



Expanding EV Infrastructure

BACKGROUND

Orlandoans travel an average of 34 miles per person per day, and more than 89 percent of these miles are from single occupancy vehicle travel. Freight also represents a significant source of transportation related emissions. Orlando's goals focus on both a modality shift from personal vehicles to active modes and public transit, as well as emissions reductions across the larger transportation system. In Orlando, city leaders recognize that the future is electric, and they want to be prepared for the inevitable transition as well as empower it - expanding access to EVSE is foundational to this vision.

Project description

With infrastructure as a central component of this shift, the city has adopted a complete streets policy and is expanding public transit infrastructure to include 45 miles of off-street trails, over 50 miles of signed routes, and over 250 miles of bicycle lanes, as well as offering both bike share and scooter share programs. Electric powered mobility has also become an increasingly viable and beneficial strategy to reducing emissions from the transportation sector due to technological advancements, declining battery costs, and cleaner electricity generation nationwide.

In 2021, the City of Orlando – in partnership with the Orlando Utilities Commission (OUC) – completed installation of 99 new public EV chargers at 35 locations in the city, including various parks, parking garages, public venues, neighborhoods and senior centers. To drive towards equitable charging access across the city, charging stations were installed at every existing community and neighborhood center, despite varying EV adoption rates across neighborhoods. This expansion is integral to the city's climate goals, better positioning the city for the forthcoming electric mobility transition and encourages adoption to improve air quality and shore up local resilience.

In addition, a utility-owned direct-current fast charger (DCFC) hub to be located downtown is anticipated to be operational by spring 2022.

Fast Facts

- **Mayor:** Buddy Dyer
- **Population:** 315,000
- **GCoM member since:** 2016
- **Project name:** Public Electric Mobility Infrastructure
- **Project category:** Mitigation and Adaptation
- **Year implemented:** 2021
- **Cost:** \$1,000,000
- **Finance/funding:** Capital Improvement Fund, VW Settlement Grant
- **Project Phases:** Planning, Site Design, Permitting, Installation, Commissioning
- **Estimated total project hours for planning and installation:** 150+ hours
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The hub will charge an electric car in about 30 minutes and will support all vehicle types, including the transition to all electric ride hail services like Lyft and Uber. In addition, OUC has made a commitment to expand seven (7) more DCFC hubs throughout their territory by 2030.

Electrifying transit is also a critical component. Through a partnership with LYNX and OUC, the city unveiled the first electric LYMMO bus – Orlando’s fare-free downtown circulator – in 2020. The 14-bus circulator fleet is expected to be fully zero-emission by 2022 – three years ahead of the original 2025 target.

The city also launched an electric scooter and dockless bike pilot program in 2020 to enhance mobility options for residents and visitors, and will finalize its vendor selection and further establish goals and metrics to increase use of these modalities and ensure equity in access and affordability in 2022.

In August 2021, City Council approved an EV Readiness Code requiring a portion of parking spaces in new construction to meet current EV charging needs and prepare for future demand.

To further collaborative efforts needed to transition to an electric future, the city convened a regional Electric Mobility Task Force - composed of City, County, Metro, utilities, transit, and electric transportation experts and advocates - to develop a 2030 Roadmap. This Roadmap identifies Orlando’s main goals and strategies to advance an overarching vision for electrification and mobility in the city.

These projects complement a multitude of initiatives that will drive Orlando's Electric Future:

- ✓ the city's goal to fully transition its own fleet to electric and alternative fuel vehicles by 2030;
- ✓ partner initiatives such as OUC Charge-It and Own-It program for commercial EV charging;
- ✓ an Electrified Dealers program that equips salespeople with knowledge and tools to sell EVs;
- ✓ an electrified rental program – leveraging the city’s position as the most frequented travel destination in the world
- ✓ a Ride and Drive marketing campaign and incentive,
- ✓ efforts to advance safety, access and affordability of multimodal options through the city’s Vision Zero mission.

Implementation and finance

Coordination and partnership with the city’s municipal utility, Orlando Utilities Commission (OUC), was critical to ensure alignment on the technical implementation of EV charging infrastructure throughout the City and Central Florida region.

The City of Orlando utilized OUC’s "Charge-It" program and leveraged its capital improvement budget for infrastructure, implementation, network services, and O&M costs of new EVSE charger deployment on public property. The procurement was streamlined by using the pre-approved vendors, hardware, and software in the Charge-It program, expediting the process.

The City of Orlando has also developed a clear permitting process for EV charging infrastructure, including a step-by-step guide as well as a checklist to walk contractors through the process.

The EV Readiness code requirements for EV Capable and EVSE parking spaces will be integrated in developer construction costs as of January 1, 2022. There are a variety of incentive programs available to support developers in mitigating costs and achieving compliance, as well as resources to guide implementation.

In addition to these efforts, further funds from the state's Volkswagen settlement will support a forthcoming charging hub with 22 DC Fast charging (DCFC) stations in downtown and help accelerate the roll-out of electric buses in the city's downtown circulator fleet, LYMMO.

“Advancing electric mobility and multimodal solutions are integral to our city’s climate action strategy. With our strong culture of collaboration and partnership in Orlando, I’m confident we will achieve a future that is healthy, equitable, and sustainable for all.”

Mayor Buddy Dyer, City of Orlando

RESULTS AND LESSONS LEARNED

Main results

The City of Orlando has converted 93% of its on road municipal fleet to an alternative fuel source since 2012, with over 200 plug-in electric vehicles. The City has also expanded public access to EV charging with over 300 public EV ports located throughout all six districts. City transit fleets have begun the process to electrify buses, starting with the downtown LYMMO circulator, and between January 1, 2020 – January 1, 2022, there were 1,241,609 electric scooter trips totalling 1,293,383 miles. According to city's most recent rider survey, 55% of scooter riders would have driven if a scooter wasn't available.

Key Lessons

- Assess charging demand and each program/policy's impact across sectors.
- Allocate resources to develop and conduct outreach of installed EVSE and EVSE literacy.
- Collaboration and partnership are critical to success. (spacing before this bullet is inconsistent.)
- Identify partner roles for short and long term. Early stakeholder engagement is also key to get buy-in, funding.
- Clearly outline permitting requirements and coordinate regionally where possible.
- Identify siting criteria to develop a long-term strategy for continued expansion.

- Plan for the future your community wants to see. All communities will need access to charging infrastructure to tap into the benefits of EV ownership – provide immediate access and remove future barriers to EV charging.
- Ensure equal distribution across your Commissioner districts and various socio-economic demographics.
- Allow time to plan and innovate to accommodate ADA requirements.



"Our focus on Equitable Resilience was woven into our siting plan for EV infrastructure across Orlando. To plan for a reduced carbon future for all, we deployed a similar number of charging stations in each commissioner district regardless of current EV registration metrics. Our team also included architects well versed on ADA standards and incorporated features to allow for all members of our community to access these resources."

Ian LaHiff, P.E. Energy Project Manager, City of Orlando

Acknowledgements

We would like to thank the city of Orlando (FL) and partners for sharing this case study.

At GCoM we like to encourage our signatories to share their climate action. If you have any case studies or interesting project, get in contact with us through email or other channels.

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