibilities to the mentioned sites.

Transportation Access Data Analysis - Resident Survey Development

The LEAP Institute conducted a transportation needs assessment survey. The intention was to determine the community's needs regarding their current travel behavior and preference for future transportation enhancements and projects. The survey was developed by pointing out certain features that were necessary to learn how the community is currently moving around, and the most frequent essential destinations. The residential survey consists of survey questions that deals with their transportation methods that they currently have or use, and in which areas are lacking. The survey questions were meant to get a thorough analysis of what percentage is having trouble with transportation, and to have a better understanding of their needs in the community. Familiarity of transportation resources and access is taken into account as well.

The survey questions were planned for the resident survey with the intention of developing specific data and responses, in addition to methods of getting personal input from the survey respondents themselves. The questions were selected and published based on the fact they would produce specific outputs and results needed to determine in which areas transportation is difficult in, and to proceed with further movements and developments in the community and surrounding area.

The survey was changed and altered to specify the needs of the community of Mecca. Most of the population is Spanish speaking, but a strong sector of our effort is P'urhpecha speaking with Spanish as a second language. The survey was offered in Spanish and P'urhepecha, translated from the original survey language of English.

The residential surveys were administered with different methods involving a house to house and store to store physical approach, as well as phone calls to those engaged while tabling in commercial areas. The reason that these options were selected is to ensure quality data and to get a more personal approach to build reputable results from the community. It took a while to get to this point. During the early part of 2021 it was difficult to try to engage people in person due to the delicate nature of the Corona-19 virus causing fear. Using posters with QR-codes was extremely ineffective. It took some time before the public was ready to be engaged. What was of tremendous assistance was our distribution of KN-95 face masks and sanitizer. In Mecca we also distributed $10 Food 4 Less gift cards. Originally, we were entertaining a more localized system working with the neighborhood stores, but time became of the essence. Fortunately, the Food 4 Less store in Coachella was well known by residents in Mecca, Thermal and the other East Coachella communities. The pandemic had an impact in all our projects. The key was to have a consistent presence with locals that were familiar to the community.

Transportation Access Data Analysis - Data and Survey Distribution and Collection

The data process was collected through the means of surveys. The data was collected through personal means such as door to door, store to store, in addition to calling on the phone to residents that we had engaged while tabling. This method is more reliable since it allows for more accurate data obtained from primary sources. The collection of the surveys spanned across multiple months, giving time for surveys from each site in Mecca to be inputted accurately, and analyzed thoroughly. An existing source utility known as Alchemer was used for the process of obtaining and creating the survey questions that were available for distribution across the communities.

The collection was conducted across a couple months. This allowed for the process of survey gathering to be done accurately and efficiently for the data to be obtained. The process of collecting the data itself through the means of surveys was an interactive process in the means that the survey questions did not change, therefore it was a repeated process in trying to obtain data.

The surveys were collected by means of phone calls and face to face contact.This was decided as the best method for the collection of responses from the residents of Mecca because it would be the most reliable way to obtain the information, as well as being the most convenient for them. All surveys were done within the communities of Mecca, which was the population sample for the data collected. It was best to focus on a specific group and community, instead of collecting from a wider population, this way more accurate and specific data could be obtained. Residents from the outskirts of Mecca participated and resided in unincorporated communities surrounding Mecca. Relevant because they resided within the area and were of the same demographic. A goal for each site was set to be achieved during distribution. Each site in Mecca yielded a response rate of 90% or higher, with each goal for surveys obtained at each site being obtained and accomplished.

Incentives for the surveys were provided to ensure and reward the community for cooperating. The incentive to complete a survey was a $10 to $20 dollar Food 4 Less or Food Maxx gift card. Incentives were distributed by giving out the cards to the survey respondent or the codes on the back of the visa gift. Gift cards were handed to participants on the spot, and others were mailed. To keep track of the distribution, the code of the gift cards was written on the surveys themselves.

The surveys were administered to accommodate the residents of Mecca. The language majority in these communities is Spanish, therefore the survey languages were translated to Spanish for the convenience of the community.

Community Engagement: Mecca

Farmworker communities have been disproportionately impacted by Covid for several reasons. They are now identified as ‘essential’ workers and have been a critical part of agriculture and society. In all agricultural regions, farmworkers continue to be transported in vans and busses

and continue to commute together in personal vehicles. None of the vehicles used have standard air filtration systems to mitigate potential impacts of infection. It is a known fact that quality medical care is not as accessible and immigrant farm workers rarely have health care plans. A farmworker does not receive health insurance as a benefit from their employer. Additionally, farmworker housing conditions pose another concern and risk factor for potential transmission and spread of the COVID-19 within the farmworker community (https://www.farmworkerjustice.org/).

The pandemic took a toll on farmworker communities throughout the state of California. Our advisors on the ground strongly recommended that we not have events where the potential would exist of infections occurring and potential deaths. We took this advice seriously. In Mecca, we had support from elected leaders and community-based health promoters who had been growing their leadership in the census, covid work. The LEAP Institute worked with them in developing a committee where they would support the assessment work. At all sites we provided personal protection equipment, masks and sanitizer to respondents and anyone else who asked. The LEAP Institute took all safety measures available to protect the health of staff and community members during all activities.

The situation called for a guerrilla style approach that was direct with household representatives, parents, grandparents, or other adult household residents. The ideal was to have a community gathering where we would provide food, prizes, entertainment and potentially a charrette style activity to list and prioritize community needs for qualitative data acquisition. We couldn't have it during the time, but we intend to pursue something with the leaders that continue to work with us.

Bilingual posters, flyers and brochures were distributed before and during the surveys. In addition to outreach, The LEAP Institute conducted the following:

- Communicated with leaders from the community, one-on-ones and conference calls.

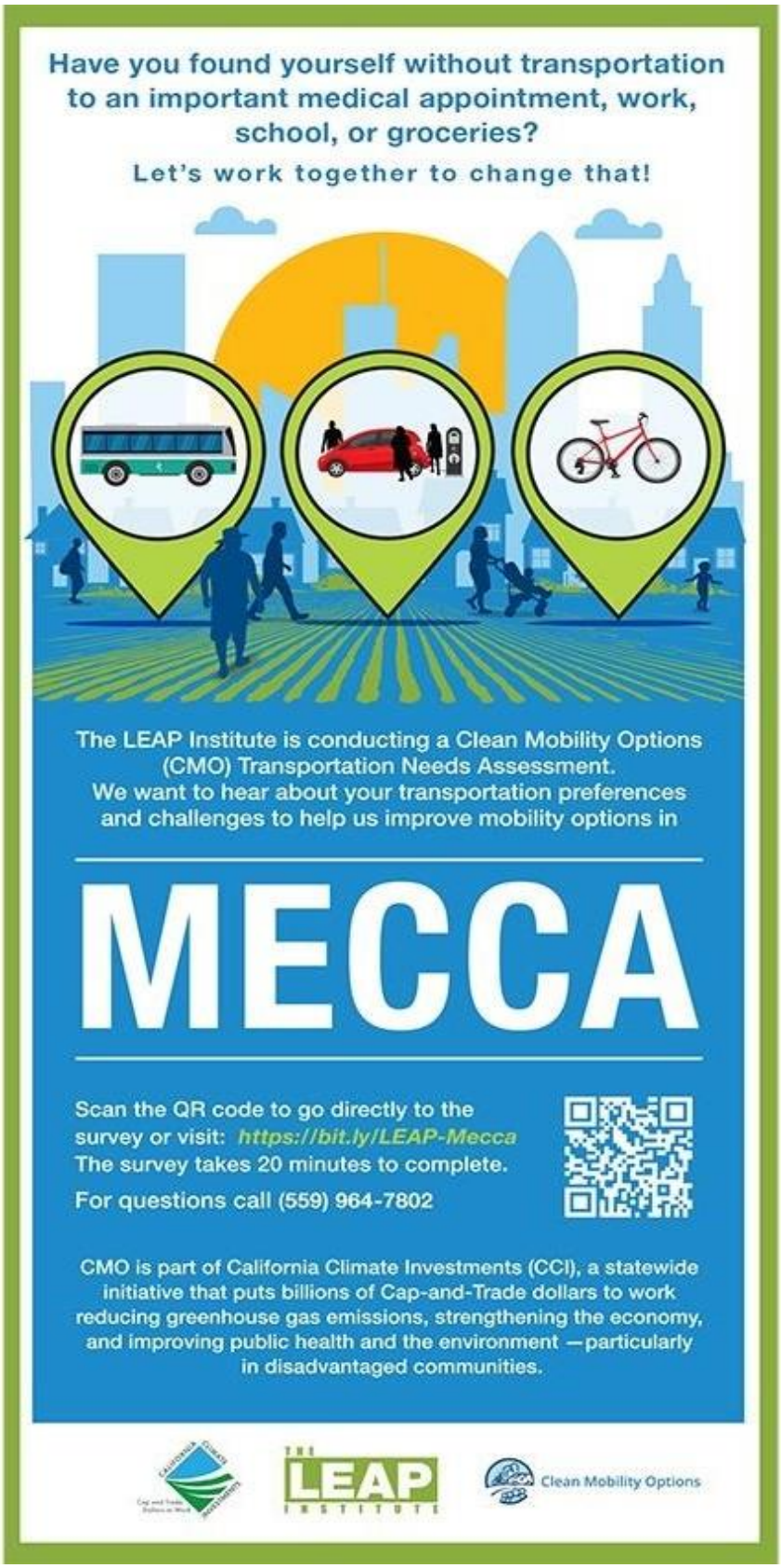

Figure 2: English Brochures, Flyers & Posters with QR Code

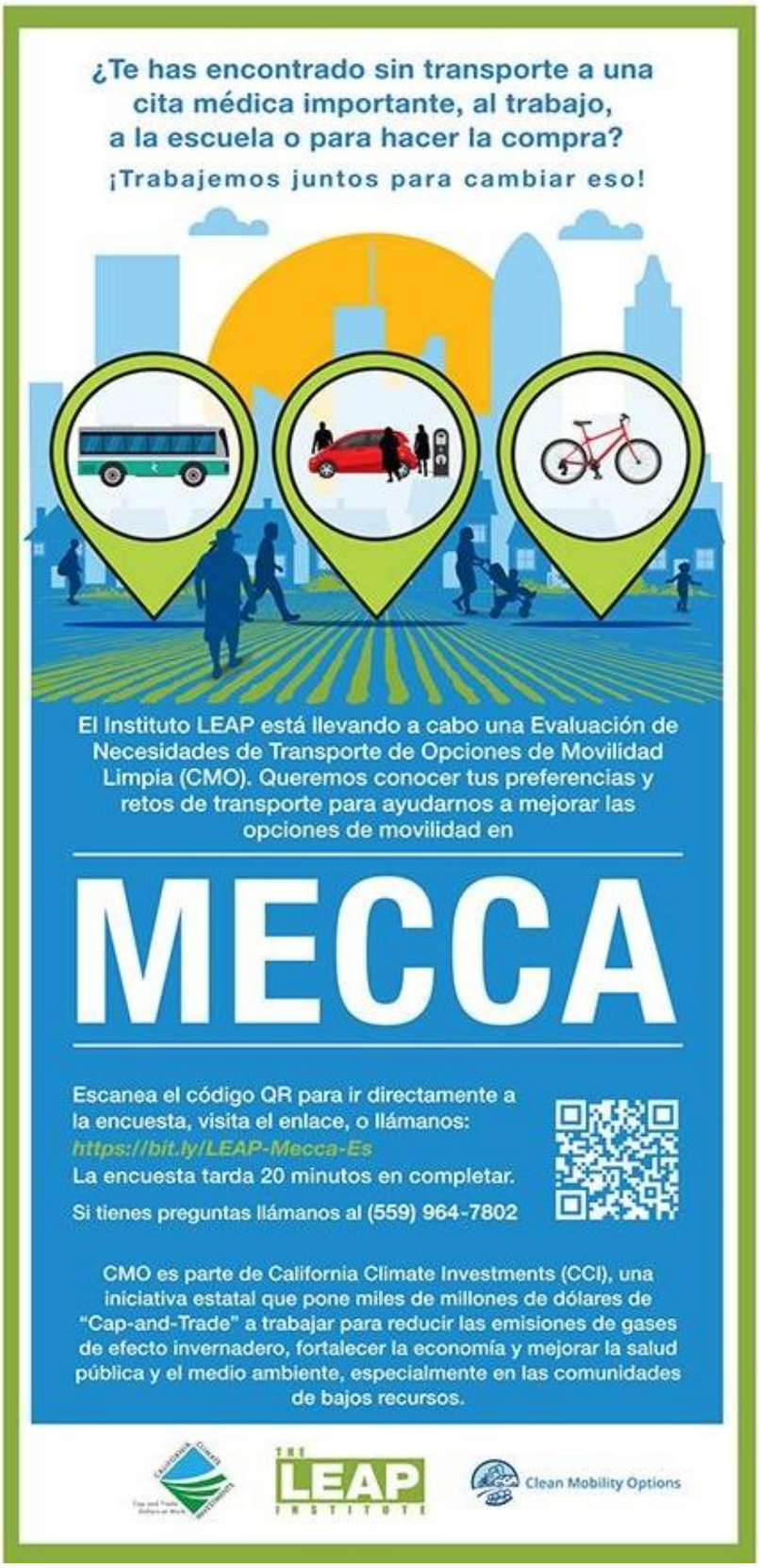

Figure 3: Spanish Brochures, Flyers & Posters with QR Code

In the community of Mecca, a total of 305 surveys were conducted. Despite not having large indoor person events, surveys were collected via door to door canvassing and using a centralized booth in the most populated commercial areas. The LEAP Institute took all safety measures available when engaging with community members. The LEAP Institute wore and distributed facemasks and sanitizers to all community members whether they agreed to complete the survey or not. Community residents were encouraged by our efforts and were excited to see potential change happening within their community. The LEAP Institute was on the ground in Mecca August 18 - 22. During that period, we engaged community leaders and health promoters to establish a committee (Comite PODER) that would help us complete the survey goals. The team was able to gather 298 surveys in under four weeks.

Figure 4: LEAP Training the Survey Takers

The following pages show photos of the surveys taken.

Figure 5: Mecca Page 1 Photos of Surveys Being Taken

Figure 6: Mecca Page 2 Photos of Surveys Being Taken

Figure 7: Mecca Page 3 Photos of Surveys Being Taken

Data Entry

Feedback and comment qualitative data are being stored in two different forms of storage, both digital and physical. Alchemer is an online tool being utilized by the LEAP Institute to create, distribute, and store data gathered by means of either quantitative or qualitative answers from a set of specified populations. Another form of storage is having hard physical copies at the LEAP Institute's disposal. Storing the data in Alchemer was a conscious decision by the organization based upon reasoning of the way data is displayed and visualized once gathered. Alchemer specializes in developing charts and diagrams to better showcase the purpose and means of the data which other data processing software.

Certain data, such as qualitative data, is difficult or sometimes impossible to visualize using mathematical charts and diagrams that work well with quantitative variables. A process of data extraction was used to simply correct or better visualize the data in a different manner than what Alchemer was able to produce.

A certain characteristic when dealing with this data was the knowledge beforehand of knowing that the population sample was bilingual, meaning a translation of qualitative data was more than necessary. With all translation, data will need to be changed from one language to another, meaning that certain keywords or phrases will be transformed, or partially skewing the data to a certain extent to make it viable for the language needed.

Currently, existing transportation systems are limited within the community of Mecca, ranging from only options of owning a car, and riding the bus as their only options. From the data that has been observed, it is likely that not many people have access to the current options. There is not enough funds to purchase their own vehicle, and the public transportation is unreliable as it takes too long to arrive and does not take them to the destination which is needed.

According to the population of Mecca from the data gathered, they have many needs for reliable transportation. Many have medical needs, which is that they need to pick up medicine from the pharmacy and arrive at their Medical Appointments on time. This is a difficult task with the current transportation that is available now in Mecca. Other needs which have surfaced are needs for grocery shopping and errands, as well as dropping off and picking up children from schools.

Data Cleaning

All resident survey responses that were received were legitimate responses. The process in which we made sure that the data received was indeed legitimate is by conducting the surveys in person and face to face. This process eliminates any unknown factors and ensures secure and discrete data. While the surveys were coming in, we waited for a specific time to input and process them. The reason for this method is to be able to thoroughly collect all the data in a physical version to meet our specified goal of attained surveys. After the collection is complete, we count them and make sure we have met the quota, then begin to input them into the system for analysis to make sure that we have the required population sample before beginning the process of analyzing the data.

The process of Data Cleaning within the surveys was done by the LEAP Institute. Everyone in the LEAP Institute had a helping hand in mining the data by physically gathering the data in a face-to-face manner with the population, counting the surveys to make sure the quota for the surveys received was met, as well as inputting the surveys into the system to be analyzed meanwhile highlighting every individual survey that has been inputted to prevent duplications within the data itself.

The population itself did maintain a boundary of only surveying people that were of age to legally obtain a driver's license or older. Any themes that were felt as unproductive or contradicting were addressed by allowing an option on the survey for people to be able to choose "none of the above" or also allow for multiple inputs if they felt more than one answer that met their criteria. For handwritten inputs that were illegible or not understandable, they were highlighted and given a second evaluation by another member to make sure every survey provided the best data possible for the analysis.

The LEAP Institute performed additional data cleansing and double checking of responses to make sure the data is valid and as accurate as it can be. From these methods, and double checking of the responses, the information that was needed was obtained.

Data Analysis

The LEAP Institute carried the analysis of the survey results through the online utility website known as Alchemer, and as well as Excel for specific needs. Qualitative data such as comments and other handwritten answers were further reviewed after input to utilize the results and find common themes amongst the population (e.g., many surveyors commented how they are looking forward to the new form of transportation to be able to get to where they need to go.)

All the data after input was analyzed by the specialized data analyst appointed by The LEAP Institute, we were able to get the best understanding of the data and to complete a thorough analysis of the results.

Results

Demographics: Mecca

The survey population was a controlled population of residents in Mecca that were of age to obtain a license or older. In the site of Mecca, as the results show from a sample size of 305, in the community more people show that they do not have a license for transportation.

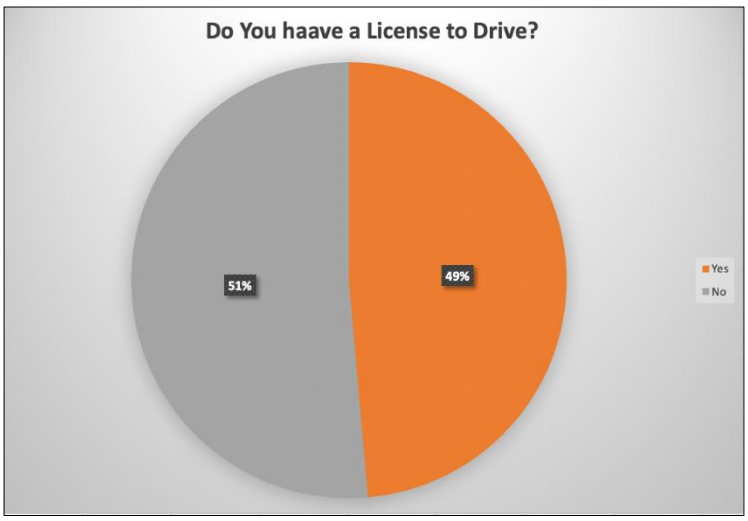

Figure 8: Mecca License to Drive

This is important to note, as it shows clearly that there are more residents of Mecca that rely on public transportation, and it is much needed in their community.

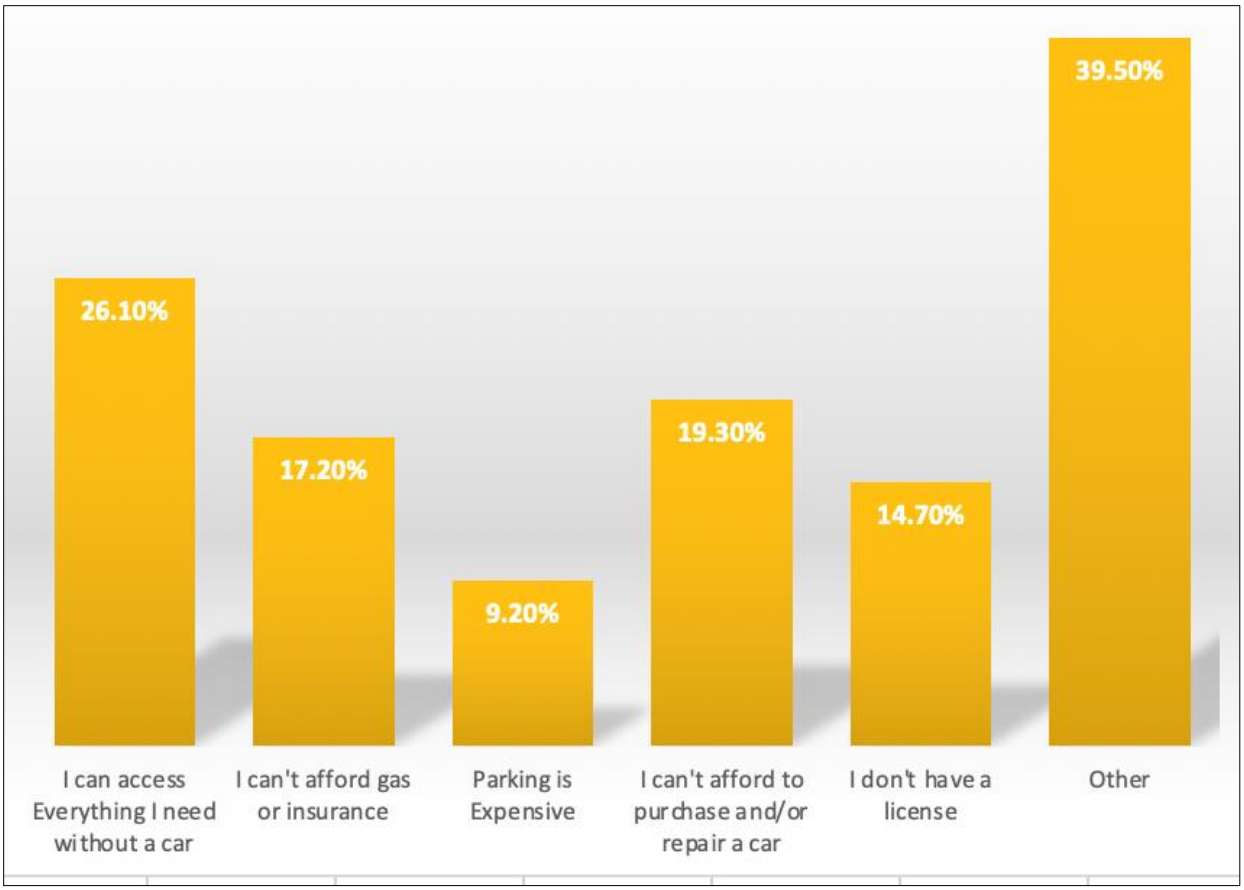

Figure 9: Mecca Reasons for No Vehicle

Reasons as to why many residents do not, as well as cannot own a car vary by individual. While 26.6% of the population that was surveyed claimed that they could get around without the need for a personal car, that leaves the rest of the 73.4% of the community stating reasons why they cannot own their own car. Answers provided are that gas and car payments are too expensive for their current financial situation. Also, some respondents found it very difficult to obtain a license and disincentivized purchasing their own vehicle.

Current Transportation Behavior and Preferred Transportation Benefits: Mecca

When asking the survey respondents if they felt it was "generally easy to get to where they need to go," many of the respondents answered that it was true for them. Meanwhile, there is also a huge percentage of respondents that felt it was difficult to get around in town, roughly 33% of the sample size disagreed with the initial question. Around 1% had trouble being able to get to their destinations due to underlying health issues.

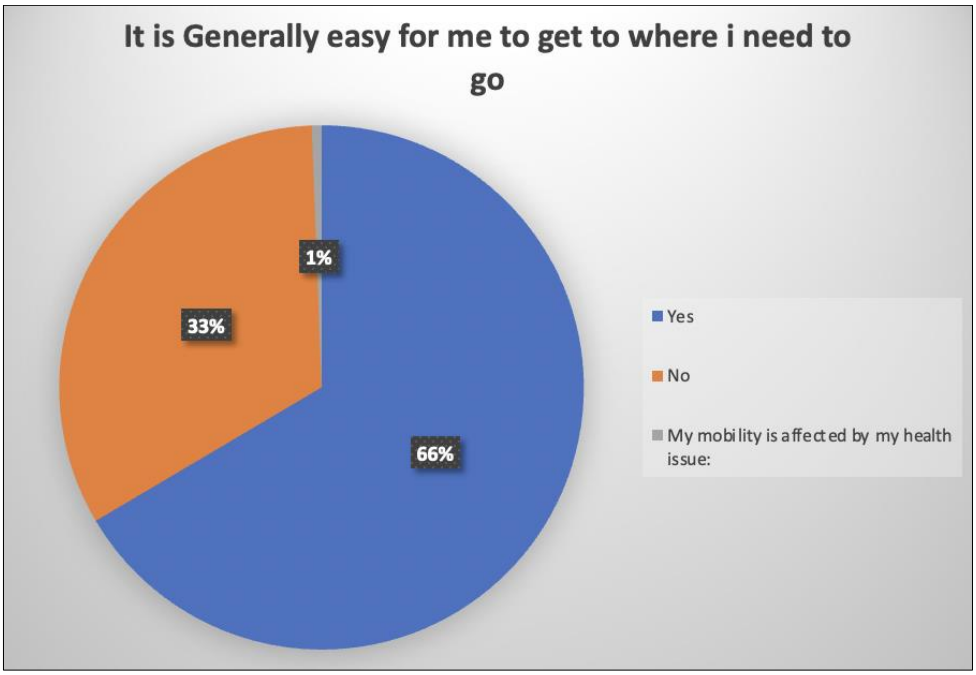

Figure 10: Mecca Ease of Mobility

Alternative Transportation Methods: Mecca

Alternative transportations methods consist of ways to travel other than their own personal cars. This can include riding the bus, utilizing ride share programs, riding bicycles, scooters, or using Lyft and Uber in wealthier communities. With the intention of uncovering different methods of transportations other than their own personal cars or public transportation, survey respondents were asked if they owned a bike, or the challenges they faced as to why they could not possess a bike for transportation. 64% of the total sample population said they did not own one bike. It was noted by certain residents that they were "too old" to be able to ride a bike, or that it seemed "very unsafe" and "dangerous," amongst many other answers. The majority claimed that they did not have the knowledge of knowing how to ride a bike, therefore preventing them from that method of transportation.

Bike lanes are not present in the community of Mecca. While some areas still lack sidewalks, in the previous years a great deal of sidewalk, curb and gutters have been constructed. Other developments are occurring to bring more economic attention to Mecca. It will cause more traffic and a need to mitigate pollution. No EV chargers are in the community. The closest EV infrastructure is in Coachella but not yet at the level it needs to be. The LEAP Institute took a tour and has recommended sites to EV charging companies with high hopes.

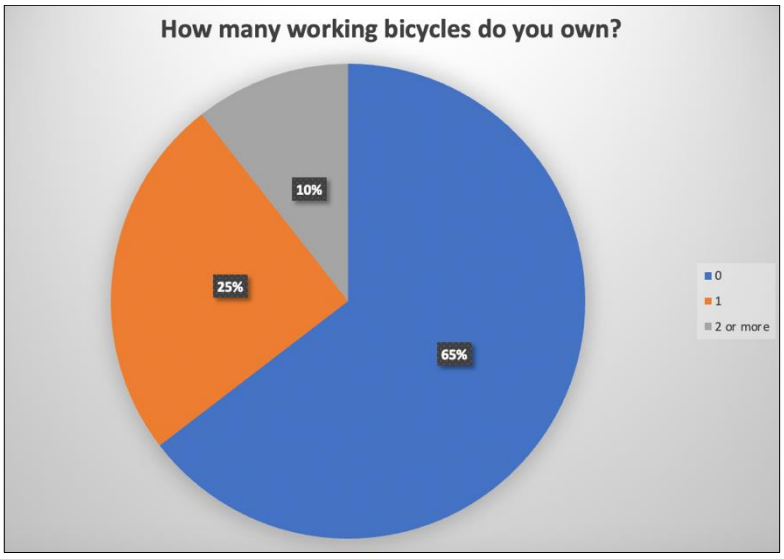

Figure 11: Mecca How Many Bicycles Owned

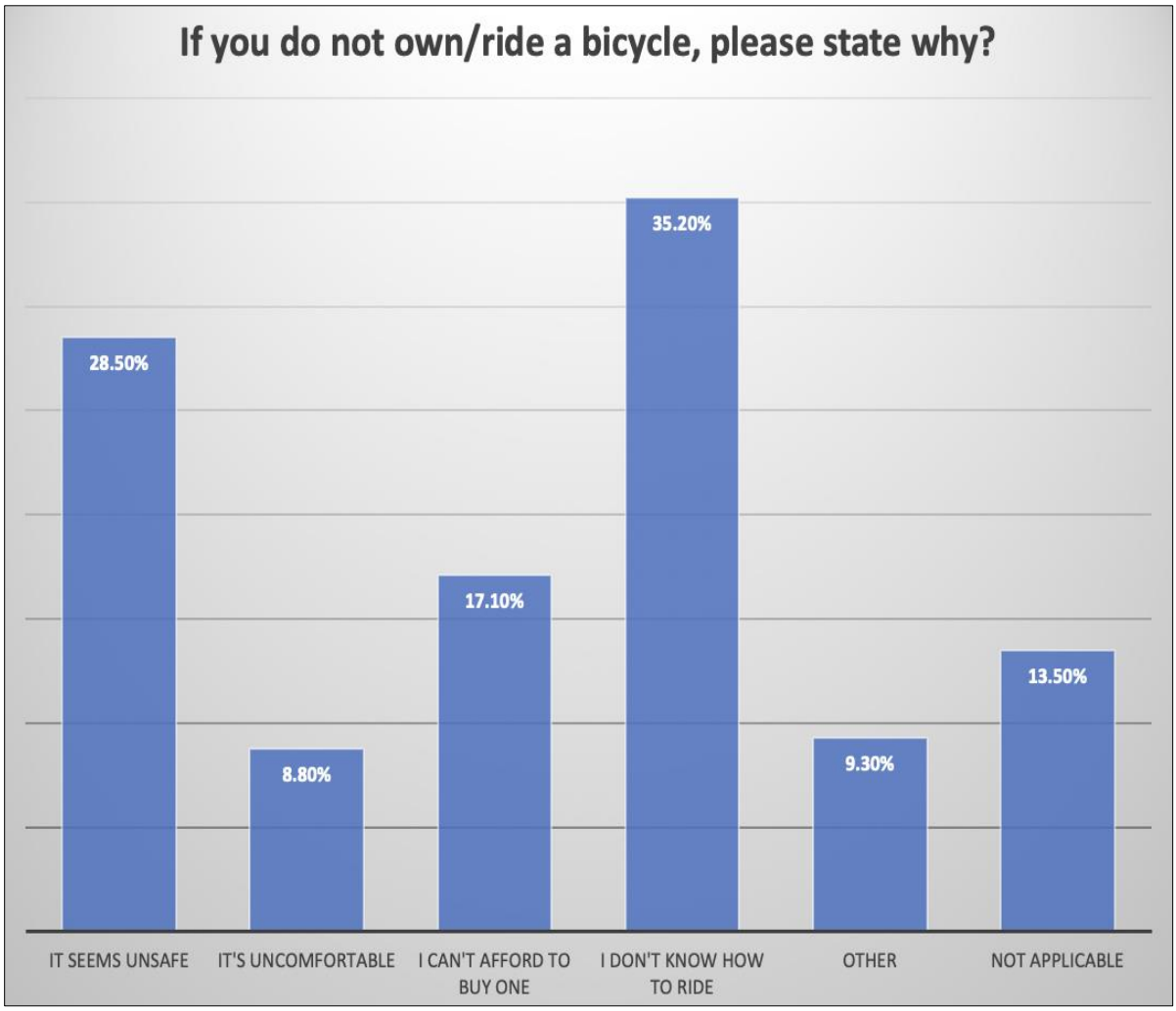

Figure 12: Mecca Reasons to Not Own Bicycles

Public transportation in Mecca seems to be a divisible situation according to the survey respondents. With 49.5% of the respondents claiming that they do utilize this public transportation, the other 50.5% claim that they do not take public transportation, or that they felt this survey question did not apply to them, choosing the “not applicable” option.

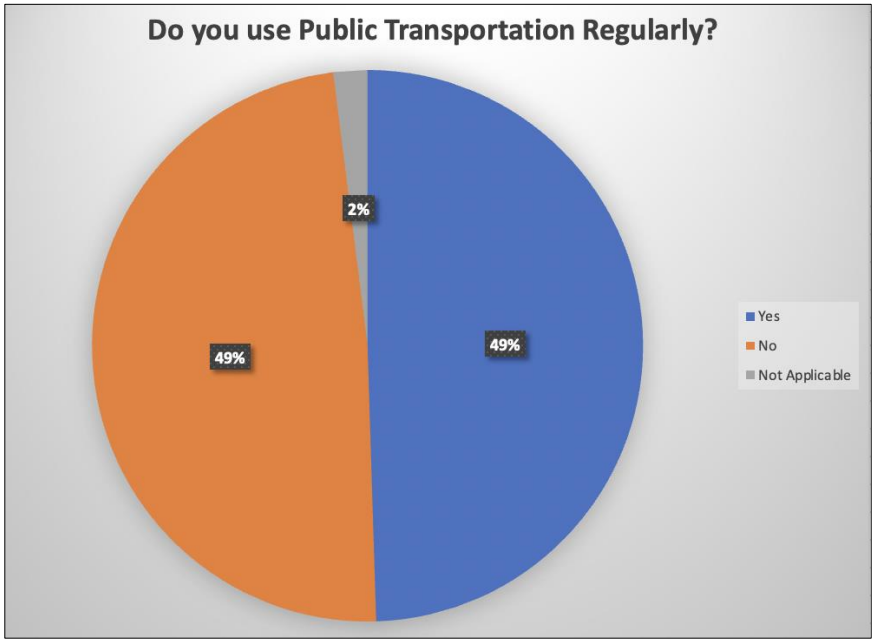

Figure 13: Mecca Public Transportation Regularity

For those who chose no, they were asked why they did not take public transportation regularly. Answers were varied, with the most crucial being the amount of time it took for transportation to arrive. The average time taken being 30 minutes of waiting time for the transportation to arrive and pick them up. Some did not feel secure riding public transportation, and many did not have stops near where they lived, so they were not able to take public transportation.

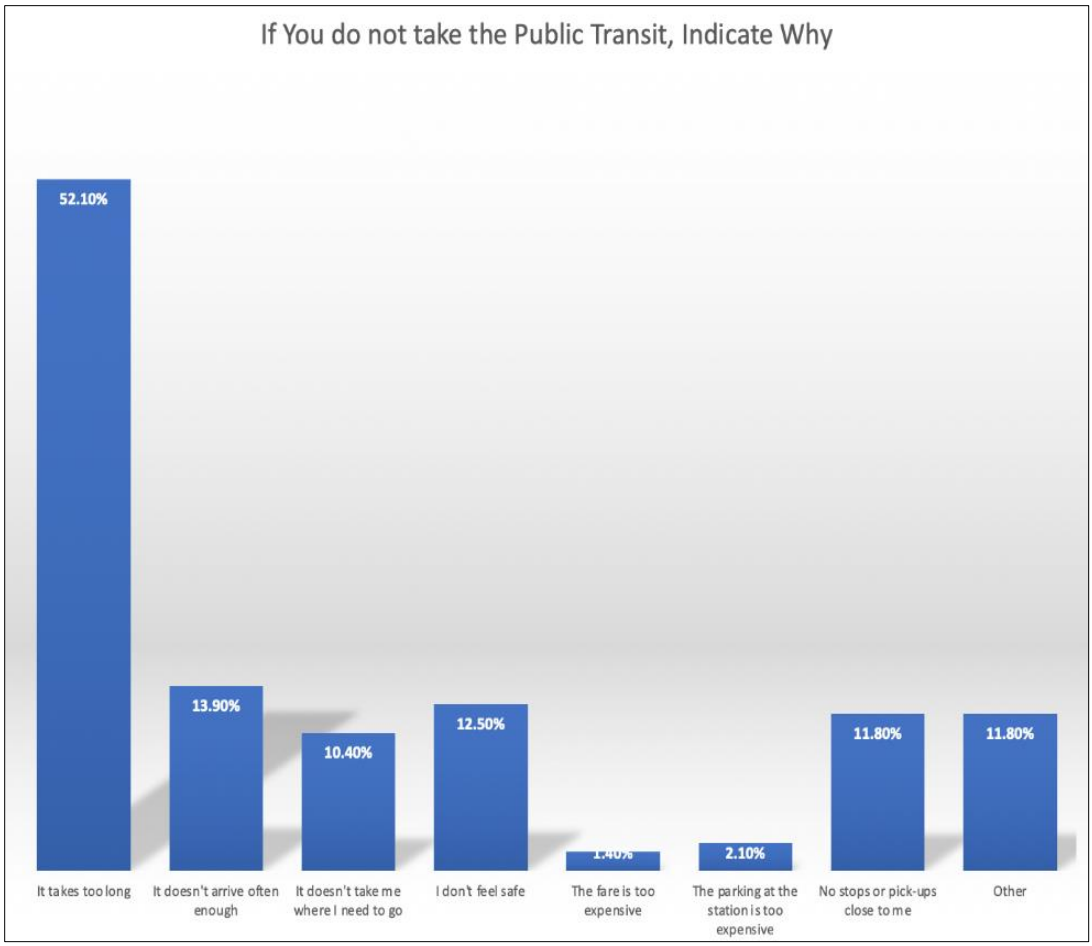

Figure 14: Mecca Reasons to Not Take Public Transportation

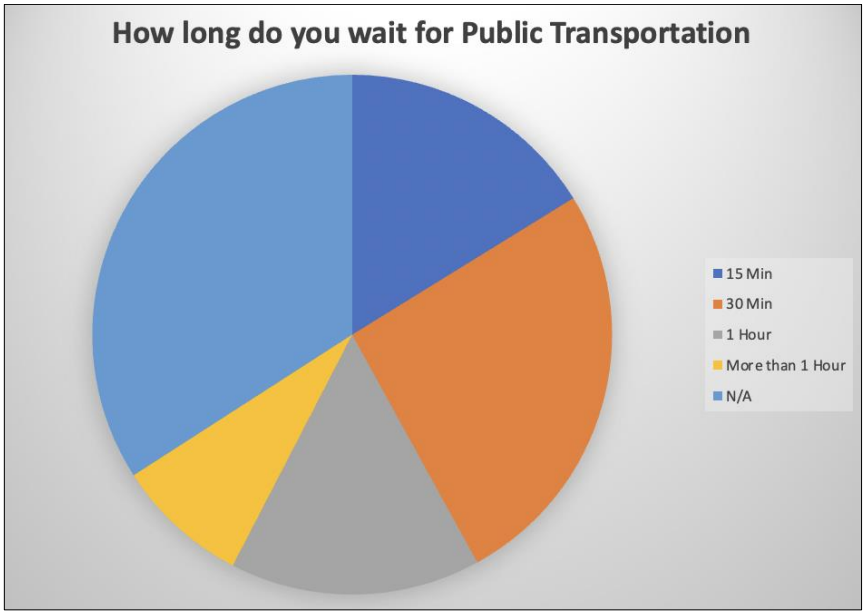

Figure 15: Mecca, How Long to Wait for Public Transportation?

Figure 16: Mecca SunLine Transit Agency

Familiarity with New Shared Mobility Options and Interest in Modes: Mecca

Based upon the results conducted from the survey, it has been brought to light that the residents of Mecca are more than likely unaware of the potential programs at their disposal. A survey question was conducted stating “Choose which ride share programs you are familiar with,” with options ranging from “Very Familiar” to “Something Familiar,” and the last option of “Not Familiar.” In each category provided, more than 75% was chosen as not familiar, and some categories scored as high as 95% to be not familiar.

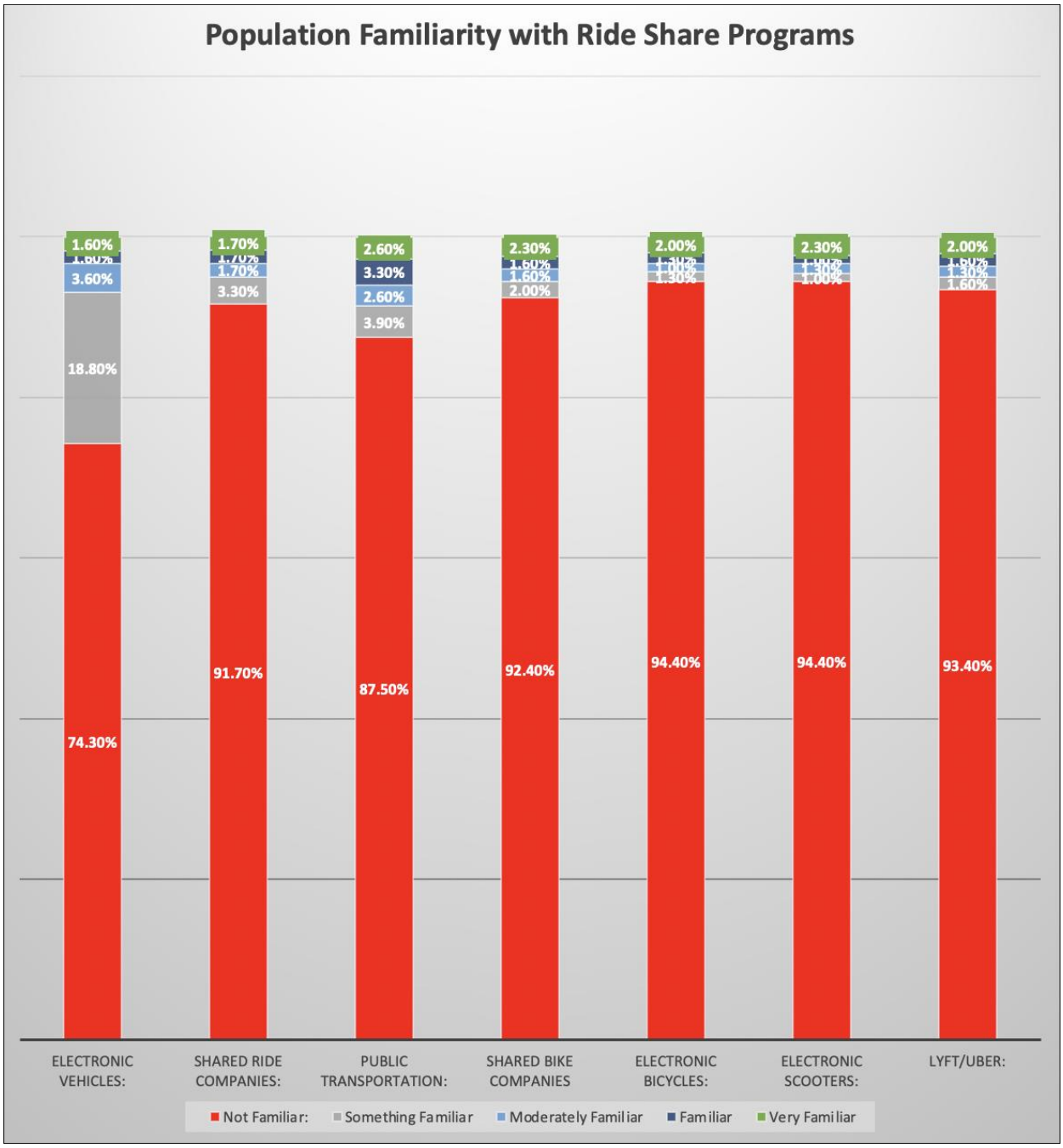

Figure 17: Mecca Familiarity with Ride Share Programs

According to the data, if the residents knew about the transportation options, they would utilize it for things which are currently a difficult task for some who live in Mecca. Most of the survey respondents would like reliable transportation for everyday tasks like being able to go buy groceries and run errands. Others would use it to get to and from work, while many as well need it to get to their medical appointments and arrive on time, amongst other places as well.

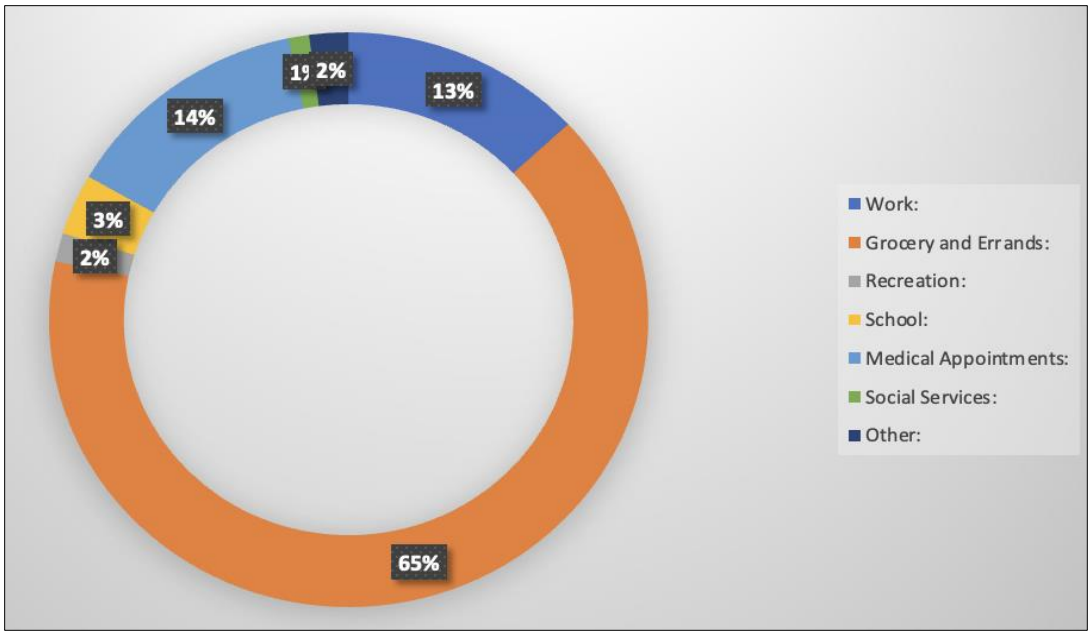

Figure 18: Mecca Most Required Transportation

Results have resulted in showing that public transportation is important to Mecca. As the results show, the residents would utilize public transportation to get to the following establishments if it was reliable and on time. There seems to be a huge demand for it as 100% of the establishments were in majority for "yes." Another related survey question asked the surveyed population "if there is a free microbus, or with low fees, available for common destinations, (such as to the market), would you utilize this transportation?" The survey respondents answered with a confident 92.6% "yes" that they would certainly utilize this transportation. Uber or Lyft would not be used because they are too expensive.

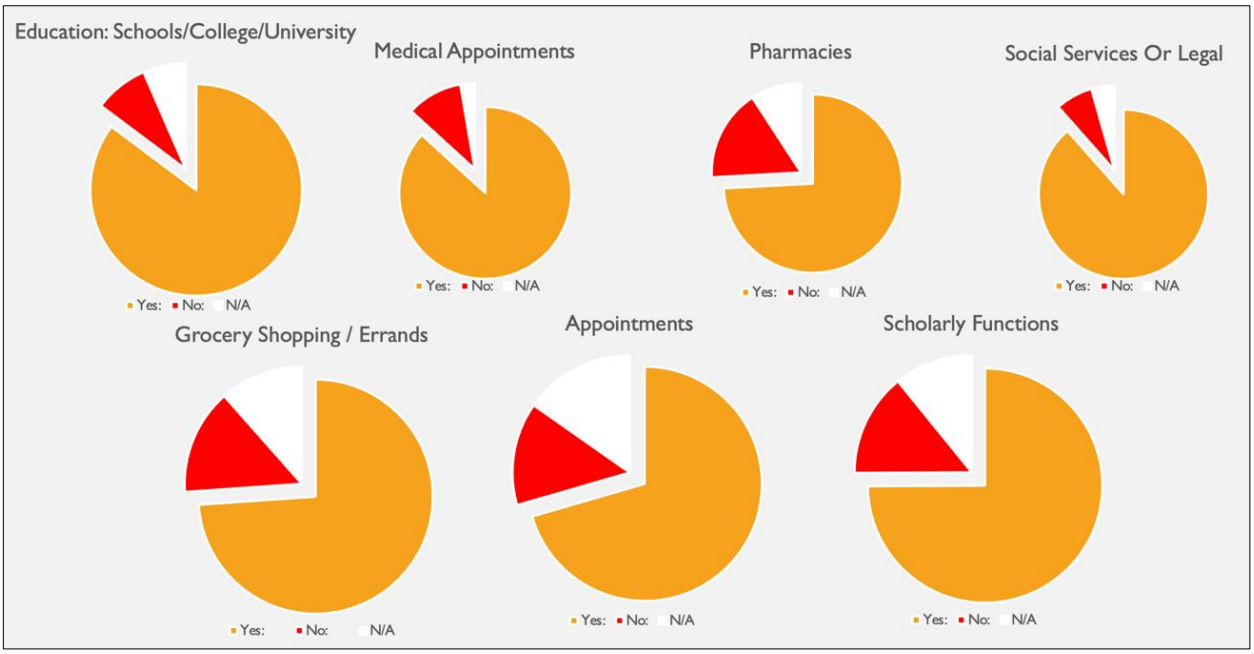

Figure 19: Mecca Where Transportation Would Be Most utilized

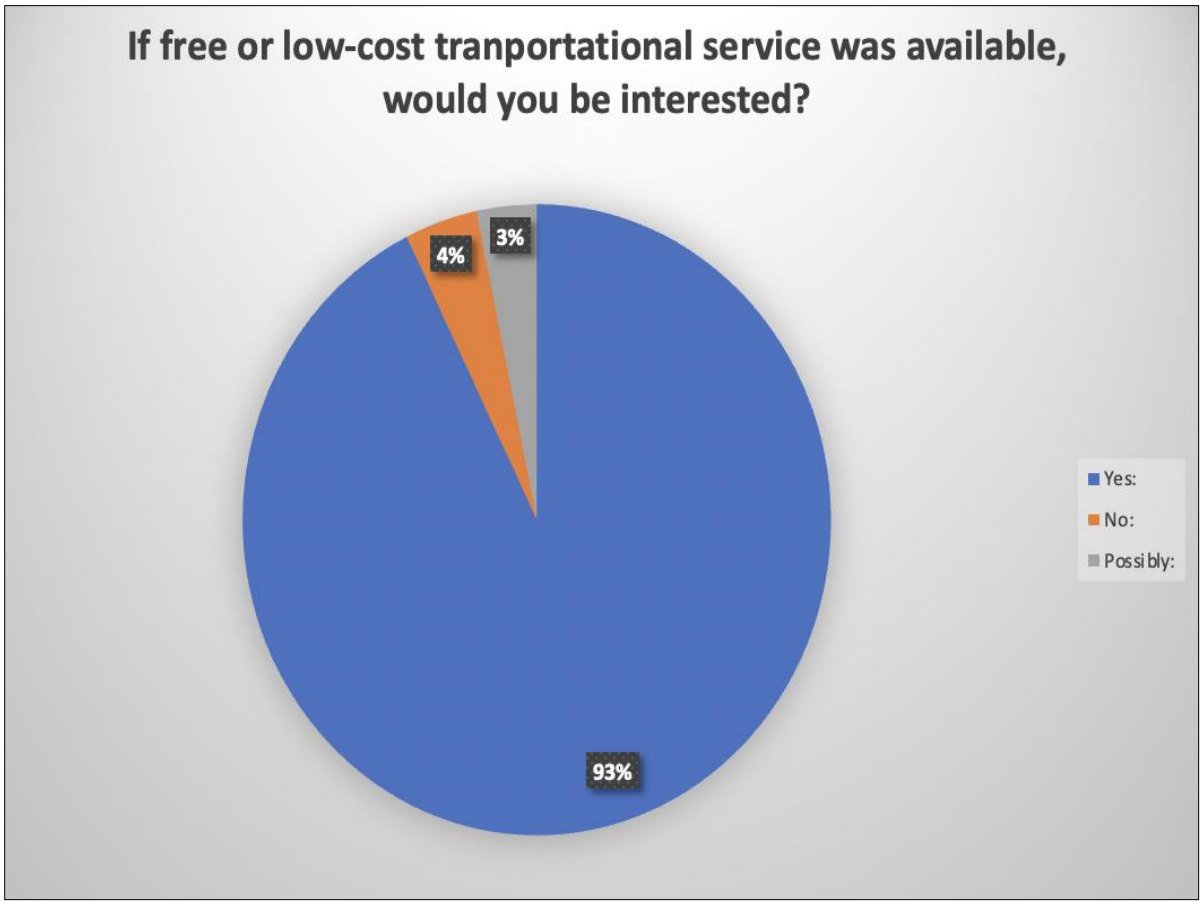

Figure 20: Mecca Interest in Free Low-cost Transportation

Limitations

Due to certain circumstances of the survey questionnaire, and limited use of alternative methods for gathering data, this research and analysis was utilizing mainly qualitative research methods of data mining. Because of this, certain data could not be transformed into quantitative percentages for reporting and conducting accurate analysis. Since the data relied heavily on survey respondents, we were limited to the sample size of the community and were faced with a restraint that represented a certain percentage of the whole community.

During the data gathering process, certain limitations that were confronted were when residents of the community declined or did not wish to participate in the survey. This situation narrows the community sample population for analysis, which increases the discrepancy and accuracy for quantitative data to be implemented which will represent that specific community.

Time restraint was a factor when conducting thorough analysis, and data gathering. Due to recent pandemic situations with COVID, postponing survey conducts were necessary and important for the health of the community, and the LEAP Institute staff. This affected many things and pushed back the amount of research which could have been conducted otherwise. Because of this time restraint, gathering data and surveying residents of the communities came with difficulties, as

well as the uneasiness of being approached for a survey questionnaire. This affected not only the time management, but also the sample size of the community.

Certain limitations dealing with report analysis conflicted when working as a team. Because of the lack of infrastructure cooperating tools such as utilizing Google Documents in which many can cooperate on one document as a team, a more personal approach was driven with the use of Microsoft Word. This limited and affected teamwork-based analysis and reporting, and instead isolation became more distressed. Cooperation with analysis and implementation of report sections became more difficult, with confusion and misunderstandings being brought forward.

The canvassing process in Mecca brought about similar limitations and difficulties. The residents of these areas showed distrust during the surveying process and would often question what the trade-off was for their willingness to participate. These closed-knit communities are often suspicious of outsiders, which complicates the relationship. Even with the offer of free hand sanitizers and facemasks as collateral, they were still hesitant to engage. The LEAP Institute worked with Comite PODER in Mecca to resolve the challenge.

There was the worry and fear of COVID-19. The pandemic was still occurring when the surveys were conducted. This made it difficult to actively engage the public in larger groups. One-on-one interactions were favored to decrease the probability of contracting the virus and to follow the FDA and California government's mandates regarding the pandemic and social distancing. It was also mid-summer in California. During this time, the temperature reaches three digits (Fahrenheit) and becomes increasingly hot, especially in Mecca. The heat correlated with both mental and physical fatigue. The hotter hours during the day were avoided and there was less time utilized for canvassing. The heat also affected the residents' willingness to participate in a 15-minute survey. They stated that it was too hot to stand outside with no form of conditioning or shade. An attempt was made to solve this problem by utilizing door-to-door canvassing.

When canvassing, there was limited internet access. Phones and tablets were used at first to conduct the surveys. The hotspot or internet carrier would drop in the surveying process which resulted in having to input the answers again. This prolonged the survey and created a sense of dissatisfaction with the process.

Discussion & Solutions

Key Findings from Needs Assessment Results

- What are the underlying causes of mobility gaps and challenges in the project area?

Communities engaged are, for the most part, geographically and linguistically isolated. Public transit, even when available, has gaps and becomes insufficient for many, especially ADA and seniors. In Mecca for example, the transit system makes frequent stops into the community and others in the surrounding area but since it does not circulate in proximity to some of the essential spaces, it loses attraction from a portion of residents. One resident shared that the problem was that the bus could not provide him a ride to work when he needed it in the morning. He was forced to purchase a used polluting vehicle. One resident mentioned his disillusionment with the transit system after witnessing a physical altercation on the bus. Residents were unfamiliar with transportation network companies and the extent of ridesharing was limited to riding with family, friends, or colleagues. Moms and elders shared their lack of interest in sharing bicycles or e-bikes but showed interest in e-tricycles that they could use to go to market with their children and without the concern of needing to balance a bike on the road near large vehicles.

- What factors could contribute to successful transportation options in the project area?

Green Raiteros (GR), the pioneering EV rural ridesharing program grown from the old practice used by farmworkers in Huron, California, has proved very successful. Apart from bridging the gap in access to essential appointments such as medical, social service and covid testing and vaccination, it has been evolving and upgrading to also empower the workforce from isolated communities to training sites to build skills and advance upward socio-economic mobility. Most recently, GR has added a program with 7-seater Tesla Y's that will transport students to college and universities as well as an enrichment and wellness component for the whole family with weekend trips to coastal parks, sponsored by California State Parks and supported by Save the Redwoods League. Farmworker families do not have the resources, awareness, or the transportation to enjoy the green emeralds our state has to offer. Simultaneously, locals are employed, gain professional experience, and can ascend into other opportunities. All the while, families become familiarized with electric vehicles that do not pollute their breathing air or contribute to the climate crisis.

- What actions could be taken to enhance clean mobility in the community? How did you identify and prioritize these actions?

Electric transportation not fossil fuel transport. The technology exists and is becoming more accessible, both the EV's and the infrastructure. The LEAP Institute has worked with numerous EV charger installation companies to encourage and advance EV infrastructure in farmworker regions including Mecca. The idea of riding in a quiet, comfortable, smart vehicle with features to make the trip safer and healthy for all is capturing the imagination and interest of residents in all communities. "Pues, si no contamina, mejor" [Well, if it doesn't pollute, better] shared an elder from Mecca. The farmworker, Latino and P'urhepecha communities have one strong bond that connects them all apart from many customs, some traditional foods and most frequently

common language of Spanish and that is a communal likeness of support. The raitero (raitero from the Spanglish word 'raite' or ride. A raitero is both the driver and the rider) concept of ridesharing and ride hailing has been around long before Uber or Lyft in these communities. Before it was sexy but due to historical racism such as redlining by financial institutions and other mechanisms of undermining wealth creation and economic advancement, this concept, practice, and business opportunity was suppressed. Economic opportunities for economic upward mobility are limited in these communities and many times constricts the potential of the next generation. These are the same communities that are overlooked and underinvested in when it comes to infrastructure, amenities but always disproportionately impacted with more polluted air and contaminated water. These communities too are the ones bearing the worst impacts from the climate crisis, a man-made problem not of their own device.

- What is the transportation planning process like in your community? Who is/are the lead entity and who has been traditionally involved or excluded from transportation planning?

Priority community residents are left out, especially if they are not English speakers residing in more well-to-do areas where more amenities are developed. It becomes worse for those that only speak Spanish and it only becomes more challenging for communities that speak Spanish as a second language like the P'urhepecha families in the Eastern Coachella Valley. This applies also to indigenous farmworker communities from other parts of 'Mesoamerica' such as the state of Oaxaca and Guatemala where they speak multiple native languages and reside in all the areas where we have implemented the assessment tool.

- What populations in the community have been traditionally underrepresented?

Established and migrant farmworker families living in low-income rural communities that lack the infrastructure to uplift quality of life. The models of clean mobility that the LEAP Institute has already implemented provides an ideal option for farmworker rural communities throughout the state because they were born from the same people and descendants that have grown up witnessing the challenges and fighting for the resources, that for generations, went face first into brick walls. Still today, we have witnessed municipal governments hire consultants that capture .01% of the population's opinions on their needs, wants and transportation gaps with most of that meager number hailing from upper income or middle-class sectors of the society. CMO TNA is a great model to engage the working class, on the ground, to intimately acquire a colorful picture of what exists, what doesn't and what is not working to bridge the gaps.

Lessons Learned from the Needs Assessment Process

#1 – People are over surveyed

Survey fatigue is real & many community members experienced this. In the community of Mecca especially which suffers from various environmental injustices, this population is continuously turned to for information on these issues. Our onsite project partners advised us of this which led us to take a different approach as to how we can engage the community.

#2 – You need research infrastructure. Invest in these tools.

When the LEAP Institute was on site in the community of Mecca, weak internet connection hindered our ability to conduct surveys dramatically. As we moved forward with our door-to-door strategy we quickly realized that a stable internet connection was crucial to conducting the survey via smart tablet.

#3 – A more developed survey equals an easier conducting process

The survey that was developed was long. It would take an average of 12 minutes to complete. As the survey was conducted, we realized that some questions could have been shortened or combined to receive the same insights and results with less questions.

#4 – Stay on your feet, be creative with talking points

One of the challenges faced was that community members were unfamiliar with some of the alternative transportation methods so they would quickly lose interest. During training staff came up with multiple talking points that engaged residents on issues that mattered to them. Although they were unfamiliar with electric vehicles, they were very familiar with the bad air quality around them. We found these points to draw the community in.

Conclusion

Communities engaged are, for the most part, geographically and linguistically isolated. Public transit, even when available, has gaps and becomes insufficient for many, especially ADA and seniors. In Mecca for example, the Transit system makes frequent stops into the community and others in the surrounding area but since it does not circulate in proximity to some of the essential spaces, it loses attraction from a portion of residents. One resident shared that the problem was that the bus could not provide him a ride to work when he started to uplift himself. He was forced to purchase a used polluting vehicle. One resident mentioned his disillusionment with the transit system after witnessing a physical altercation on the bus. Residents were unfamiliar with transportation network companies and the extent of ridesharing was limited to riding with family, friends or colleagues. Moms and elders shared their lack of interest in sharing bicycles or e-bikes but showed interest in e-tricycles that they could use to go to market with their children and without the concern of needing to balance a bike on the road near large vehicles.

Green Raiteros and Green Cruisers, passenger EVs and electric micromobility for first and last mile, and within 3 miles of the locations.

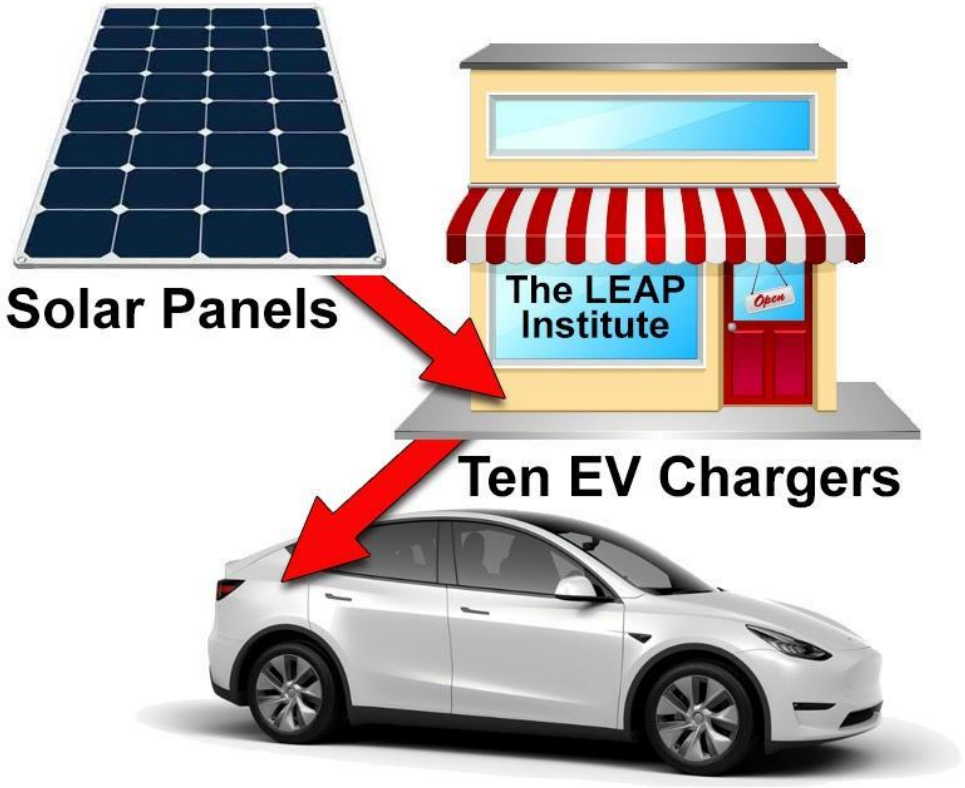

Figure 21: EVs Powered by On-site Renewable Energy

Green Raiteros (GR), the pioneering EV rural ridesharing program grown from the old practice used by farmworkers in Huron, California, has proved very successful. Apart from bridging the gap in access to essential appointments such as medical, social service and covid testing and vaccination, it has been evolving and upgrading to also empower the workforce from isolated communities to training sites to build skills and advance upward socio-economic mobility. Most

recently, GR has added a program with 7-seater Tesla Y's that will transport students to college and universities as well as an enrichment and wellness component for the whole family with weekend trips to coastal parks, sponsored by California State Parks and supported by Save the Redwoods League. Farmworker families do not have the resources, awareness, or the transportation to enjoy the green emeralds our state has to offer. Simultaneously, locals are employed, gain professional experience, and can ascend into other opportunities. All the while, families become familiarized with electric vehicles that do not pollute their breathing air or contribute to the climate crisis.

Green Cruisers is an extension of GR using electric tricycles or e-trikes. Studies show that most riders are older white males, and we believe we can change that with e-trikes. In our interviews with Latina moms and elderly retired farmworkers we found that tricycles are more attractive to them because they feel they are safer than bicycles. The added benefit of being able to transport children and groceries takes it over the top. Small businesses in other communities shared the interest of using e-trikes for delivery as well.

Figure 22: Vendor e-Trike

Electric transportation not fossil fuel transport. The technology exists and is becoming more accessible, both the EV's and the infrastructure. The LEAP Institute has worked with numerous EV charger installation companies to encourage and advance EV infrastructure in farmworker regions including the area we administered surveys in Mecca. The idea of riding in a quiet, comfortable, smart vehicle with features to make the trip safer and healthy for all is capturing the imagination and interest of residents in all communities. "Pues, si no contamina, mejor" [Well, if it doesn't pollute, better] shared an elder from Mecca. The farmworker, Latino and P'urhepecha communities have one strong bond that connects them all apart from many customs, some traditional foods and most frequently common language of Spanish and that is a communal likeness of support. The raitero (raitero from the Spanglish word 'raite' or ride. A raitero is both the driver and the rider) concept of ridesharing and ride hailing has been around long before

Uber or Lyft in these communities. Before it was sexy but due to historical racism such as redlining by financial institutions and other mechanisms of undermining wealth creation and economic advancement, this concept, practice, and business opportunity was suppressed. Economic opportunities for economic upward mobility are limited in these communities and many times constricts the potential of the next generation. These are the same communities that are overlooked and underinvested in when it comes to infrastructure, amenities but always disproportionately impacted with more polluted air and contaminated water. These communities too are the ones bearing the worst impacts from the climate crisis, a man-made problem not of their own device.

Priority populations need transportation to get to non-emergency medical appointments, social services, apprenticeship programs, work, school, shopping, and enrichment. Traditional transportation systems are useful but fall short in meeting all the essential needs of the families with the least.

Docking/charging station with solar awnings to also serve as clean energy emergency islands to provide a pedestrian refuge under the shade, charge personal devices, access WiFi and receive alerts when air is too contaminated, or a dust storm is approaching. These scenarios are unfortunate real ones, particularly in the San Joaquin and Coachella Valley's. Traditional transportation systems are slow and don't go to where people want to go. That is the reason Uber and Lyft are popular in wealthier communities. Priority community residents are left out, especially if they are not English speakers residing in more well-to-do areas where more amenities are developed. It becomes worse for those that only speak Spanish and it only becomes more challenging for communities that speak Spanish as a second language like the P'urhepecha families in the Eastern Coachella Valley. This applies also to indigenous farmworker communities from other parts of 'Mesoamerica' such as the state of Oaxaca and Guatemala where they speak multiple native languages and reside in all the areas where we have implemented the assessment tool.

Figure 23: Solar Docking/Charging Station for Electric Micromobility

Established and migrant farmworker families living in low-income rural communities that lack the infrastructure to uplift quality of life. The models of clean mobility that LEAP has already implemented provides an ideal option for farmworker rural communities throughout the state because they were born from the same people and descendants that have grown up witnessing the challenges and fighting for the resources, that for generations, went face first into brick walls. Still today, we have witnessed municipal governments hire consultants that capture .01% of the population's opinions on their needs, wants and transportation gaps with the majority of that meager number hailing from upper income or middle-class sectors of the society. CMO TNA is a great model to engage the working class, on the ground, to intimately acquire a colorful picture of what exists, what doesn't and what is not working to bridge the gaps.

Not only affluent families have interest in having amenities that work but are efficient and effective in covering the needs of the most essential things in life. Working families also have the aspiration of experiencing public resources that they can count on and live a more comfortable life when they have leisure and are not entrenched in the farm fields of our rich state that feed the nation. To some extent and at times exaggerated by few, farmworkers nod almost facetiously as to being fed a pipe dream. The unfortunate fact of the absence of investments in their humble communities have all but concreted a perception of how society is in our Golden state. We know it can be different and lean on the energy and comprehension of the agencies to lead innovation for equity and demystify. Door to doctor and door to store is obviously one of the preferred services residents in all communities showed favor for. Using micromobility to bridge the gaps and what we call, nano-mobility (e-trikes, e-bikes, e-scooters) to get to the bridge for those able to do so, if not to make the short trips to local market while pedaling in some necessary exercise. Lighting is also an important matter in these communities. Many times, it is too costly for the utility to install new infrastructure to illuminate dark neighborhoods or streets. LEAP innovations have evolved around the need's farmworker community's demand. As such, the LEAP Smart Light (LSL) is what we will be installing in one of the communities already (Huron, CA). These LSLs are LED lighting with solar, storage and charging for personal devices and nano-mobility. LSL's also can be accompanied with WiFi capacity (another huge need in low-income communities), DYLOS air quality monitors and other safety elements.