FEBRUARY 2022

# 2021 Urban Movement Labs Annual Report

urban movement labs

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**February 2022**

urban movement labs

# Introduction

On behalf of our Board of Directors and Staff, I'm pleased to present Urban Movement Labs' (UML) 2021 Annual Report. UML's first annual report showcases the work in our first full calendar year as a staff and 501(c)(3) nonprofit organization, building on a year of incubation within the Mayor's office spearheaded by our Founding Board. Over the course of 12 months our organization has grown, and our roster of public and private sector partners has expanded beyond our initial founders to include firms developing technologies at the forefront of urban mobility.

2021 has been a year of many changes, and continued uncertainty. Throughout the year, one thing has been constant, and that is **Movement**. We have moved past the lockdowns of the prior year, moved through a transition of Federal power that includes massive new spending for infrastructure, and moved through changes in how we live, work, educate, and play in our daily lives. With all the changes and uncertainty, we can appreciate this movement; after all, **movement is our middle name.**

Our team has worked with our partners to understand how new mobility technology can impact the movement of people and goods in communities of Los Angeles. Collaborating with partners, coming together as a team, and sharing ideas with others at events has helped us bring new lessons into our work moving forward. As Los Angeles emerges from the pandemic and returns to a new normal, we at Urban Movement Labs are excited to harness these lessons and continue the momentum towards a new urban mobility future.

This annual report highlights the projects, initiatives, and outcomes we delivered in 2021. From urban air mobility to electric vehicle charging and last mile robot delivery, our work has positioned Los Angeles to be at the forefront of mobility innovation. Looking ahead, Urban Movement Labs is poised to continue to deliver on our mission and ensure emerging mobility trends continue to serve the people of Los Angeles.

As a supporter of Urban Movement Labs, we thank you for your interest in our organization and for taking the time to review this report. **Connect with us** to see what we work on next, or to learn about how our organizations might partner to bring mobility innovation to Los Angeles!

**Warm regards,**

**Sam Morrissey, MBA, PE, Executive Director at Urban Movement Labs**

Urban Movement Labs team. From left, Clint Harper, Urban Air Mobility Fellow; Rogelio Pardo, Program Director; Jorge Cáñez, Communications Associate, and Sam Morrissey, Executive Director.

# Our Vision, Mission, and Values

Urban Movement Labs is a 501(c)(3) nonprofit organization based in Los Angeles, California. UML's work is guided by the following vision, mission, and values:

## Vision

To improve mobility, create jobs, and promote healthier communities through public and private sector collaboration to deploy technology innovations equitably in Los Angeles and eventually a larger geographic area.

## Mission

Urban Movement Labs links government, businesses, and communities to match technology solutions to mobility problems by testing them in real urban conditions in Los Angeles and eventually a larger geographic area.


Source: Jack Finiga

# Values

### Economic Opportunity

We leverage our position to encourage new mobility tools and accompanying economic opportunities into Los Angeles.

### Equity

The opportunities and benefits of our transportation systems must be available to all Angelenos without regard to income, race, sex, religion, or any other factor.

### Inclusive Mobility

Mobility is a fundamental right, and our transportation systems must accommodate and be accessible to all users, especially our most vulnerable community members.

### Integrity

We are mission-driven and know that our work must always serve the greater public good.

### Health and Safety

Our transportation system must prioritize the health impacts and safety of all users and communities above all other performance metrics.

### Sustainability

Our transportation system must evolve to address the immediate challenges of climate change, sea-level rise, and extreme weather, and is crucial to achieving the goals of Los Angeles, the state of California, the nation, and the globe.

# Measuring Success

UML's values guide the work of the organization and the pilot projects our team is involved in. UML uses qualitative and quantitative metrics to understand how new technologies may improve and impact mobility. The categories used to measure success include:

1

**COMMUNITY BENEFITS**

Metrics to understand how new transportation technologies can benefit community members by improving mobility accessibility, affordability, reliability, and safety.

2

**ECONOMIC OPPORTUNITY**

Metrics to understand how a technology can support local businesses, foster new jobs, and promote access to economic opportunities.

3

**MARKET FIT**

Metrics to understand how a technology addresses existing challenges and provides solutions that are cost-effective and applicable to contexts of varying size and complexity.

4

**OPERATIONAL STEWARDSHIP**

Metrics to understand improvements in the way that community members interact with the built environment, and public agencies manage the public right-of-way.

5

**SUSTAINABILITY**

Metrics to understand how a new technology helps improve sustainability in our mobility network by reducing vehicle miles travelled, reducing emissions, introducing alternative modes of travel, etc.

# Projects and Milestones

Urban Movement Labs classifies our work across three programs to facilitate the introduction of mobility technology in Los Angeles. In 2021 our work focused on these three major program areas, with some key outcomes in each program area:

## Urban Proving Grounds (UPG)

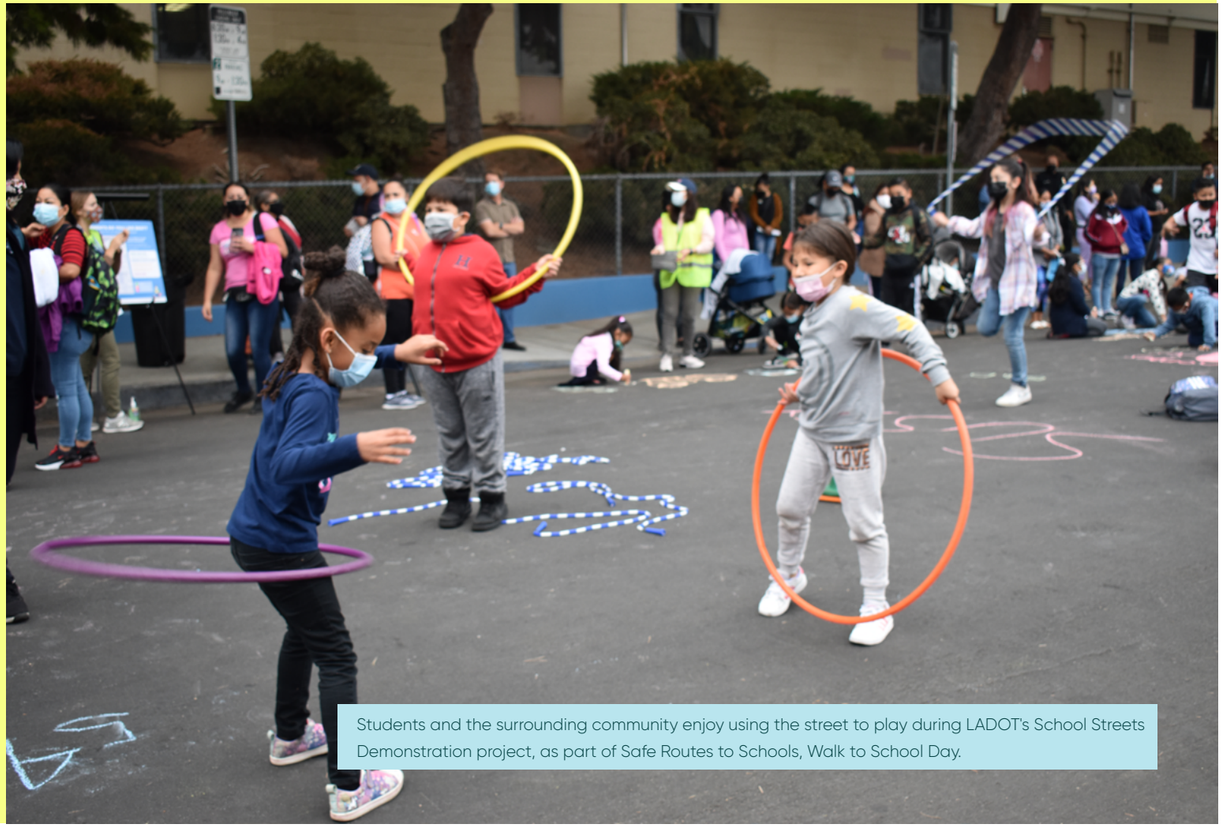
Through partnerships with stakeholders and community members, and the support of the City Council and Mayor, UML has established a process for testing and scaling transportation technology by giving companies a clear path for permitting and guidelines for engagement, including an engaged group of stakeholders. With the launch of the first Transportation Technology Innovation Zone (TTIZ) in the Warner Center community in early 2021, and through direct partnerships with the City of Los Angeles Department of Transportation (LADOT), UML has facilitated the deployment and testing of new technologies in a variety of UPG settings.

## Ideas Accelerators

To accelerate the process of moving from challenges to a project and then scaled implementation, UML convened an Ideas Accelerator workshop in the Warner Center community. This workshop focused on identifying mobility challenges, and led to the identification of new technologies that have been deployed and tested in 2021. Similarly, as a part of the work of UML's electric vehicle fellow, UML also convened a virtual Ideas Accelerator workshop in mid 2021 to identify gaps and opportunities in vehicle electrification. This workshop was useful, as UML identified critical gaps related to the expansion of EV charging infrastructure in multi-unit dwellings, which would support both expanded vehicle electrification and the electrification of TNC fleets, which rely on independent contractors and their personal vehicles.

## Workforce Development

The focus of this program area is to build capacity inside and outside of government in LA to implement and manage transportation technology projects. This includes assistance in guiding and developing policies related to new transportation technologies. A major focus within this program area has been related to the rapidly evolving field of urban air mobility (UAM), and UML has been actively working to position the City for the successful integration of this new mode into the City's complex and diverse existing transportation network, in a manner that is safe, equitable, and sustainable for all Agenelos. Further, UML has provided much needed assistance to LADOT to inform policies and day-to-day operations related to new electric modes of transportation and the growing zero emission delivery zone (ZEDZ) program.



Students and the surrounding community enjoy using the street to play during LADOT's School Streets Demonstration project, as part of Safe Routes to Schools, Walk to School Day.

# Advisory Partner Spotlight: MoceanLab

This past August, Urban Movement Labs celebrated **a year of partnership with MoceanLab**, the LA-based mobility innovation laboratory established in 2019 by Hyundai Motor Group. With support from Urban Movement Labs and Hyundai, MoceanLab has recently launched a mobility service, EnableLA, a wheelchair-accessible rideshare service offered in conjunction with partner ButterFLi to provide safe, affordable, and convenient transportation to people with disabilities, seniors, or anyone else facing mobility challenges. In addition, Urban Movement Labs has spearheaded a community-guided strategy for incorporating Urban Air Mobility intothe transportation network with the support of Hyundai's Supernal.

What can we expect for the next year? Urban Movement Labs and Hyundai's MoceanLab look forward to exploring new opportunities to facilitate pilot projects to help improve mobility in Los Angeles. Projects currently being explored include continuing to promote electric charging facilities and infrastructure deployment, and working with stakeholders in the region to make Mobility as a Service (MaaS) a reality.


Mocean Carshare expansion to Warner Center event. From left to right: Dave Gallon, COO at MoceanLab; Councilmember Bob Blumenfield; Sam Morrissey, ED at Urban Movement Labs, and Marcel porras, Chief Sustainability Officer at Los Angeles Department of Transportation, Bureau of Transportation Technology

# Urban Proving Grounds: Curb Management

In recent years, demand for curb space has grown continuously amidst a rapidly changing transportation landscape as new mobility options emerge and require space for storage and access. Cities are working to identify new tools to facilitate the proactive management of curb space demands and respond to shifting needs effectively. In Los Angeles for example, the Department of Transportation launched Code the Curb: an initiative to survey and digitally document the City's network of traffic signs, painted curbs, and other regulatory tools along streets.

In 2021, Urban Movement Labs partnered with two companies to test solutions that tackle different aspects of curb management. With IBI CurbIQ, UML tested technology to develop a digital inventory of existing curbside regulations, while working with Automotus is providing lessons on how curb space is used today to inform potential changes to regulations.

**Urban Proving Grounds allows UML to improve access to transportation options and develop new policy tools and investments for sustainable options.**


Source: Jorge Cáñez

# IBI CurbIQ – Digitizing the Curb

**Status:** Completed 2021
**Location(s):** City of Los Angeles: Downtown, Hollywood, Warner Center and City of Maywood
**Partners:** City of Los Angeles Department of Transportation (LADOT)

IBI is a professional services and consulting firm for urban environments, with leadership in developing software solutions to address the challenges government agencies face. CurbIQ is a comprehensive parking, curbside, and asset management toolset to inform parking and curb management.

UML partnered to test the capabilities of CurbIQ's augmented mobile mapping solution, which uses machine vision to collect images of curb regulations from a vehicle to create a digital inventory, and compared it to much slower pedestrian surveying. These approaches were tested in different urban contexts to understand variances in accuracy and speed of data collection. This pilot's outcomes showed that a blended approach of augmented mobile mapping in low- to moderate-density areas, and pedestrian based surveying in dense areas provide an economic and scalable strategy for digitizing curb regulations. Read the detailed findings in our case study, **Digitizing the Curb: Curb Inventory Pilot Project.**


The curb brings together multiple modes and users. Here we see Metro Bike Share alongside a protected bicycle lane in Downtown Los Angeles.

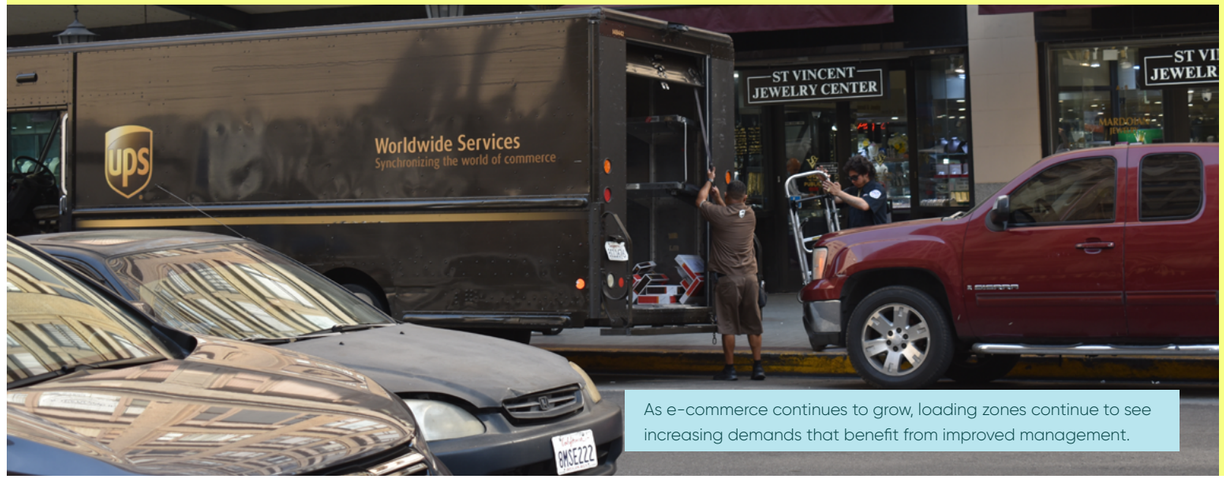
## Metrics We Measured

- **Community Benefits**
  - This data can be used by policy makers to inform curb allocation and make space for people, new mobility services and/or non-auto mobility services accessible
- **Economic Opportunity**
  - This data can be used to implement regulations that facilitate access for community members visiting local businesses, improve last-mile deliveries, and help rethink how curb space and adjacent roadway is used to support outdoor activities and business.
- **Market Fit**
  - Time associated with the data collection and processing
    - Data collection conducted by pedestrian surveyors averaged 1.6 to 1.8 hours per mile of curb space.
    - Data collection using mobile mapping averaged .6 hours per mile in urban contexts, and about .3 hours per mile in suburban contexts.
- **Operational Stewardship**
  - % signage successfully detected and mapped
    - 93-98% detection rates
    - Captured images read with 100% accuracy
    - Mapped with 80% geolocation accuracy
- **Sustainability**
    - Collecting curbside data doesn't directly reduce GHG emissions, but can facilitate more efficient trips, reducing overall emissions.

# Automotus – Understanding Commercial Loading

**Status**: In Progress
**Location**: City of Los Angeles: Downtown
**Other Partners**: City of Los Angeles Department of Transportation (LADOT), City of Los Angeles Bureau of Street Lighting, Hollywood Business Improvement District (BID), South Park Business Improvement District (BID)

Automotus uses its first-of-its-kind computer vision to provide a comprehensive understanding of real-time curb activity to inform policy with real-life demands, provide real-time availability for drivers, and automate parking enforcement. Working with local business communities, UML and Automotus are piloting this technology in Smart Loading Zone's to understand how curb space is being used, and inform policy decisions to better manage curbs. Additionally, Automotus is supporting LADOT to understand activity at new Zero Emission Delivery Zones. The findings of this pilot will assess the capabilities of this technology to provide data on curb use to inform policy changes that facilitate parking turnover and improve the efficiency of deliveries in business districts. To stay up to date regarding this pilot project, follow our project site **here.**




As e-commerce continues to grow, loading zones continue to see increasing demands that benefit from improved management.

## Metrics We Are Measuring

- **Community Benefits**
  - Review public feedback to understand community reception
- **Economic Opportunity**
  - Opportunities to use technology for improved curb enforcement leading to parking turnover at businesses (tentative based on pilot project phasing)
- **Market Fit**
  - Compatibility with the City's Mobility Data Specification ("MDS") data-reporting requirements
  - Accuracy of data collection conducted
  - Hardware reliability and performance
  - Compatibility with parking enforcement officer tools
- **Operational Stewardship**
  - Simulated and proposed increased revenue generated per loading zone
  - Measured double-parking events
- **Sustainability**
  - Number of commercial drivers using Automotus data to reserve loading space and reduce VMT (tentative based on pilot project phasing)

# Urban Proving Grounds: Personal Delivery Devices

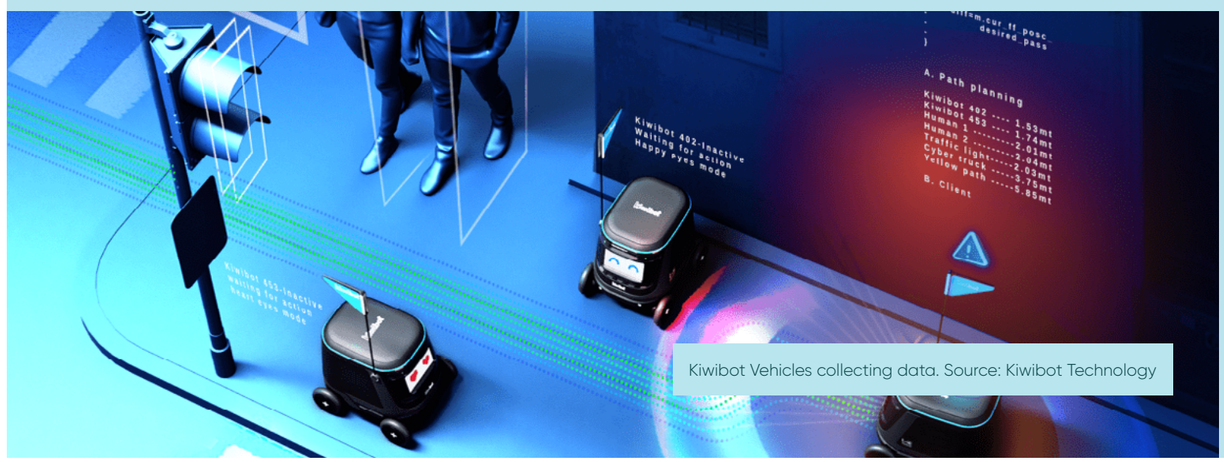
Personal Delivery Devices (PDDs), also known as delivery robots, deliver packages, food, and other goods. These devices can be autonomous and/or piloted remotely as they navigate sidewalks and roadway shoulders at low speeds to fulfill local deliveries. As sidewalks have limited space in most contexts, PDDs present both an opportunity to support local deliveries and the potential challenge of another asset to manage on sidewalks. UML partnered with two PDD companies to understand how else this technology can serve communities and what business models would provide the most effective use cases.


Source: Kiwibot

# Kiwibot – Delivering the Data

**Status:** In Progress
**Location:** City of Los Angeles: Warner Center
**Other Partners:** City of Los Angeles Bureau of Street Services (Streets LA)

Kiwibot is a PDD service company that has completed over 150,000 deliveries since 2017 using their semi-autonomous robots. In response to the Warner Center RFI, UML partnered with Kiwibot to test the solution for reducing the need for employees to spend their lunchtime driving to pick up lunch by delivering lunch to them. However, with the onset of the COVID-19 pandemic and increased telework, Kiwibot had few employees to deliver to in the Warner Center. In response, UML worked with Kiwibot and The City of Los Angeles Department of Street Services (Streets LA) to test device sensors and cameras that can provide valuable digital mapping of public rights-of-way, and could help to prioritize maintenance dollars and new infrastructure. This pilot project has led to continued software improvements to guide data collection, including sidewalk maintenance, tree well locations, ambient shade, and sidewalk furniture placement, and Kiwibot looks to continue this collaboration in pursuit of a solution that is market ready. Further, a recent motion by the Los Angeles City Council highlights the benefits of leveraging this new technology to address long-standing challenges related to sidewalk maintenance and accessibility.




Kiwibot Vehicles collecting data. Source: Kiwibot Technology

## Metrics We Are Measuring

- **Community Benefits**
  - Collected data can be used by policy makers to inform where sidewalk maintenance should be prioritized and highlight where assets for community members (benches, trees, trash cans) may be needed
- **Economic Opportunity**
  - This technology may present an opportunity to collect data at a reduced cost by leveraging existing delivery operations
- **Market Fit**
  - MDS Compatibility
  - Integration into existing datasets used to inform resource allocation
- **Operational Stewardship**
  - % sidewalk assets successfully detected and mapped
- **Sustainability**
  - Potential VMT reduction due to deliveries made without a vehicle

# Tortoise – Testing Operations Models

**Status:** Complete
**Location:** City of Los Angeles: West LA

Tortoise operates personal delivery devices that are remote-controlled and paired with staff during pilot operations that provide grocery and small parcel deliveries. Tortoise tested two operation models on a small scale by partnering with neighborhood serving convenience and fine goods stores. The first, was using partner stores as distribution centers where Tortoise devices fulfilled orders within a 2 mile radius. However, the lack of demand density to support a distribution center model informed a new, mobile hub model for testing. In this model, a standard delivery vehicle carried multiple packages to a central residential location where there is a demand for goods from partners, and served as a temporary delivery hub for Tortoise devices to fulfill deliveries. This model has been scaled up by Tortoise in partnership with companies like AxleHire.


Source: Tortoise main website.

## Metrics We Are Measuring

- **Community Benefits**
  - Number of deliveries made during pilot project to community members
- **Economic Opportunity**
  - Local businesses supported with delivery
- **Market Fit**
  - MDS Compatibility
  - Viability of different operations models
- **Operational Stewardship**
  - % deliveries made successfully
  - Device ability to navigate sidewalks
- **Sustainability**
  - Potential VMT reduction due to deliveries made without a vehicle

# Ideas Accelerators

Urban Movement Lab's Ideas Accelerators bring together stakeholders from the community, public agencies, and the private sector to workshop mobility challenges within specific geographies and/or specific mobility technology topics. By bringing together a wide array of perspectives, these workshops break through traditional silos and generate ideas for how to advance solutions to today's mobility challenges. In 2021, UML built on the success of our 2020 Connecting Warner Center Ideas Accelerator, and hosted a new conversation focused on electric vehicle (EV) charging access.

**Ideas Accelerators allows UML to test new mobility solutions and identify additional technologies and solutions to explore for and with Angelenos.**


Source: Jorge Cáñez

# Connecting Warner Center

**Status**: Ongoing
**Location**: City of Los Angeles: Warner Center
**Other Partners:** Office of Los Angeles Mayor Garcetti, Office of Los Angeles Councilmember Blumenfield

UML facilitated a workshop to discuss mobility challenges and opportunities to reduce reliance on personally owned vehicles and increase connectivity in and around Warner Center. The workshop led to the release of a Request for Information, to which 27 mobility technologies presented ideas for improving transportation in the area. Spurred by this accelerator, in early 2021 the Los Angeles City Council designated the Warner Center as the City's first Transportation Technology Innovation Zone to make it easier to test mobility technology solutions, such as IBI CurbIQ and Kiwibot. To continue efforts in the area, UML partnered with the Warner Center Association and secured funding in Summer 2021 to support pilot projects, study infrastructure needs for autonomous vehicles and spur research and development jobs in the area in 2022.* The **Warner Center Workshop Summary Report** highlights the key takeaways that have led to ongoing work and collaboration.


Source: Warner Connects

* Secured funds are anticipated to be disbursed and accessible for use mid-2022. Funds will be used for Warner Center specific efforts through 2023.

# Electric Feel – EV Charging and Access

**Status**: Complete
**Location**: City of Los Angeles

With transportation accounting for 40% of greenhouse gas emissions in California, shifting from traditional to electric vehicles must be accelerated. In Los Angeles, most residents live in rental units, creating a barrier to EV access as many multi-family homes lack the appropriate charging infrastructure. Additionally, the focus has often been on facilitating a transition to EVs for large fleets, which has limited messaging to smaller and medium-sized businesses. UML facilitated a workshop for policy makers, local businesses, EV charging service providers, and others to discuss challenges and brainstorm ideas to facilitate access to EVs and develop the necessary infrastructure to support LA's transportation electrification. This workshop will inform future UML projects and initiatives, including our recent project proposal included in the Los Angeles County Economic Development Corporation's (LAEDC) application for the US EDA's Build Back Better Regional Challenge grant opportunity, which was selected as one of 60 finalists competing for up to $100 Million in funding. A summary of this workshop is available **here**.


Electric Metro Bike Share in Los Angeles. Source: Amy Blackburn, MSG, MPH

# Workforce Development

By bringing topical experts to city agencies and conducting research, Urban Movement Labs has assisted in developing capacity inside and outside of public agencies in Los Angeles to manage new mobility technologies effectively. In 2021, UML's Urban Air Mobility Fellow raised awareness for the ways in which the City should prepare in advance of UAM's emergence in the context of Los Angeles, and UML conducted research associated with emerging topics including electric cargo bikes, electric mopeds, and zero emission delivery zones. Moving forward, UML looks to take a proactive role in workforce development in the region to ensure the workforce in Los Angeles can support the changing mobility landscape, and that careers in mobility are accessible in an equitable manner.

**Workforce Development allows UML to help inform new policies and regulations for the City of Los Angeles, which will in turn develop new opportunities for education, training, and jobs from within the communities and academic institutions of the City.**

Source: Jorge Cáñez

# Urban Air Mobility Partnership

**Status**: Ongoing
**Location**: City of Los Angeles
**Other Partners**: Archer, Blade, City of Los Angeles, Supernal, Volocopter, City of Los Angeles Department of Transportation (LADOT), City of Los Angeles Department of City Planning

As Urban Air Mobility technology evolves rapidly, low noise, electric aircraft may be certified for moving goods and people as soon as 2024. Existing regulatory models open the door for operations from local airports and some heliports. The City of Los Angeles has an opportunity to guide the integration of UAM through the planning and permitting of new aviation infrastructure and operations. Leading the UAM Partnership, UML is working with city agencies to develop an understanding of this technology, and participating in discussions with a variety of other regulatory agencies (federal, state, and regional), organizations, cities, and industry groups. UML is convening aviation expertise across government agencies and engaging with the community to empower residents to inform a future UAM ecosystem in Los Angeles and potentially across the globe. Additionally, UML is developing policy and regulatory guidance to inform the diverse operating and supporting departments within the City of Los Angeles on the impacts and opportunities presented by UAM regulations and future operations, to ensure that this new aerial mode of transportation can be integrated into the City's existing multimodal transportation system in a way that does not repeat the problems caused by past infrastructure investment. UML looks to continue this important work in the next year, to further support the City of Los Angeles in integrating this new mode, and to provide valuable insights and guidance that can be used by both private sector players in this field and other cities in the US and across the globe to ensure that future UAM operations are safe, equitable, and sustainable no matter where they are located.


This rendering imagines UAM as a component of a multimodal network that prioritizes people by providing access to options. Source: UML & Supernal

# Electric Cargo Bikes, Electric Mopeds, and Zero Emission Delivery Zone (ZEDZ) Policy and Regulatory Support

**Status**: Complete
**Location**: City of Los Angeles
**Other Partners:** City of Los Angeles Department of Transportation (LADOT)

As a part of UML's work with our partner LADOT, our team supported the development of new policy tools to regulate and manage new modes of mobility within the public rights of way in Los Angeles. This included researching and providing recommendations on policy considerations related to the use of electric cargo bikes and electric mopeds for last-mile commercial delivery. UML staff researched and conducted interviews with staff in cities across the United States to evaluate best practices and existing policies related to e-cargo bikes and e-mopeds, and provided policy recommendations to LADOT staff in a collaborative manner that provided a much-needed framework for regulation. Similarly, UML staff worked directly with LADOT staff to address operational considerations around newly designated Zero Emission Delivery ZOnes (ZEDZ). This work allowed UML to gain a deeper understanding of the day-to-day operation challenges faced by City staff in monitoring and enforcing the use of designated ZEDZ throughout Los Angeles, which will assist the City in expanding these zones and ultimately achieving crucial emission reduction goals. Further, this work has spurred ongoing discussions with City staff that will inform subsequent technology deployments in 2022 and beyond.


The launch of Los Angeles' first Zero Emission Vehicle Delivery Zone saw appearances by electric delivery trucks, and cargo bikes! (October, 2021)

# In The News

"The first-ever Transportation Technology Innovation Zone will unite local businesses, workers, and inventors around how to revolutionize mobility in the West Valley, and it will serve as a model for what's possible as more zones come online in areas across Los Angeles," said Mayor Garcetti.
- **City of Los Angeles Press Release**

"'I think we've learned that it's important for city transportation agencies to get ahead of new technology before they appear on city streets,' Lilly Shoup said, interim ED at UML. 'It's important to understand their business models and proactively develop policies.'"
- **dot.LA**

"Too often, smart city projects end up being 'just plain old surveillance,' said Julia Thayne, a founder of Urban Movement Labs who is helping to lead mobility innovation within the office of Los Angeles Mayor Eric Garcetti."
- **Governing**

"'We have an opportunity to plan for [urban air mobility], so we're exploring the best way to integrate this new technology into the existing transportation fabric,' said Clint Harper, the non-profit's urban air mobility fellow. 'We have gaps in the current transportation system that maybe we can be of service in trying to close.'"
- **The Guardian (UK)**

"Our challenge is if [urban air mobility is] to arrive, can we have everything in place so it's not something only rich people can use," said Sam Morrissey, ED at UML.
-**The New York Times**

"'Our role is to really facilitate the new deployment of [new urban air mobility] technology in Los Angeles,' Morrissey said. He added that the city wants to avoid the ex post facto scramble to regulate transportation technologies, like what happened after the launch of Uber, Lyft and scooter rental services."
- **TechCrunch**

Sam Morrissey, UML's Executive Director, interviewed by MoceanLab PR team

# Urban Movement Labs was also featured in articles in the following publications:

**Robb Report (January 10, 2021) -** Los Angeles Will Be the Next Major City to Launch an Air Taxi Network

**AXIOS (January 14, 2021)-** Cities prepare for home delivery by drone

**Singularity Hub (February 24, 2021) -** Flying Taxis Will Hit LA Skies by 2024, According to a California Startup's Plan

**State Scoop (February 25, 2021) -** Los Angeles wants flying taxis in the next three years

**CNET COmputer Network (February 25, 2021) -** Archer eVTOL startup partners with LA to launch flying taxis in 3 years

**Environmental News Service (April 21, 2021) -** Autonomous Air Taxis Planned for Miami, Los Angeles

**Bloomberg CityLab (May 19, 2021) -** When Cities Say No to New Transportation Technology

**Observer (June, 7, 2021) -** Flying Cars Will Reshape Our Congested Cities: Interview With Archer CEO Brett Adcock

**Intelligent Transport (June 10, 2021) -** Maas North America 2021: A sneak preview

**Bloomberg Business (July 15, 2021) -** IBI Group Partners with LA's Urban Movement Labs to Shape the Future of Mobility

**dot.LA (July 16, 2021) -** Eric Garcetti's Legacy as LA's First 'High Tech Mayor'

**Spectrum News SoCal (August 2, 2021) -** Drone deliveries and electric air taxies on the horizon for SoCal

**Aviation Today (September 16, 2021) -** Volocopter Explores LA Launch with New Urban Movement Labs Partnership

**Flying Magazine (October 3, 2021) -** Is Los Angeles Becoming a Battleground for eVTOLs?

**EVTOL.com (November 9, 2021) -** Hyundai Motor Group announces the formation of Supernal to lead the Group's progress in Advanced Air Mobility

Clint Harper, UML's Urban Air Mobility Fellow, interviewed by Spectrum News

# Leading the Discussion


Rogelio Pardo, UML's Program Director, presenting at CoMotion LA (November 2021)


Sam Morrissey, UML's Executive Director, & Clint Harper, UML's Urban Air Mobility Fellow, presenting at K-UAM (November 2021) Source: K-UAM

Sam Morrissey, UML's Executive Director, presenting at MOVE AMERICA (September 2021)


Clint Harper, UML's Urban Air Mobility Fellow , presenting at P3 Airport Summit (July 2021) Source: P3 Airport Summit

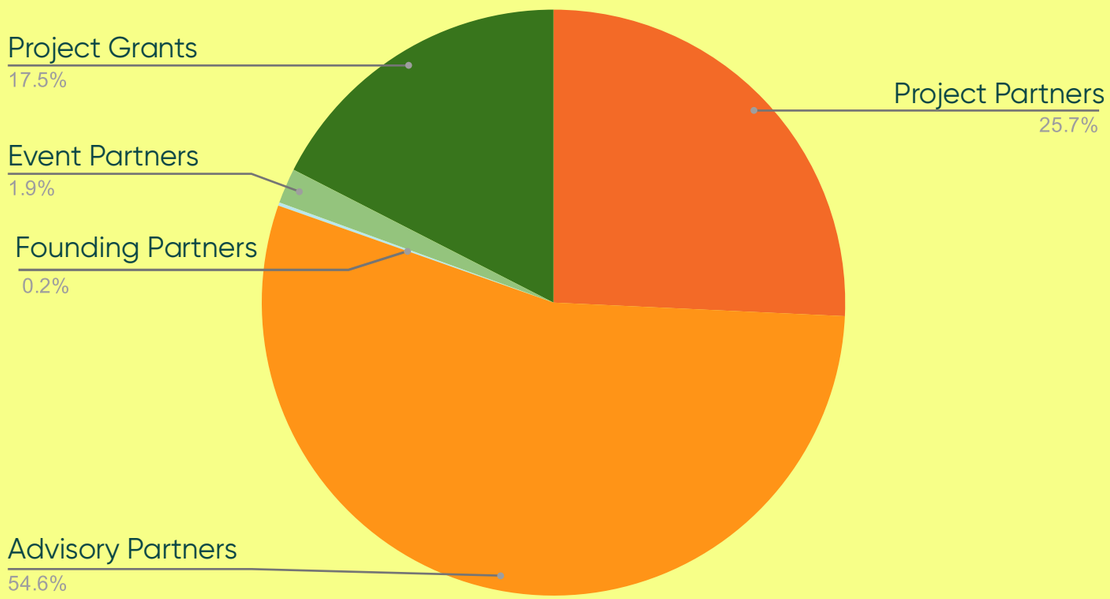
Clint Harper, UML's Urban Air Mobility Fellow, presenting at UAV EXPO (September 2021) Source: UAV EXPO

## We also participated at the following events:

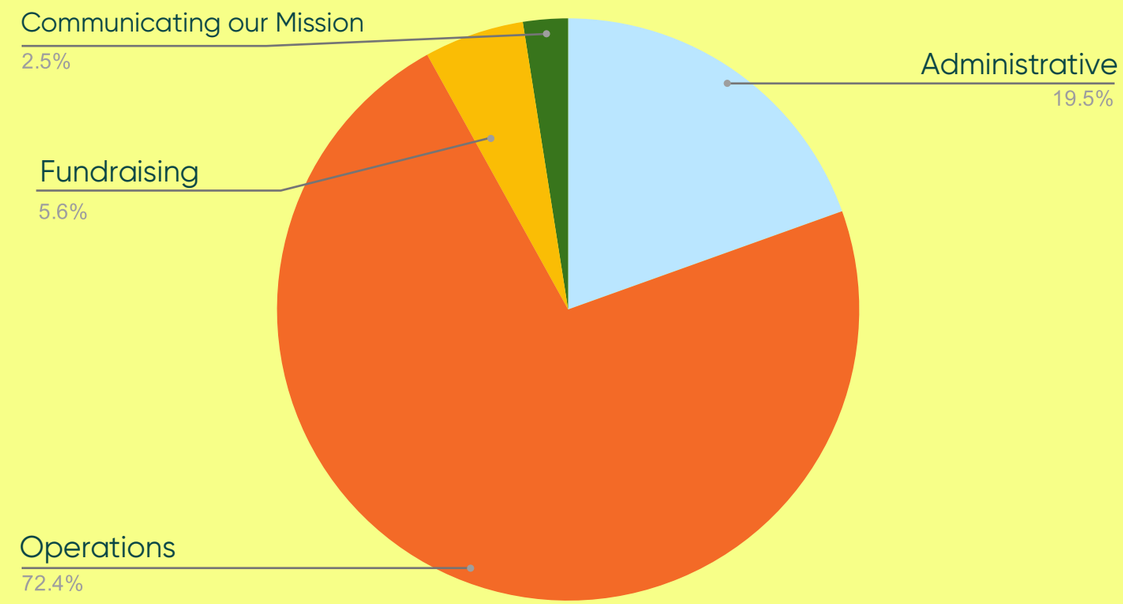
- Aviation Americas (November 2021)
- FHWA (August 2021)
- Micromobiity America (September 2021)
- Utah APA (September 2021)

# Financial Report

## Revenue




## Expenses



# Credits

## Board Members

- Henry L. Greenidge
- Ashley Z. Hand, AIA, LEED AP BD+C - **Board Chair**
- Justine Johnson - **Board Treasurer**
- Christopher Pangilinan
- Gregory Rodriguez
- Lilly Shoup
- Veronica Siranosian, AICP - **Board Secretary**
- Julia Thayne DeMordaunt

## Staff

- Jorge Cáñez - **Communications Associate**
- Clint Harper - **Urban Air Mobility Fellow**
- Sam Morrissey - MBA, PE, **Executive Director**
- Rogelio Pardo - **Program Director**
- Francis Pollara - **Director, Strategy & Development**

## Partners

### PUBLIC SECTOR

- City of Los Angeles Mayor's Office
- City of Los Angeles Department of Transportation (LADOT)
- Los Angeles World Airports (LAWA)
- Port of Los Angeles (POLA)

### PRIVATE SECTOR

- Archer
- Automotus
- Blade
- IBI Group
- MoceanLab
- Supernal
- Tortoise
- Volocopter
- Waymo
- Zeti

### FOUNDING PARTNERS

- Avis Budget Grou`p
- LACI
- Lyft
- Verizon


UML Board and Staff during their first joint meeting.

FEBRUARY 2022

# Annual Report 2021

urban movement labs

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