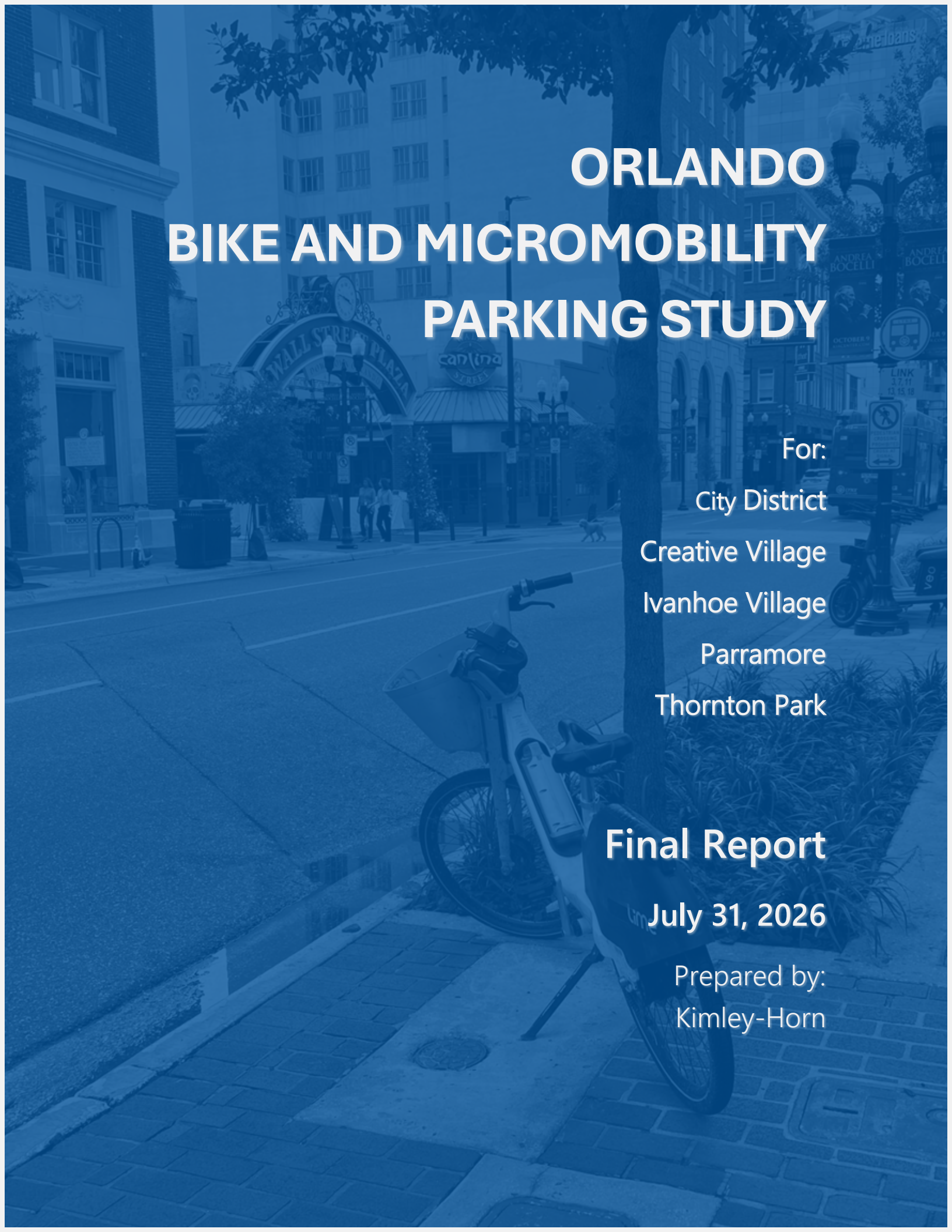




ORLANDO BIKE AND MICROMOBILITY PARKING STUDY

For:
City District
Creative Village
Ivanhoe Village
Parramore
Thornton Park

Final Report

July 31, 2026

Prepared by:
Kimley-Horn

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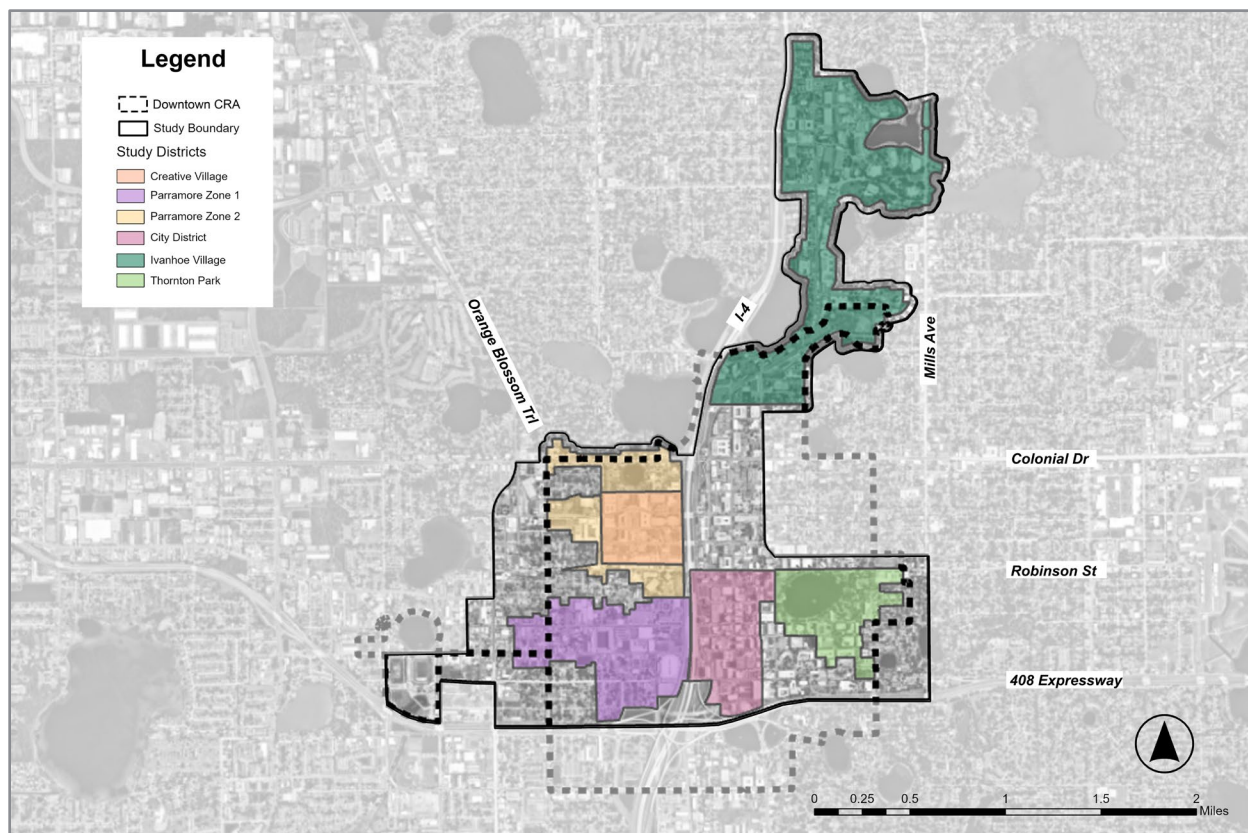
1. Introduction

1.1. PROJECT DESCRIPTION

To better serve cyclists and micromobility users in the community, the City of Orlando conducted this study of bike and micromobility parking to identify best practices, enhance parking options, and implement new facilities. The study approach emphasizes the Micromobility Program's access priorities by identifying general best practices and evaluating services provided to transportation underserved areas near downtown.

The study area was defined in coordination with the City of Orlando and is anchored by the city's designated Main Street districts, which serve as the primary organizational framework for the study. The study area includes the City District, Thornton Park Main Street District, Ivanhoe Village Main Street District, Parramore Main Street District (divided into two zones, to align with the southern, stadium-adjacent area and the northern, more residential area), Creative Village, as well as the areas around Camping World Stadium, Inter&Co Stadium, and the Kia Center, which were provided by the city as points of interest given their significance as popular destinations for cyclists and micromobility users. A project location map is provided in **Figure 1**.

FIGURE 1: STUDY AREA MAP



1.2. PURPOSE & NEED

The purpose of this project is to develop comprehensive, fair, and forward-thinking strategies to enhance end-of-trip infrastructure for bicycles and micromobility devices in the City of Orlando. This initiative is necessary to identify bicycle and micromobility needs, deficiencies, opportunities, and best practices across the city's main street districts and major event centers, while supporting the city's broader goals of promoting sustainable transportation, improving access to key destinations, and ensuring that infrastructure keeps pace with evolving mobility trends.

The purpose of the project is based on the following criteria:

- Analyzing current deficiencies and opportunities at end-of-trip facilities
- Aligning bike and micromobility parking facilities and associated policies with the access goals of the city
- Creating a database and associated map of existing and proposed bike and micromobility facilities
- Identifying best practices for parking standards and applications, regulatory considerations, and enforcement strategies
- Developing distinct bike and micromobility parking strategies for large events

2. Parking Study

This study presents an analysis of bicycle and micromobility needs, deficiencies, opportunities, and best practices regarding end-of-trip facilities. Facilities include but are not limited to bike racks, corrals, parking pads, staging areas, and streetscaping amenities that enhance last-mile trip experiences. The study will also evaluate the implementation of enhanced and innovative micromobility infrastructure such as bike cages, bike lockers, bike valets, charging stations, dedicated traffic signals, showers, and changing rooms.

2.1. LITERATURE REVIEW

Toole Design conducted a literature review covering best practices for bike and micromobility parking in the public right-of-way, focusing on short-term bike parking, reducing clutter associated with micromobility devices, and increasing parking supply. The literature review looked at existing policies and programs in the City of Orlando, which will be discussed in **Section 2.3 – Regulatory Standards**. The full memo from Toole Design can be found in **Appendix A**.

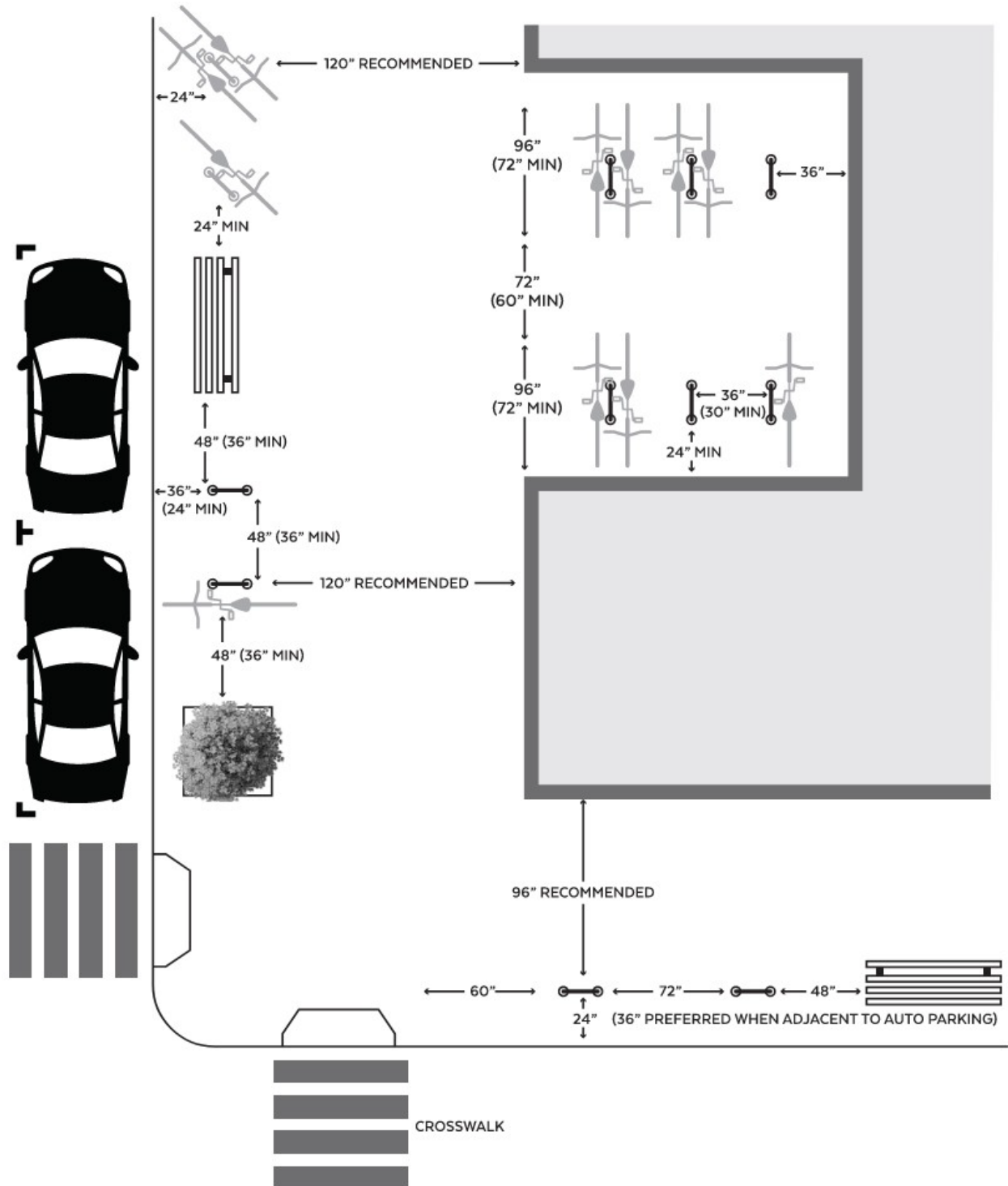
2.1.1. BIKE PARKING BEST PRACTICES

Generally, bike parking is categorized by the length of its use, with three classes: short-term, intermediate, and long-term parking. Short-term parking is intended for use of two hours or less and prioritizes proximity to the intended destination and ease of use. Short term bike parking should be easily located and accessible to first-time visitors. Sites for short-term bike parking are best placed 50 feet or less from the entrance to a destination entrance to promote visibility. Short-term bike parking locations should have adequate lighting to enhance security, and weather protection is preferred. Perceived parking demand may appear lower than actual demand when quality short-term bike parking is unavailable, because many potential cyclists may choose not to bike rather than secure their bicycles to inadequate parking.

The Association of Pedestrian and Bicycle Professionals (APBP) provides guidelines for the selection, placement, and installation of traditional bike racks in sidewalks, public spaces, and indoor settings.¹ These guidelines have been used to create a diagram of best practice placement for short-term bike parking, as shown on **Figure 2**.

¹ APBP, 2015. *Essentials of Bike Parking*. Accessed September 30, 2025, via https://www.apbp.org/assets/docs/EssentialsofBikeParking_FINAL.pdf

FIGURE 2: RECOMMENDED SHORT-TERM BIKE PARKING PLACEMENT STANDARDS



When short-term bike parking locations are located near uses that may require locking a bike up for 2-4 hours, locations should have adequate lighting to enhance security, and weather protection is preferred. Having simple racks in covered areas, like within parking garages, can provide protection from the elements. Locations requiring 2-4 hours, or intermediate use, include sporting events, movies, performances, and other events with different bike parking needs than office or residential.

Meanwhile, long-term bike parking is meant to serve residents, employees, transit users, and other more frequent commuters. In contrast with short-term parking, long-term parking prioritizes security and weather protection, for which most users are willing to trade some level of convenience. There are several different types of long-term parking, including individual access lockers and bike rooms, which typically have a higher density than short-term parking. Regardless of type, signage is helpful for directing first-time users.

Both short- and long- term bike parking can be installed off-street or on-street. Bike parking on the sidewalk can offer direct pedestrian access but can often be limited in size or disrupt pedestrian or ADA paths. Sidewalk installations could encourage sidewalk riding if a suitable route to the street is not available. An example of sidewalk level bike parking is provided on **Figure 3** and **Figure 4**.

FIGURE 3: EXISTING SIDEWALK-LEVEL BIKE PARKING AT LAKE EOLA



FIGURE 4: EXISTING SIDEWALK-LEVEL BIKE PARKING AT DR PHILLIPS CENTER



On-street bike parking like bike corrals can reduce sidewalk riding, if desired, and provide traffic benefits. These benefits include daylighting in areas adjacent to intersections, driveways, and crosswalks, encouraging drivers to slow, ensuring drivers do not turn from travel lanes, and creating a barrier between cyclists and vehicular traffic when placed in the buffer area of protected bike lanes. Bike corrals can also be placed in parking lanes in lieu of vehicle parking spaces, increasing the number of users of a single space. An example of an existing on-street corral, intended for shared use vehicles, is provided on **Figure 5**. Signage for a shared bike, micromobility, motorcycle corral is provided on **Figure 6**.

FIGURE 5: EXISTING ON-STREET CORRAL AT JEFFERSON STREET AND COURT AVENUE

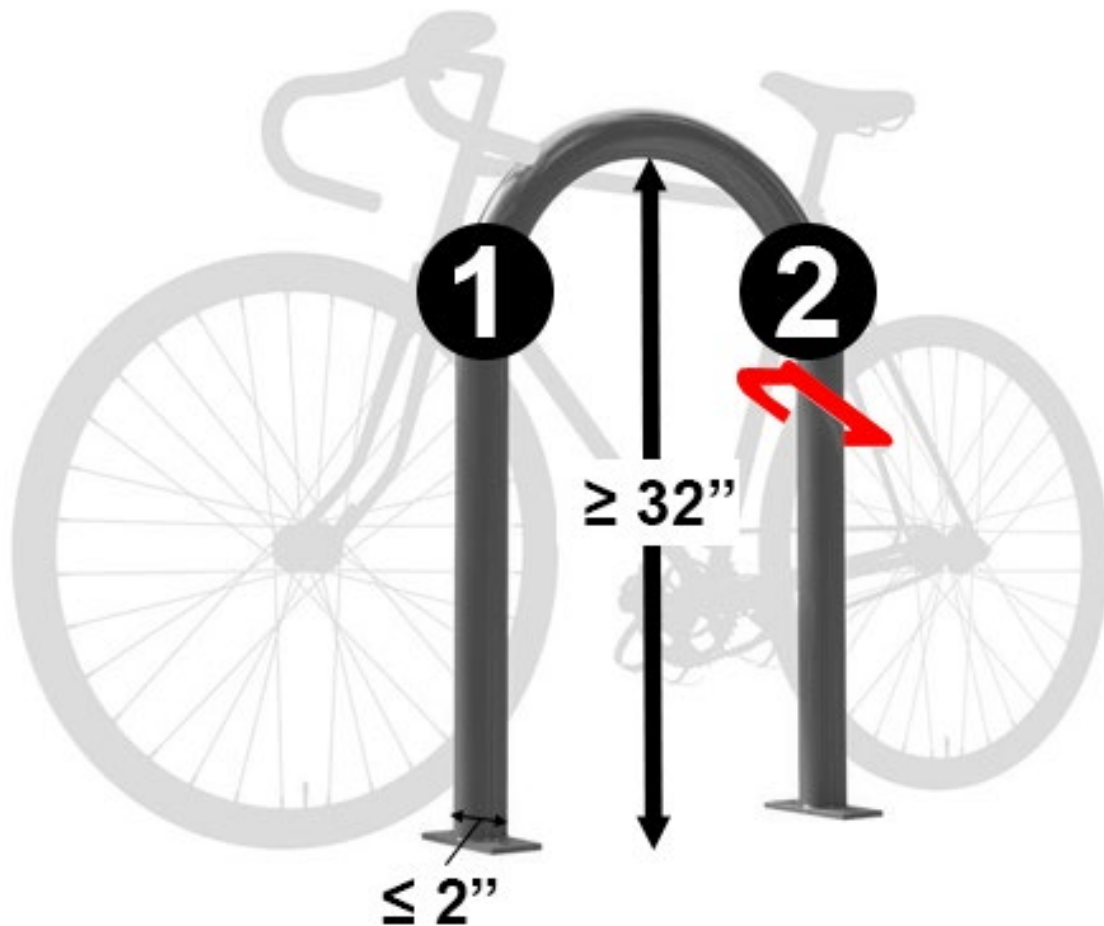


FIGURE 6: EXISTING SHARED CORRAL SIGNAGE ON WEST WASHINGTON STREET



When installing bike parking, a sturdy concrete pad is an ideal surface to attach racks to. Any necessary holes in the surface for install should be drilled at least three inches from concrete edges or joints. Bike racks should provide two points of contact with the bicycle frame—at least 6 inches apart horizontally. If a rack cradles a bicycle's wheel, it must also support the frame securely at one point or more. The rack's high point should be at least 32 inches. A closed loop of the rack should allow a single U-lock to capture one wheel and a closed section of the bike frame, as shown in **Figure 7**. Rack tubes with a cross section larger than 2 inches and wide racks with long distances between the front and rear contact points can complicate the use of smaller U-locks. Dero and APBP also provide recommended setback distances for bike rack installation,² a diagram of which can be found in **Appendix E**.

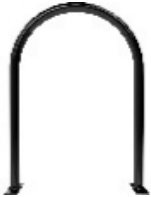
FIGURE 7: BIKE RACK DIMENSIONS



Recommended rack types include the inverted u-rack and post-and-ring racks, which are depicted below in **Table 1**.

² Pocket Guide to Bike Parking. Accessed October 1, 2025, via <https://www.dero.com/bike-parking-guide.pdf>

TABLE 1: BIKE RACK TYPES RECOMMENDED BY APBP

Rack Type	Diagram	Explanation
<i>U-Rack</i>		Provides two points of contact and can be installed in series in any quantity.
<i>Post-and-ring</i>		Provides multiple points of contact in a smaller footprint.

The APBP recommends avoiding the common bike rack types show in **Table 2**.

TABLE 2: BIKE RACK TYPES TO AVOID PER APBP

Rack Type	Diagram	Explanation
<i>Wave</i>		Not intuitive or user-friendly. Supports bike frame at only one location when used as intended.
<i>Grid</i>		Does not allow locking of frame and can lead to wheel damage. Inappropriate for most public uses, but useful for temporary storage at events and in locations with no theft concerns. Sometimes preferred by recreation riders who may travel without locks and tend to monitor their bikes while parked.
<i>Coathanger</i>		Has a top bar that limits the types of bikes it can accommodate.
<i>Wheelwell</i>		Does not provide suitable security, poses a tripping hazard, and can lead to wheel damage.

Rack Type	Diagram	Explanation
<i>Bollard</i>		Does not typically support a bike's frame at two separate locations.
<i>Spiral</i>		Functional downsides related to access and the need to lift a wheel to park.
<i>Swing Arm Secured</i>		Only accommodate limited bike types and have moving parts that create unneeded complications.

Source: APBP

Special consideration should also be taken to consider users with a wide range of age, ability, and bicycle type, which will be discussed further in section **2.1.3– Bike and Micromobility Parking Types**.

Bike Parking – Key Takeaways

- The Association of Pedestrian and Bicycle Professionals (APBP) provides guidelines for selecting, placing, and installing bike racks in various settings, emphasizing accessibility, security, and user-friendliness.
- Bike parking is categorized as short-term (up to 2 hours), intermediate (2-4 hours), and long-term (for residents, employees, and frequent commuters), with recommendations on proximity, lighting, and weather protection based on usage.
- Short-term parking should be visible and within 50 feet of entry points at a user's destination, while intermediate and long-term parking prioritize security and weather protection, often using covered racks, lockers, or bike rooms.
- Bike parking can be installed off-street or on-street; sidewalk installations may disrupt pedestrian flow, while on-street corrals provide traffic and safety benefits and can replace vehicle parking spaces.
- Recommended rack types include U-racks and post-and-ring racks, which offer secure contact points; several common rack types (wave, grid, coathanger, wheelwell, bollard, spiral, swing arm) are discouraged due to security or usability issues.
- Installation best practices include using sturdy concrete pads, proper drilling, and racks that allow for secure locking of the frame and wheel, with special consideration for users of varying ages, abilities, and bike types.

2.1.2. MICROMOBILITY PARKING BEST PRACTICES

Complaints of sidewalk clutter are often associated with micromobility programs and have, in some cases, even led to the suspension of pilot programs.³ However, research shows that the frequency of mis-parked devices is likely overestimated, especially in comparison to similar instances of mis-parked motor vehicles. A study across seven cities found that blockages to pedestrian or ADA access due to improperly parked micromobility devices ranged from 2 to 8 percent⁴. Another study found that people perceive between 20-30% of observed shared scooters to be parked incorrectly – or misparked – when the data shows that only about 1% are veritably misparked.⁵

Still, improper parking behaviors remain a major concern for cities implementing dockless shared device programs. A study surveying 391 Lime scooter users internationally found that the primary reasons cited for mis-parking were not knowing the rules (35%) or the rules being unclear (33%). However, findings also showed that riders were highly accurate (90%) when asked to intuitively identify instances of mis-parking. Therefore, it is likely that the core issue is both a combination of inadequate regulatory knowledge and a lack of convenient designated parking options.⁴ A 2024 study conducted by the University of Oregon, Cornell, and Lime showed that parking hub density is the most influential predictor for reducing parking non-compliance rates⁶. The study showed that parking compliance improves with a density of 50-80 parking hubs per square mile. At this density, a rider is never further than about 350 feet (or a 1-minute walk) from a hub. Coverage should be consistent to avoid "parking deserts" and cities should focus on increasing parking in areas with less than 50 hubs per square mile.

In addition, several approaches have been used by cities and their micromobility providers to reduce clutter and encourage orderly parking as shown in **Table 3**. The ideal application context is also provided for each approach. In Orlando, residents and users can report improperly parked micromobility devices or damaged bike parking facilities through the City's SeeClickFix platform. See **Appendix A** for additional detail on enforcement approaches.

³ Miami commissioners order motorized scooters taken off city streets immediately. Accessed October 21, 2025, via <https://www.miamiherald.com/news/local/community/miami-dade/article255941562.html>

⁴ Can You Park Your Scooter There? Why Scooter Riders Mispark and What to do About it. Accessed November 5, 2025, via <https://findingspress.org/article/19537-can-you-park-your-scooter-there-why-scooter-riders-mispark-and-what-to-do-about-it>

⁵ 2026 Shared Micromobility Research Round Up. Accessed July 21, 2026, via <https://nabsa.net/2026/04/29/researchroundup2026/>

⁶ Shared scooter parking: The role of parking density and land use in compliance and demand. Accessed October 21, 2025, via <https://www.urbanismnext.org/resources/shared-scooter-parking>

TABLE 3: APPROACHES TO REDUCE SHARED MICROMOBILITY PARKING CLUTTER

Approach	Explanation	Application Context
<i>In-app education</i>	Operators can provide parking information and tips using in-app pop-ups at the end of a trip.	First-time users and repeat offenders
<i>Lock-to requirements</i>	Regulations require devices to be fitted with a built-in lock at the end of trips. Success of this strategy is dependent on an adequate supply of parking infrastructure.	In areas where sidewalks are likely to be cluttered if devices can be left at the discretion of the rider
<i>Geofencing</i>	Virtual boundaries are created to establish no-ride, no-park, etc. zones that are communicated to the user. These zones can be updated for special events like parades.	In areas suitable for lock-to requirements but do not want to invest in physical parking infrastructure
<i>GPS</i>	Geofenced areas can be assigned parking or speed regulations that are recognized by on-vehicle GPS. However, the accuracy of GPS tools can be obstructed by tall buildings, making precise location impractical. Many recommend a 20-foot buffer around designated areas to account for GPS inaccuracies.	Areas that are aesthetically sensitive; areas where high operating speeds pose a danger to riders or others; areas that are hard for micromobility vendors to retrieve their devices from, like parking garages and private property
<i>Photo enforcement</i>	Operators can prompt users to take photos of their parked devices at the end of their ride. After review, action can be taken against mis-parking behavior. It should be noted that many operators use AI to scan photos and then have human review if the AI notes a violation, so some violations may not be identified.	All contexts
<i>Pricing incentives and enforcement</i>	Micromobility providers or municipalities can encourage proper parking behaviors with discounts and credits for proper parking or punitive fees for mis-parking. However, small incentives of \$0.25 were	In areas where other methods of incentivizing proper parking have not yielded the desired results

Approach	Explanation	Application Context
	found to have low efficacy in incentivization in Long Beach, California. It should also be noticed that operators are moving away from positive incentives due to fraud. Each operator has their own escalation for parking violations that include warnings and fines.	
<i>Rebalancing and deployment staging areas</i>	Cities may require that providers rebalance devices that have not moved for a certain period (24 hours, 48 hours, etc.). Operators can also track the location of their fleet to manage capacity.	Micromobility devices outside of downtown or main street districts should be collected after a certain time period

Micromobility Parking – Key Takeaways

- Sidewalk clutter from mis-parked micromobility devices is a common complaint, though studies show actual blockage rates are relatively low (2–8%), and mis-parked motor vehicles are a comparable issue.
- People perceive about 20-30% of shared scooters are misparked, when a study showed that only 1% of shared scooters are misparked.
- The main causes of improper parking are unclear or unknown rules, but most riders can accurately identify correct parking when asked; a lack of convenient, designated parking also contributes to the problem.
- Increasing the density of parking hubs (50–80 per square mile) significantly improves parking compliance, ensuring riders are always close to a hub and reducing "parking deserts."
- Cities and micromobility operators use various strategies to reduce parking clutter, including in-app education, lock-to requirements, geofencing, GPS regulations, photo enforcement, pricing incentives or penalties, and rebalancing/staging devices.

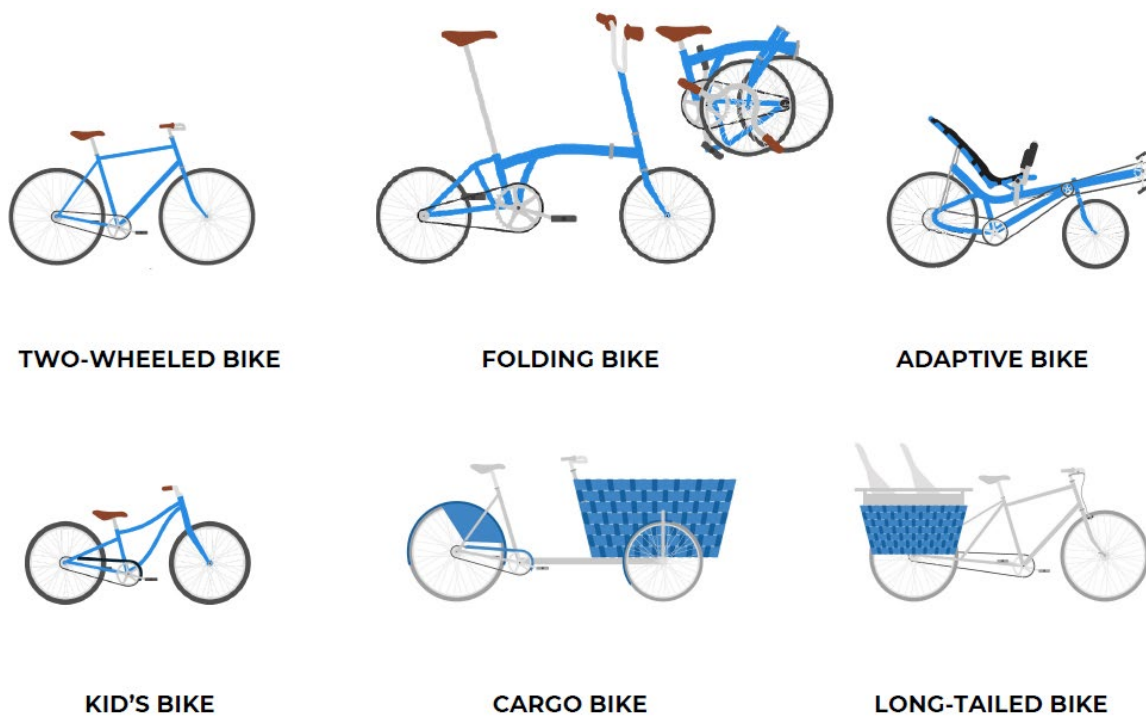
2.1.3. BIKE AND MICROMOBILITY TYPES

2.1.3.1. Bike Types

Although most bike parking regulations are created with standard two-wheel bicycles in mind, there are several other common bike types, as shown in **Figure 8**. Cargo bikes, or box bikes, are longer in the front and have storage or extra seating around the front wheel. Cargo bikes are often

used to transport large loads or young children. **Figure 9** illustrates the extra space required to accommodate cargo bikes. Long-tailed bikes are also equipped with extra storage or seating, but around the rear wheel, making them longer in the back. Meanwhile, recumbent bikes, or adaptive bikes, allow riders to sit in a reclined position. This has accessibility benefits, such as greater back support and more comfortable seating. Recumbent bikes are typically lower to the ground and sometimes have longer frames than standard bikes. Tandem bikes are bicycles built for two riders. The most common tandem bikes are designed for one rider to sit behind the other, making the bike longer.⁷ Finally, trailers can be attached to any bike type, increasing capacity and length.

FIGURE 8: COMMON BICYCLE TYPES



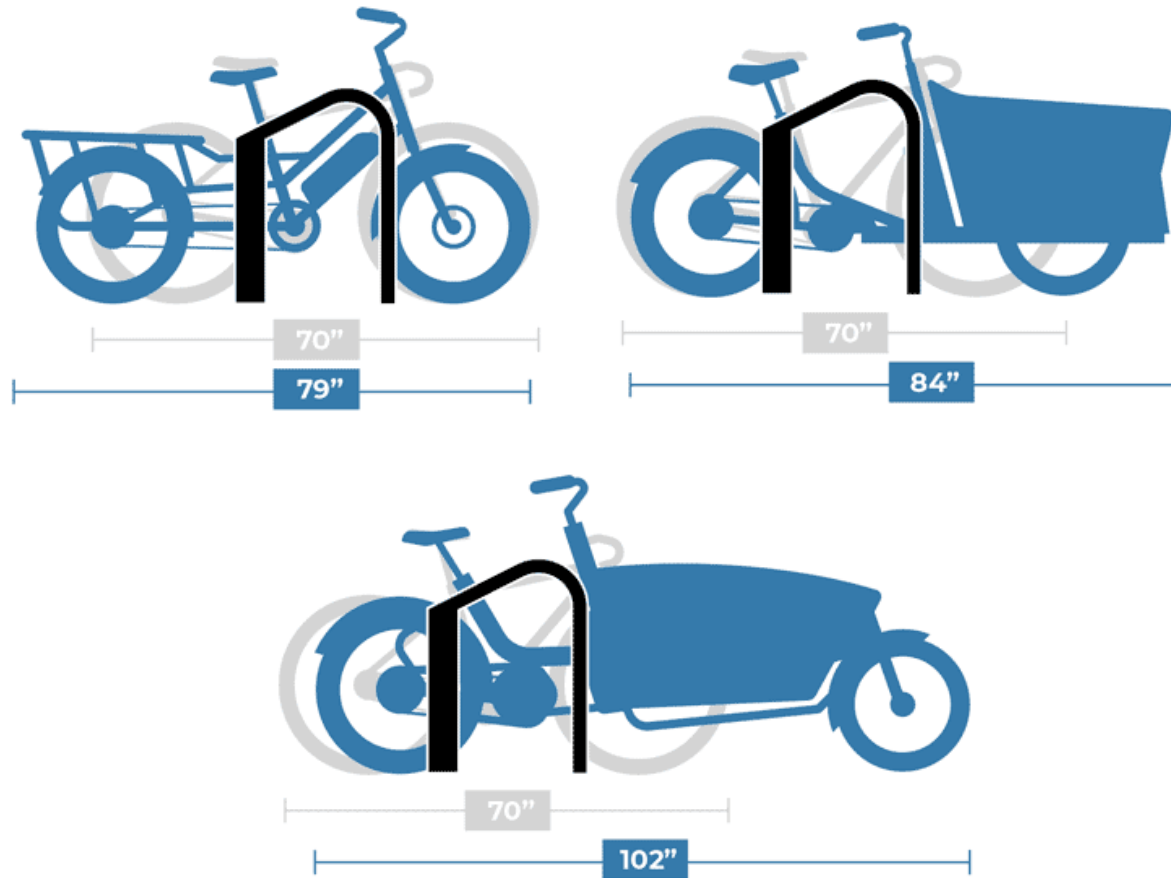
Source: City of Boston Bike Parking Guidelines

The City of Boston requires that all bike racks in the city accommodate a variety of bike types and attachments, including cargo bikes and accessible bikes. Racks within Boston's city limits must not restrict the length, height, or width of bikes, attachments, or wheels. As such, the City of Boston's Bike Parking Guidelines provide information on how to accommodate diverse bike types. Post-and-ring and inverted u-racks are recommended for meeting parking standards. Most land uses in the city require at least 5% extra wide spaces, but senior housing requires at least 10% to encourage biking among older adults and people with mobility disabilities. Furthermore, in instances where two-tier racks are used to create high-density bike parking, developers must also

⁷ Different Bikes for Different Cyclists. Accessed October 23, 2025, via <https://www.aarp.org/livable-communities/getting-around/info-2023/bike-types.html>

provide on-ground spaces secured by post-and-ring or inverted U-racks, a portion of which must be extra-large to accommodate wider and longer bikes, bikes with trailers, and electric bikes, which are typically heavier and whose weight may not be supported by above-ground racks. The City of Boston states that these larger spaces should be clearly demarcated with text reading “big bikes only” on both the rack and the pavement.⁸ In addition, the APBP states to accommodate larger bike types, on-ground racks should have an additional 36 inches of in-line clearance.⁹

FIGURE 9: CARGO BIKE DIMENSIONS COMPARED TO TRADITIONAL BIKES



Source: Dero – *Charging Ahead: An E-Bike Accommodation Guide for Architects and Property Owners*

⁸ Bike Parking Guidelines. Accessed October 23, 2025, via https://www.boston.gov/sites/default/files/file/2022/02/Bike%20Parking%20Guidelines_v2.1_0.pdf

⁹ Essentials of Bike Parking. Accessed September 30, 2025, via https://www.apbp.org/assets/docs/EssentialsofBikeParking_FINA.pdf

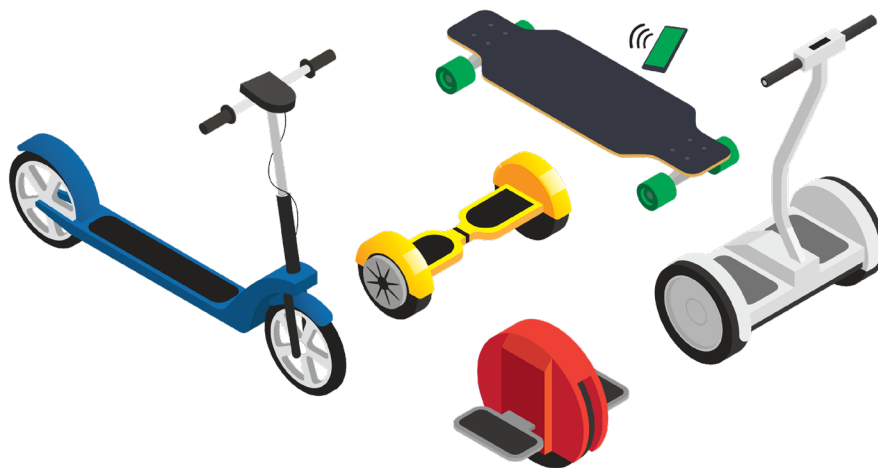
Bike Types – Key Takeaways

- Bikes come in a wide variety of shapes and sizes, but parking regulations often focus on standard two-wheel bicycles. Cities like Boston require accommodations for diverse bike types, including cargo bikes, long-tailed bikes, recumbent bikes, tandem bikes, and bikes with trailers. Boston’s guidelines recommend post-and-ring and inverted U-racks, mandate at least 5% of spaces be extra-wide (10% for senior housing), and provide clear signage for larger bikes.
- Cargo bikes and long-tailed bikes feature extra storage or seating, requiring more parking space, while recumbent and tandem bikes have unique designs for accessibility or multiple riders.
- In order to accommodate bigger bikes and attachments, on-ground racks should have an additional 36 inches of clearance, ensuring accessibility for all bike types.

2.1.3.2. Micromobility Types

According to NACTO (National Association of City Transportation Officials), shared micromobility ridership in the U.S. has been on the rise from 2020 to 2023, with 133 million rides in 2023. Of those rides, 7 million were taken on dockless bikes, 61 million on station-based bikes, and 65 million on dockless scooters.¹⁰ As the popularity of shared micromobility increases, the distinction between different types of shared and personal micromobility devices becomes increasingly important. The Pedestrian and Bicycle Information Center (PBIC) provide a brief guide on micromobility and related motor devices based on definitions created by the Society of Automotive Engineers.

FIGURE 10: MICROMOBILITY DEVICES



Depicted: E-Scooter, Hoverboard, Electrified Skateboard, One-Wheel, and Segway

¹⁰ Shared Micromobility Report: 2023. Accessed July 30, 2025, via <https://nacto.org/publication/shared-micromobility-report-2023/>

Source: PBIC

The guide states that e-mobility devices share three characteristics. Firstly, they are motorized – either fully or are motor-assisted. Second, micromobility devices are designed to travel at low speeds—typically below 20 miles per hour, though devices can be restricted to even lower speeds. The Society of Automotive Engineers (SAE) defines micromobility devices as having top speeds of 30 miles per hour. Lastly, micromobility devices are characterized by their small size. Most devices are 3 feet wide or narrower, fitting within a standard bike lane or sidewalk. While devices are typically under 100 pounds, all must be under 500 pounds to meet SAE’s definition.¹¹ Common device types include electric standing or sitting scooters, electric bicycles, electrified skateboards, and electric personal assistive mobility devices (EPAMDs) like hoverboards, uni-wheels, and one-wheel devices. Any electrified mobility device that travels above 28 miles per hour is classified as an e-motorcycle. The different e-bike classifications are detailed below in **Table 4**. These devices are usually powered by an electric motor of under 750 watts, though shared options are generally only available for only scooters and Class 1 e-bikes.¹²

TABLE 4: ELECTRIC BIKE CLASSIFICATIONS

	Class 1	Class 2	Class 3	E-Motorcycle
Motorization	Pedal assist	Throttle assist	Pedal assist	Any type
Speed	≤20 mph	≤20 mph	≤28 mph	≥28 mph

Bike and Micromobility Types – Key Takeaways

- Micromobility devices such as e-bikes and scooters operate under 28 mph and use motors of less than 750 watts. Shared options are most commonly scooters and class 1 e-bikes.
- Growing prevalence of electrified micromobility has increased demand for onsite charging infrastructure in public spaces. Cities like Portland now require outlets near 5% of new long-term bike parking for e-device charging.
- Innovative bike infrastructure includes secure long-term solutions like bike lockers, cages, and rooms, which may be located at transit hubs, offices, and parking garages, and supplemented by showers and repair facilities.
- Bicycle and micromobility ridership in Orlando has increased, with popular commuting destinations concentrated in the Central Business District and areas surrounding major venues.

¹¹ The basics of micromobility and related motorized devices for personal transport. Accessed October 23, 2025, via https://www.pedbikeinfo.org/downloads/PBIC_Brief_MicromobilityTypology.pdf

¹² Emerging Technology and Mobility Options Operating in City Right-of-Way. Accessed October 23, 2025, via https://clerk.seattle.gov/~CFS/CF_321312.pdf

2.1.4. ELECTRIFIED PARKING AND CHARGING

As electrified micromobility becomes more prevalent, the demand for charging stations for both personal and shared devices increases. While the majority of charging for shared mobility devices occurs off-site, fleet operators believe that electrifying public parking areas would reduce shared micromobility charging and operating costs significantly by reducing labor needed to move batteries or devices, the savings of which could be passed on to consumers. Charging for both personal and shared micromobility devices can be built into long-term parking facilities at locations like transit hubs, public spaces like parks, libraries, and community centers, universities, large business campuses, and other institutions. Charging systems can be hardwired into the electric grid, connected to building power supplies, or solar powered. Solar canopies with structures that charge battery cabinets are typical options. The size of solar canopies can make them difficult to site in public right-of-way but makes them well-suited for the aforementioned long-term facilities. Furthermore, cities are creating requirements for device charging. The Portland Bureau of Transportation (PBOT) updated the bicycle parking section of their zoning code to require that 5% of long-term bike parking provided by new development be located near an outlet to allow for e-device charging.¹³

Electrifying staging areas for micromobility is not recommended unless the city wants to pivot to a docked micromobility share program. Transitioning dockless shared micromobility programs to docked systems could improve operational costs and parking compliance, but would face major challenges, including the lack of standardized batteries, charging equipment, and docked parking solutions. Implementing such a transition would require major investment in infrastructure, with research indicating that at least 50-80 parking hubs per square mile are needed for effective parking compliance. Additional details on micromobility charging in the public right-of-way are provided in Section 3.1 of **Appendix B**. Additionally, a recent trend in micromobility devices is to have a swappable battery, which allows for a depleted battery to be replaced in minutes rather than charge for hours.

¹³ Parking, Loading, And Transportation And Parking Demand Management. Accessed October 21, 2025, via <https://www.portland.gov/ppd/zoning-land-use/zoning-code-overview/bicycle-parking>

Electrified Parking and Charging – Key Takeaways

- As the use of personally owned electrified micromobility devices grows, there is a rising need for accessible charging stations at public and long-term parking locations.
- Cities are responding by updating codes and requirements—such as Portland's rule for outlets near bike parking—to support on-site charging for both personal and shared devices, with solutions including grid-tied or solar-powered systems.
- Dockless micromobility programs with devices that use replaceable batteries are unlikely to benefit from electrified staging areas.

2.1.5. LONG-TERM BIKE PARKING STRATEGIES

Increased bicycle commuting has led to the innovation of bike infrastructure beyond typical bike racks. Bike lockers, bike cages, and bike rooms are all forms of long-term bike parking that provide heightened security and weather protection. Bike cages are enclosures with bike racks, typically in a parking garage and typically only available for the use of the tenants of the parking garage with key access. Bike lockers are enclosed, typically outdoor containers that can be unlocked with keys, smart cards, or digitally. They store individual bikes with all accessories, making them more secure than shared facilities like bike cages or rooms. These are common at transit hubs, in parking garages, and office buildings. It is important that bike lockers are labeled as such and not used for storage or items other than bicycles. Bike lockers should be placed and designed to fit the available space, ensuring enough room for the door to open fully (90 degrees) and allowing easy bicycle access.

Providers like BikeLink offer on-demand electronic bike locker systems in several cities, including Seattle, Portland, San Diego, and Los Angeles. Users can easily access lockers within minutes with an app or debit card for those without smart phones. Lockers feature metal exterior doors and interior chains for security and are also monitored via closed circuit camera. The majority of lockers can accommodate two standard-sized bicycles, but a few larger lockers that can accommodate larger cargo bikes or trailers can be rented for a slightly higher rate. In general, the use of these lockers is inexpensive. For example, in Los Angeles the first 12 hour-rental of a standard size locker is 75 cents, after which an hourly rate gradually increases to encourage turnover.¹⁴ While these details are specific to BikeLink in Los Angeles, these practices can be applied to other forms of bike locker implementation.

¹⁴ Metro Debuts New Smart Bike Lockers at Nine Stations. Accessed February 25, 2026, via <https://la.streetsblog.org/2024/05/09/metro-debuts-new-smart-bike-lockers-at-nine-stations>

Short-term traditional bike racks can supplement both bike lockers and cages in cases where demand exceeds the capacity of more secure options.¹⁵ An example of a bike locker is shown on **Figure 11**.

FIGURE 11: BIKE LOCKER



Bike rooms are indoor rooms with shared bike racks. Like bike cages, they are often located in office buildings or multifamily residential buildings. Bike rooms often feature tiered or vertical bike parking to accommodate more bicycles with less space, as shown in **Figure 12**. However, tiered parking should allow for frame-locking and horizontal, ground-level bike parking should also be provided to ensure accessibility for those who cannot lift their bicycle or those who have larger or heavier bikes. Lift mechanisms are also extremely helpful when two-tiered bike parking is available.¹⁶

¹⁵ An Ode to Great Bike Parking. Accessed October 30, 2025, via <https://bikeleague.org/an-ode-to-great-bike-parking/>

¹⁶ SDOT Bicycle Parking Guidelines. Accessed October 30, 2025, via https://www.seattle.gov/documents/Departments/SDOT/BikeProgram/SDOT%20Bicycle%20Parking%20Guidelines_6.11_WORKING_DRAFT.pdf

FIGURE 12: VERTICAL BIKE PARKING IN A BIKE ROOM



Source: Calvin Thigpen

Bike rooms are also a good place for facilities like repair tools, charging stations, and equipment lockers. Additionally, the availability of showers and changing rooms can encourage cycling as a form of commuting in all weather. These facilities should be located near long-term bike parking areas and can look to similar facilities in office or residential building gyms for guidance on siting, layout, and access. Cities like Boston¹⁷ and San Francisco¹⁸ have established clear bike room design guidelines. The City of Boston's guidelines dictate that aisles must be at least 6' wide and racks must be offset from walls, other fixed objects, and from each other to provide ample aisle space for people to freely maneuver with their bikes and prevent injury or damage.¹⁹ **Figure 13** shows the city's bike parking room clearance requirements. In addition to mandating that at least 5% of spaces be extra-wide, the City of Boston also requires that at least 25% of spaces must be on the ground secured with U-racks of post-and-ring racks.

Long-term bike parking facilities like those mentioned above should be located on the ground floor or accessible by ramps or elevators if this is not feasible. The path from the street to the bike parking area should be well lit and marked with directional signage.

¹⁷ Bike Parking Guidelines, January 2021, Version 2.1. Accessed February 25, 2026 via

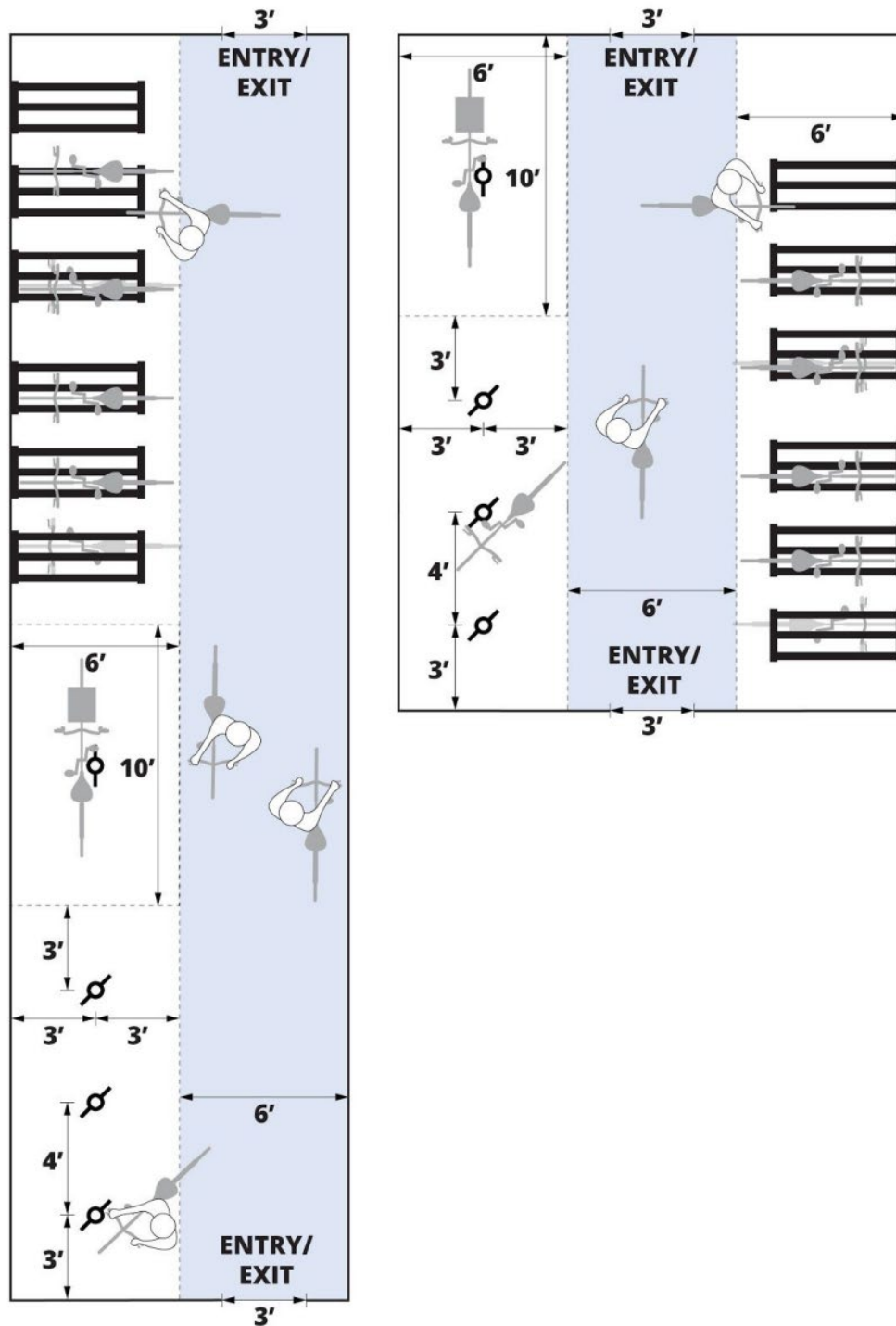
https://www.boston.gov/sites/default/files/file/2022/02/Bike%20Parking%20Guidelines_v2.1_0.pdf

¹⁸ Bicycle Parking: Standards, Guidelines, Recommendations, December 3, 2015. Accessed February 25, 2026, via

https://www.sfmta.com/sites/default/files/reports-and-documents/2018/06/1_sfmta_bicycle_parking_guidelines-updated-05-15-2018.pdf

¹⁹ Bike Room Design Guide. Accessed October 30, 2025, via <https://www.dero.com/bike-room-design-guide/>

FIGURE 13: BIKE ROOM CLEARANCE DIMENSIONS



Source: City of Boston Bike Parking Guidelines

Long-term Bike Parking – Key Takeaways

- Long-term bike parking solutions include bike lockers, bike cages, and bike rooms, which offer enhanced security and weather protection compared to standard bike racks.
- Bike lockers are secure, individual storage units—often found at transit hubs and office buildings—that can be accessed with keys, smart cards, or digital systems and should be used exclusively for bikes and accessories.
- Bike rooms, commonly located in offices or residential buildings, often feature double-tiered racks, accessible designs for all users, and amenities like repair tools, charging stations, and equipment lockers.
- Facilities such as showers and changing rooms near long-term bike parking can promote cycling as a daily commuting option.
- Long-term bike parking should be on the ground floor or easily accessible by ramps or elevators, with well-lit and clearly marked paths from the street.

2.2. DATA COLLECTION

As part of the data collection process, ridership counts for both bicycling (sourced from Strava Metro) and micromobility (sourced from Populus) were analyzed. This data was provided by the City of Orlando and indicates that the number of cyclists in Orlando increased between 2023 and 2024, and that the number of cyclists in the first nine months of 2025 has surpassed that of 2024. Bicycling data also shows that the highest volume of commutes—both in terms of origins and destinations—takes place in the city’s Central Business District and its adjacent areas. While the same areas also see high volumes of micromobility trips, the blocks surrounding Lake Eola Park, those adjacent to the Kia Center, Inter&Co Stadium, and Dr Phillips Center, those bordering Orange Avenue south of Marks Street, and Creative Village are all popular destinations for shared-use devices. Data collection also involved an appraisal of current practices in the micromobility program, an examination of crash data and bike theft, an inventory of current parking infrastructure, and a review of adjacent projects.

2.2.1. ACCESSIBILITY

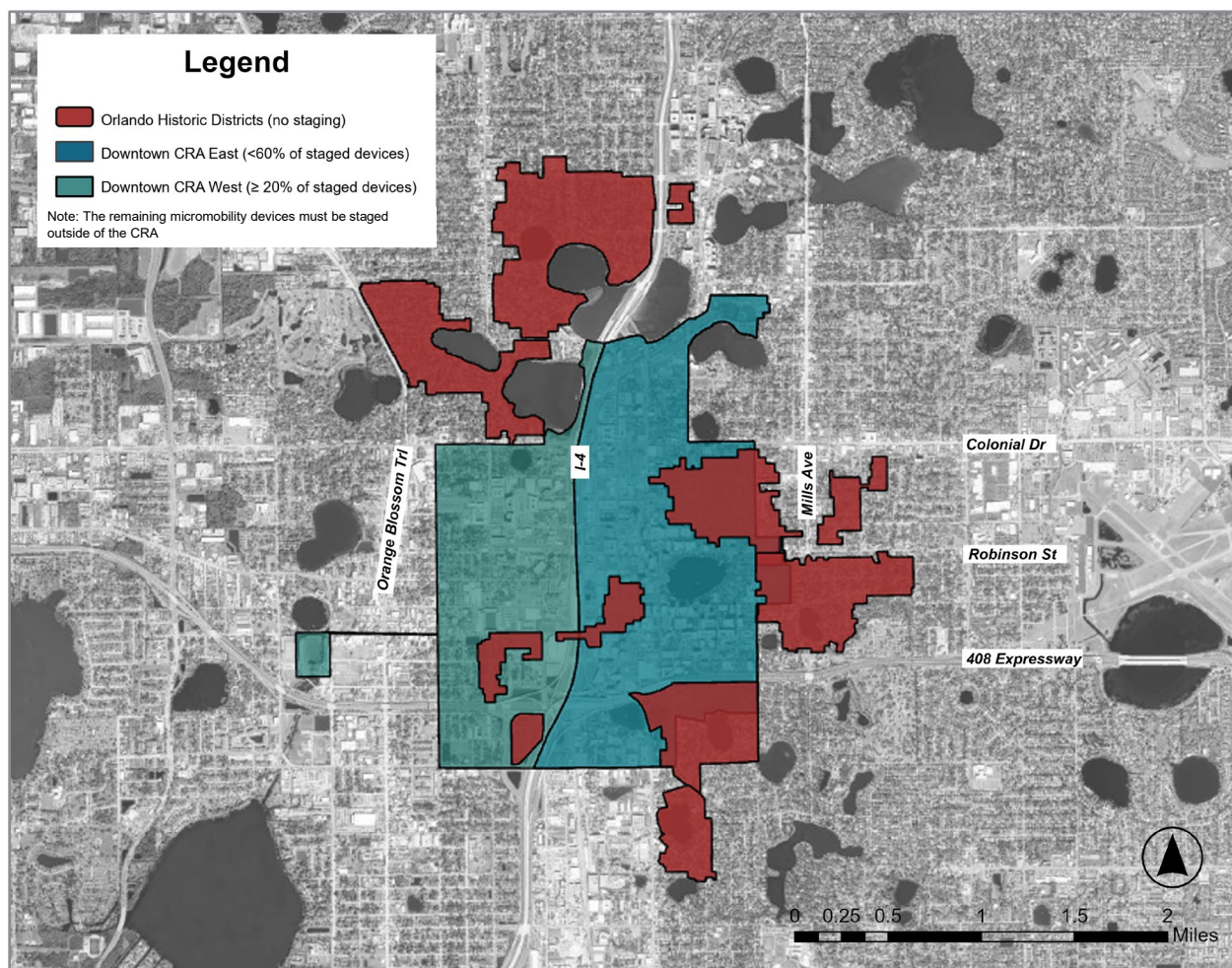
Enhancing accessibility, affordability, and sustainability are all stated purposes of the city’s micromobility program. The following section summarizes the information presented in the Memo on Access & Micromobility in the City of Orlando written by Asha Planning. The full memo can be found in **Appendix B**. Information for this access analysis was drawn from the city’s Shared

Motorized Scooter Program Mid-Term (2023-2025) Permit Audit Report, Chapter 10 of the City Code, city materials about the Bike/Scooter Share Program, and meetings with micromobility providers conducted on October 8 & 10, 2025.

Chapter 10 of the City of Orlando's Municipal Code requires that less than 60% of staged devices are in the Downtown CRA east of I-4, and a minimum of 20% are required in the Downtown CRA west of I-4 to maintain access in historically disadvantaged areas. The remaining portion of the fleet must be staged outside of the CRA but may not be staged in City of Orlando Historic Districts. **Figure 14** depicts these districts. However, none of the city's micromobility providers met these standards on average from November 2023 to November 2024. The operator's attainments are listed below:

- Bird: 62.9% CRA east of I-4, 15.0% CRA west of I-4, 22.1% outside of the CRA
- Lime: 47.0% CRA east of I-4, 15.3% CRA west of I-4, 37.7% outside of the CRA
- Veo: 65.6% CRA east of I-4, 23.4% CRA west of I-4, 11.9% outside of the CRA

FIGURE 14: MICROMOBILITY STAGING DISTRICTS



Providers indicated that the city's requirement to rebalance bikes that have not moved in 24 hours is burdensome and may interfere with their ability to keep vehicles west of I-4. The city may consider increasing this rebalancing requirement to 48 or 72 hours depending on location. Operators also suggested that increasing the amount of formal staging areas west of I-4 can help them to meet the desired distribution rates. It is recommended that Chapter 10 of the City Code be reviewed and all instances of fleet balancing on a "daily basis" be updated to state that fleets must be rebalanced every 48 hours. The requirement to continually rebalance the fleet in order to maintain a useful distribution of bicycles (Section 10.04(g)2) and scooters (10.05(i)2) should not be changed.

Each of the operators is also committed to conducting outreach for underserved communities and reporting on these events on their respective permit applications. It should be noted that information on outreach activities is based on the Mid-Term Audit Report.

Bird reported one community outreach event since their permit was issued. Lime reported five community outreach events since their permit issuance; however, these were the same events listed as their required safety training classes. Veo has not reported any community outreach events, noting that outreach was conducted but not reported due to management changes. To increase outreach to underserved communities, requirements could be formalized in the city Code, similarly to codified requirements for safety classes in Section 10.05.f.5. It is recommended that if outreach events are required via formalized codification in the City Code, a minimum of two outreach events be conducted per year, with at least one event per year held separately from a safety class. At least one outreach event should be located within the Downtown CRA west of I-4, or another historically disadvantaged area as approved by the City.

As of December 2024, per-minutes rates were up to \$0.59 (Lime), \$0.57 (Bird), and \$0.42 (Veo). However, each provider offers a need-based discount program. All of these programs require that users have an existing account within the provider's application prior to applying for their discount programs. Each operator's programs are described in **Table 5**.

TABLE 5: MICROMOBILITY DISCOUNT PROGRAMS

Operator	Discount Program Details
Bird	• Community Pricing: 50% discount for eligible riders including senior citizens, veterans, Pell Grant recipients, and employees of pre-approved community-based organizations and non-profits ○ Applications are approved in-house. Representatives describe their approval process as "flexible". E-mails of qualified individuals provided by partner organizations are approved. • Access-zone pricing: 20% discount applied to trips that begin in the Downtown Community Redevelopment Area (CRA) West neighborhoods ○ Users who begin trips in the Downtown CRA West neighborhoods are also emailed details about Bird's community pricing program to increase user awareness
Lime	• LimeAccess: 70% discount for individuals enrolled in federal, state, or local assistance programs, LYNX AdvantAge members over the age of 18, Pell Grant recipients, and EBT/SNAP users ○ Enrollment in the LimeAccess program is available at outreach events, online, or by directly emailing Lime's support team. ○ Applications are processed by a third party, making their approvals less flexible. This also makes approvals much quicker, usually within hours
Veo	• Veo Access: \$5/month for individuals enrolled in federal, state, or local assistance programs. \$1 unlock fee waived for each ride with 30 minutes of free riding per day. ○ Applications processed in-house, but representatives state that Veo is likely unwilling to accept pre-qualifications from partner organizations. • VeoPlus Commute membership: \$29.99/month and includes two free 20-minute rides per day. • Veo anticipates transitioning to a 50% discount for qualified individuals, including a 50% discount on the unlock fee.

Despite the availability of these programs, need-based trips are low, averaging ~0.55% of total trips since November 2023 (Lime: ~0.82%, Veo: ~0.71%, Bird: ~0.12%). Discount enrollment and cash/no-smartphone options are generally difficult to find and not available in-app for most operators. This is likely a key driver of low utilization among eligible riders. Lime and Veo representatives expressed an openness to instituting a discount pricing zone like Bird's, which would not require users to undergo an application process. However, to increase enrollment in need-based programs, providers should consider partnering with low-income assistance programs, local non-profits and housing authorities, community centers, LYNX, SunRail, and other

organizations to raise awareness. Vendors could also coordinate with these organizations to hold co-branded enrollment events. Micromobility providers should continue pursuing the integration of discount program sign-ups in-app. Lastly, the city may consider improving their messaging of discount programs, making information more easily accessible and partnering with community organizations to raise awareness.

2.2.2. CRASH DATA

To identify any safety concerns associated with the city's micromobility program, ASHA Planning conducted a high-level analysis of bicycle and micromobility crashes in the study area, which is summarized in the following section. The full memo can be found in **Appendix C**. The crash analysis reviewed data from Signal4 Analytics from 2022 to July 2025 and data from MetroPlan Orlando from 2011 to 2021.

According to the MetroPlan data, 23 crashes involving micromobility devices occurred within the Orlando Micromobility Zone between 2011 and 2021, 16 of which resulted in injuries and 7 of which were property damage only crashes. The highest density of crashes took place along Orange Avenue between Livingston and Robinson Streets (17%), along Colonial Drive (13%), and West of I-4 along Robinson, Church, and South Streets (13%). Amongst all crashes, 33% occurred at intersections, while the remaining 67% took place at non-intersection or midblock locations. 42% of all crashes took place on a roadway and 58% occurred on sidewalks, crosswalks, shared use paths, or driveway crossings. Although crashes were distributed fairly evenly throughout the day, 52% of crashes occurred on Friday and Saturday. Weather did not appear to play a significant role in crashes, as 83% occurred during clear conditions. The concentration of crashes at sidewalks, crosswalks, shared use paths, and driveway crossings reinforces the need to carefully site future bike parking and micromobility hubs to avoid pedestrian conflict areas, preserve sight distance, and support safe transitions between parking areas and the transportation network.

According to Signal4 data, 92 bike-related crashes took place in the study area in the period between 2022 and June 2025. Of these 92 crashes, 3 resulted in fatalities and 10 resulted in incapacitating injuries. Further details on crash severity can be found in **Table 6**. Most crashes took place at an intersection (54%). Most of the crashes during this period occurred during the day (70%). These crashes were also not impacted by weather, as 90% occurred on clear days. Like the crashes that occurred from 2011 to 2021, however, most crashes took place on the weekend (53%), with 23% occurring on Fridays alone. In most cases, the non-motorist involved in the collision performed no improper action (40%), though the second highest cyclist action was failing to yield to the right of way of others (16%).

TABLE 6: BIKE CRASHES BY SEVERITY – JANUARY 2022 TO JUNE 2025

Severity	Number of Crashes in the Study Area	Percentage of Crashes
Fatality	3	3%
Incapacitating Injury	10	11%
Possible Injury	29	32%
Non-incapacitating / No Injury	50	54%
TOTAL	92	100%

Source: Signal4 Analytics

Of the 92 bike-related crashes obtained from Signal4, 30 were identified as involving an electrified vehicle. Electric scooter crashes made up most of these collisions. **Table 7** details these crashes by device type. No electrified vehicle crashes resulted in incapacitating injury or fatality, as shown in **Source: Signal4 Analytics**

Table 8. 47% of all micromobility crashes occurred at intersections, with 40% at marked crosswalks. The next highest volume of crashes occurred at driveways (30%). The three most common crash types included vehicle drivers failing to yield (50%), e-device riders failing to yield (23%), and e-device riders failing to obey traffic rules (13%).

TABLE 7: ELECTRIFIED VEHICLE CRASHES BY DEVICE TYPE – JANUARY 2022 TO JUNE 2025

Device Type	Number of Crashes in the Study Area	Percentage of Crashes
E-Bike	7	23%
Electric Scooter	17	57%
Electric Bike Share Device	4	13%
Other Micromobility Device	2	7%
TOTAL	30	100%

Source: Signal4 Analytics

TABLE 8: ELECTRIFIED VEHICLE CRASHES BY SEVERITY – JANUARY 2022 TO JUNE 2025

Severity	Number of Crashes in the Study Area	Percentage of Crashes
Fatality	0	0%
Incapacitating Injury	0	0%
Possible Injury	11	37%
Non-incapacitating	7	23%
No Injury	12	40%
TOTAL	30	100%

Source: Signal4 Analytics

Overall, the datasets were not large enough to provide conclusive results. However, both MetroPlan and Signal4 data indicated that male riders between the ages of 20 and 34 were frequently involved in crashes, suggesting that a targeted educational campaign could be beneficial. In addition, high instances of failure to yield to right of way both by drivers and micromobility users resulting in crashes may indicate a lack of awareness of traffic regulations and yielding requirements.

While the available crash data does not directly identify bicycle or micromobility parking as a contributing factor, the crash patterns highlight important considerations for the placement of bike parking and micromobility staging areas. Parking facilities should be located to maintain clear pedestrian paths, preserve sight distance near intersections and driveways, and provide safe transitions between parking areas, bike lanes, sidewalks, and shared use paths. Designated micromobility hubs may be especially beneficial in areas where informal device parking could contribute to sidewalk or crosswalk conflicts. These considerations should be incorporated into the siting of future racks, corrals, and micromobility staging areas to support safer and more predictable user behavior.

2.2.3. BIKE THEFT

Currently, there are no nationwide reports for bike theft in the U.S, but according to the most recent FBI crime statistics, an estimated 127,646 bicycles were stolen in 2023. However, bicycle theft is a notoriously underreported crime, with research suggesting that only 37% of bike theft victims reported the theft to police.²⁰ To provide more accurate estimates, The Institute of Transportation Studies at University of California Davis, The Department of Geography at University of California Santa Barbara, YouGov, and Bike Index conducted a survey in 2024 that

²⁰ 2025 Annual Bike Theft Report. Accessed October 27, 2025, via <https://bikeindex.org/news/bike-indexs-2025-annual-bike-theft-report>

revealed that 2,376,578 adult bicycles are stolen annually in the U.S. Instances of bicycle theft increase as the temperature increases, with peak theft occurring between May and September. From 2019-2023, more bike thefts occurred in August than in any other month. While sidewalks and bike racks are common locations of theft, 59% of bike thefts occur in residential areas, especially home garages and basements. Because theft often occurs in locations with limited visibility or security measures, bike parking should be placed in highly visible areas with regular pedestrian activity, adequate lighting, and passive surveillance from nearby buildings and streets.

The prevalence of bicycle theft highlights the importance of providing secure, reliable bike and micromobility parking facilities, as concerns about theft may discourage potential users from choosing active transportation modes. Parking facilities also present opportunities for theft, as they often provide multiple points of entry but lack security.

In 2017, Bike Index conducted an independent survey which revealed that 47% of those who experienced bike theft indicated that their ability to get to and from work was impacted. 49% of bike theft victims indicated that it would take longer than a month to replace their bike, but 11% stated that they would not be buying a replacement bike at all. The impacts of bike theft are profound, but Bike Index also provides advice (though targeted towards riders) about bike theft prevention. Bike Index recommends the use of two heavy-duty U-locks, or a U-lock and one heavy duty cable, to secure both the frame and the wheels. They also suggest owners always lock their bikes, even in their own garages. Bike Index also reports the success of their own bike registration system. On a municipal level, cities can prevent bike theft by partnering with organizations like Bike Index to promote registration, track instances of bike theft, increase lighting and security at bike parking locations, and install tamper-resistant bike racks. These findings support the use of tamper-resistant racks, secure bike shelters, and other enhanced parking treatments at high-demand destinations and transit facilities where bicycles may be left unattended for longer periods.

Bikes and electric scooters with unique serial numbers can also be registered with the Orlando Police Department, who provide registrants with tracking numbers. Users can register or report bike thefts via the city's website.²¹

While user education and registration programs can help deter theft, the design and placement of parking facilities also play an important role. Future bike and micromobility parking investments should prioritize visible locations, adequate lighting, durable parking infrastructure, and opportunities for secure long-term parking at major destinations and transit stations. Many of the same security considerations apply to shared and privately owned micromobility devices, reinforcing the need for designated, visible staging and parking areas near key destinations. These

²¹ Register Your Bicycle with the Orlando Police Department. Accessed October 31, 2025, via <https://www.orlando.gov/Public-Safety/OPD/Register-Your-Bicycle-with-the-Orlando-Police-Department>

measures can help reduce theft risk while improving user confidence in active transportation options.

2.2.4. PARKING INVENTORY

The existing bicycle and micromobility facilities in the study area were inventoried in a GIS database. Mapped facilities include public and private bike racks, corrals, parking pads, repair stations, bike cages, designated micromobility hubs, informal parking areas, and other bicycle or micromobility parking infrastructure. For the purposes of this study, a micromobility hub is a designated area intended for the parking and organization of shared micromobility devices and is typically identified through signage, pavement markings, or other physical design features. Informal parking areas are locations that lack designated signage or pavement markings but are consistently used for parking shared micromobility devices. Examples of designated micromobility hubs are shown in **Figure 15** and **Figure 16**.

FIGURE 15: EXISTING FORMAL MICROMOBILITY STAGING AREA IN THORNTON PARK



FIGURE 16: EXISTING FORMAL MICROMOBILITY STAGING AREA NEAR LAKE EOLA



The latest curb data specifications (CDS) were used for on-street two-wheel and other micromobility device parking. This data is compatible with the data collected for the Parking Division’s Curb Inventory Project. The City of Orlando has approved the approach to conduct a bike and micromobility parking inventory using FieldMaps for bikes, shared devices, or scooter-only parking facilities. Rack types include the following:

- U-rack
- Wave
- Bollard
- Single Post
- Decorative
- Grid Rack
- Coathanger Rack
- Staple with Cross Bar
- Front Tire Only
- Bike Cage

A GIS file with existing and proposed bicycle and micromobility facilities was developed to support city bike/pedestrian planning and the monitoring and evaluation of planning goals and initiatives.

A total of 435 parking facilities were identified, including 325 bike parking facilities, 51 formal staging areas, and 61 informal staging areas. A breakdown of facilities by study district is provided below in **Table 9**. **Table 10** lists bike racks by type in each main street district, and **Table 11** details

the number of on-street and off-street formal staging areas in each district. **Figure 17** shows a map of all the bike and micromobility parking facilities identified throughout the entire study districts. Detailed maps of parking facilities in each of the main street districts can be found in **Appendix D**.

TABLE 9: PARKING INFRASTRUCTURE BY DISTRICT

	Creative Village	Parra-more Zone 1	Parra-more Zone 2*	City District	Ivanhoe Village	Thornton Park	Outside Main Street Districts	TOTAL
Bicycle Parking	42	60	10	62	48	34	67	323
Formal Staging	5	4	0	17	2	12	12	51
Informal Staging	1	2	1	19	2	15	20	61
TOTAL	48	66	11	98	52	61	99	435

**Does not include Creative Village*

TABLE 10: BIKE INFRASTRUCTURE TYPES BY DISTRICT

	Creative Village	Parra-more Zone 1	Parra-more Zone 2*	City District	Ivanhoe Village	Thornton Park	Outside Main Street Districts	TOTAL
U-rack	0	50	4	42	20	15	39	170
Wave	26	7	0	6	6	7	11	63
Bollard	1	1	5	11	0	5	7	30
Single Post	14	0	0	1	9	4	0	28
Decorative	1	2	1	0	7	2	2	15
Grid Rack	0	0	0	1	4	0	1	6
Coathanger Rack	0	0	0	0	1	1	2	4
Repair Station	0	0	0	0	1	0	2	3
Staple with Cross Bar	0	0	0	0	0	0	2	2
Front Tire Only	0	0	0	1	0	0	0	1
Bike Cage	0	0	0	0	0	0	1	1
TOTAL	42	60	10	62	48	34	67	323

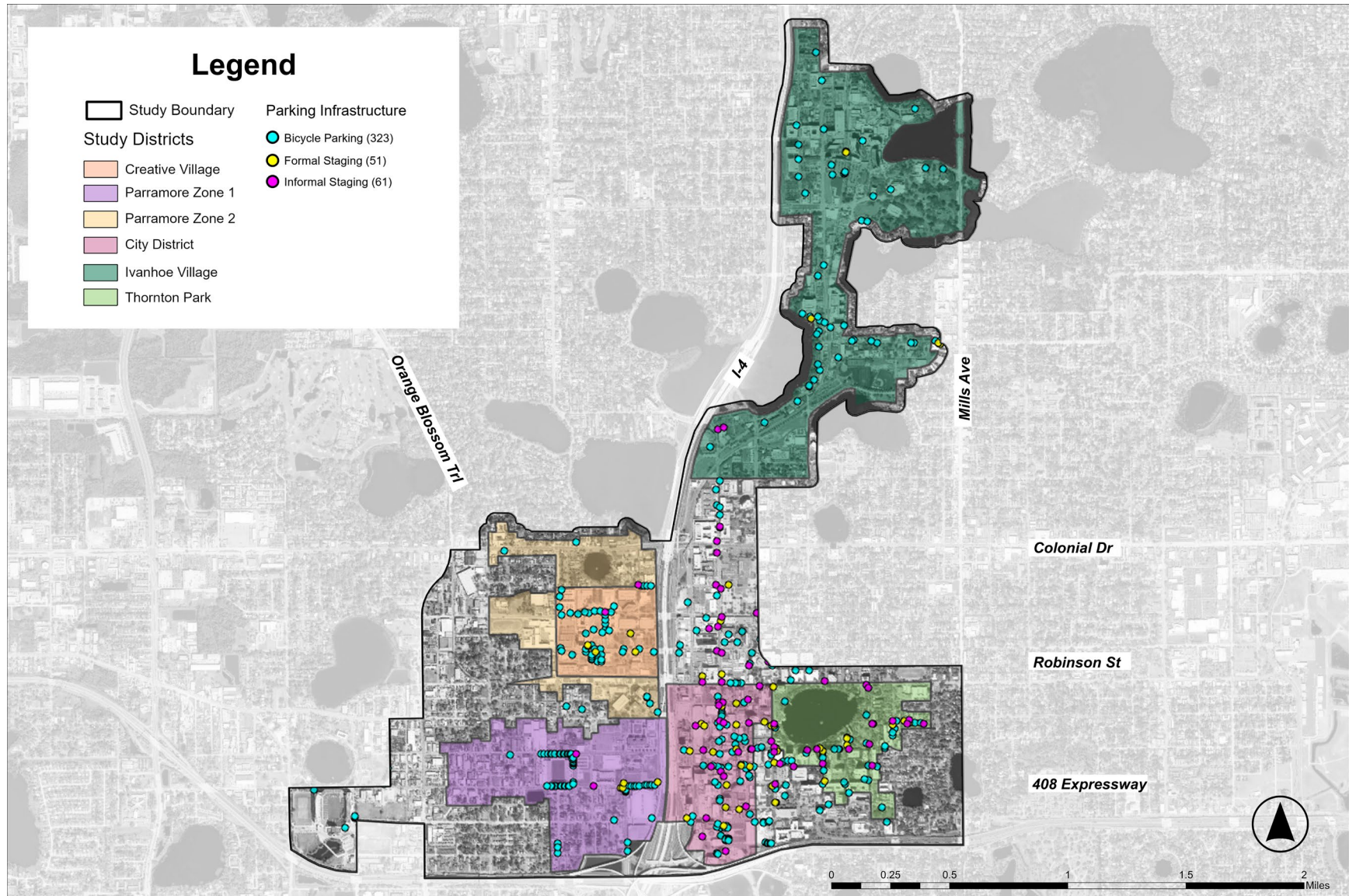
**Does not include Creative Village*

TABLE 11: MICROMOBILITY STAGING BY DISTRICT

	Creative Village	Parra-more Zone 1	Parra-more Zone 2*	City District	Ivanhoe Village	Thornton Park	Outside Main Street Districts	TOTAL
On-Street	0	1	0	7	1	5	6	20
Off-Street	5	3	0	9	1	7	6	31
TOTAL	5	4	0	16	2	12	12	51

**Does not include Creative Village*

FIGURE 17: EXISTING BIKE PARKING AND MICROMOBILITY STAGING MAP



2.2.5. ADJACENT PROJECTS

Several of the key destinations are in various stages of major development or redevelopment that could impact available bicycle and micromobility parking. A map including these projects can be found in **Figure 24**.

2.2.5.1. Lake Eola Masterplan

Lake Eola Park is the largest park in downtown Orlando and is the site of the Linton E. Allen Memorial Fountain, featured on the City's seal. The masterplan provides a new vision for the future of the park²². Improvements identified in the plan include upgrades to the Walt Disney Amphitheater, reconstructing the sidewalk loop around the lake and park, improving and expanding event spaces and playgrounds, reconstructing a city-owned restaurant along the lake front, improvements to the ecology, moving the swan boat rentals to the southeast corner of the park, and more.

While the plan does not call out specific locations for bike racks, it notes that bike racks should be located at park entrances, be highly visible, incorporate cycling amenities like charging stations for e-bikes and bike fixing stations, and be colocated with micromobility staging areas. The plan recommends 100 short-term bike parking spaces, triple the current amount.

2.2.5.2. Camping World Stadium Reimagining

Camping World Stadium is set to undergo significant renovations and improvements by Fall 2027, with the intent of hosting the Jacksonville Jaguars for one year while their permanent stadium is renovated. Camping World also hosts high profile events like FIFA matches, concerts, Monster Jam, college football bowl games, and EDC Orlando. Improvements to the stadium include upgrades to seating and concourse areas, enhanced guest entry and circulation, redesigning of the exterior, campus and parking lot enhancements, and a new multipurpose indoor events center²³.

Orlando's Municipal Planning Board (MPB) requires bicycle parking for staff on non-event days consisting of 4 short-term and 2 long-term parking spaces and recommends coordination with the Transportation Planning Division to further enhance the existing bicycle parking plans for events²⁴.

Concurrently, the two roads that bound the stadium to the west and east, Tampa Avenue and Rio Grande Avenue respectively, will see improvements as well. Improvements to Tampa Avenue and

²² Lake Eola Masterplan. Accessed October 24, 2025, via <https://www.orlando.gov/Parks-the-Environment/Directory/Lake-Eola-Park/Lake-Eola-Master-Plan>

²³ Stadium Improvement Project. Accessed October 24, 2025, via <https://www.campingworldstadium.com/about-us/stadium-improvement-project>

²⁴ Staff Report to the Municipal Planning Board, Camping World Stadium Upgrades. Accessed October 24, 2025, via <https://portal.laserfiche.com/Portal/DocView.aspx?id=1066770&repo=r-b158fc8c>

Rio Grande Avenue include resurfacing the road, enhancing crosswalks, providing raised intersection, and widening the sidewalks with areas for landscaping and streetscaping amenities.

While bicycle parking and micromobility staging have not been contemplated in the redesign of Tampa Avenue or Rio Grande Avenue, the wide sidewalks with tree wells provide adequate room for bike racks and micromobility staging that is needed at the stadium.

2.2.5.3. The Canopy (formerly Under-I)

The area under Interstate 4 (I-4) between Church Street and Washington Street was a surface parking lot prior to the I-4 Ultimate project. The area was closed during construction and now the City has a desire to utilize a portion of the space as an urban gathering space rather than a vehicular parking lot. The Canopy will provide a place for community events and artistic immersion, create safe, multimodal connections, and provide a green space for the public.

Prior to implementing the new design, the City will pilot a temporary rideshare zone and parking concept between Pine Street and Central Boulevard with approximately 150 parking spaces. The pilot program will allow the City to obtain feedback and better understand how the space is used, which will help inform the final design. The pilot program has been active since summer 2024.

There may be an opportunity to create space for a permanent bike valet in the Canopy near Washington Street and Hughey Avenue that could be activated for events like sporting events, farmers markets, festivals, or large events at the Kia Center.

2.2.5.4. Creative Village

Creative Village is an urban innovation district that houses University of Central Florida's (UCF) and Valencia Community College's Downtown Campus²⁵. It is on the site of the former arena that was home to the Orlando Magic before moving to their new arena. The old arena was demolished, and the street network was reconstructed with wide sidewalks, bike lanes, transit lanes, high visibility crosswalks, and landscaping. Phase I of construction included the UCF building, dormitories, multifamily residential, office use, and a park, all completed between 2019 and 2022. Phase II will include office space, a hotel, additional multifamily residential, and more, to be delivered between 2026 and 2030. Any remaining land in Creative Village is expected to be built by 2043.

The district was envisioned as a transit-oriented development, so robust multimodal amenities have been provided throughout and will continue to be provided as development comes online.

²⁵ Creative Village. Accessed October 27, 2025, via, <https://creativevillageorlando.com/>

2.2.5.5. Westcourt

Additionally, the Westcourt (Entertainment District) is a proposed development adjacent to the north of the Kia Center²⁶. The development is proposed to consist of 200,000 square feet (sf) of office space, 125,000 sf of retail space, a 260-room hotel with expo center, 273 apartments, 80,000 sf for event space, and 2,300 parking spaces. Most bicycle parking near the Kia Center is along the north side of Church Street, adjacent to Westcourt, so any streetscape improvements associated with Westcourt should include bicycle parking.

2.2.5.6. Orlando Downtown Gap Trail

The Downtown Gap trail project will complete the downtown loop, an 8.5-mile trail around downtown Orlando²⁷. The project will connect the existing trail at the intersection of Summerlin Avenue and South Street to Gertrudes Walk, which is along the rail corridor downtown. The conceptual alignment utilizes sections of Washington Street, Magnolia Avenue, Pine Street, Eola Drive, South Street, and Summerlin Avenue. The project will add a combination of sidewalk level and street level cycle tracks. Bike parking and micromobility staging should be contemplated in designs and implementation.

2.2.5.7. Robinson Street Complete Streets Project

FDOT conducted a planning study for the Robinson Street corridor in spring 2017, involving extensive input from stakeholders and the public to address multimodal safety and mobility²⁸. The study identified preferred alternatives tailored to the unique needs of each of the districts along the corridor, including the Central Business District, Lake Eola, residential neighborhood, and Milk District areas. When this project comes online, it is recommended that bike parking and micromobility staging are contemplated in the design and implementation.

2.2.5.8. DTO 2.0

The DTO 2.0 project builds on previously completed planning studies and focuses on reconfiguring key downtown roadway segments to improve safety, connectivity, and overall mobility. The project involves the transition and reconfiguration of Orange Avenue and Rosalind Avenue from Lucerne Circle to Ivanhoe Boulevard. These roadway segments will be converted from multi-lane, high-speed, one-way streets to two-way streets with more curbside programming to enhance connectivity, improve safety, and create a more vibrant downtown. The project also includes integration of bus operations into normal traffic and additional on-street parking. The project is anticipated to start in Q3, 2027.

²⁶ Westcourt Downtown Orlando. Accessed October 27, 2025, via <https://www.jmamorlandoproject.com/>

²⁷ Downtown Loop. Accessed November 3, 2025, via <https://www.orlando.gov/Our-Government/Departments-Offices/Transportation/Downtown-Loop>

²⁸ Robinson Street Corridor Study. Accessed November 3, 2025, via <https://www.cflroads.com/project/436394-1>

2.2.5.9. Magnolia Avenue Two-Way Conversion

As part of the DTO 2.0 project, the Magnolia Avenue two-way conversion project will convert the stretch from South Street to Livingston Street from one-way to two-way traffic, improving connectivity and accessibility in downtown Orlando. The purpose of the project is to make navigation easier, promote safer travel for all users, and create a more welcoming environment for residents, employees, and visitors. Key infrastructure improvements include eliminating most dedicated bus lanes, integrating LYMMO bus operations into general traffic, and adding on-street parking. While this project focuses on improvements between the existing curbs, the corridor is being prepared for future streetscape and mobility enhancements.

It is recommended that the City consider in the design the inclusion of dedicated bike and micromobility infrastructure including space for bike racks and micromobility hubs.

2.3. REGULATORY STANDARDS

The latest standards for bike parking policies were reviewed to inform recommendations for updating city code. Policies of interest include those that support, amend, or clarify standards summarized in **Table 12**:

TABLE 12: CITY POLICIES OF INTEREST

Topic	Recommendation
Standards for bike parking facilities, including standard bike rack types and their location (e.g., Main Street Districts versus government buildings, parks, and trails), dimensions, and buffer area based on facility location (e.g., near a wall, street, in a parking lot) and layout (i.e. rows and columns, parallel, angled)	Consistent with APBP's Essentials of Bike Parking (Revision 1.0, September 2015), modifications to the City's code on bike parking facilities have been recommended. Included in the recommended diagram are angled sidewalk bike racks, perpendicular (to the road/sidewalk) sidewalk bike racks, parallel (to the road/sidewalk) sidewalk bike racks, and off-sidewalk bike racks.
Language to better prioritize bike parking requirements during the project development and review process, including multifamily residential projects.	Language to allow bike parking within 50-ft. of a primary pedestrian entrance within the landscape zone has been added to prevent conflicting regulations.

Topic	Recommendation
Bike parking requirements for areas near bus stops and SunRail stations.	The City's comprehensive plan supports secure bike parking at transit sites and bike racks on buses. All LYNX buses currently have two-bike racks, but micromobility devices are not allowed. Allowing micromobility devices on all transit vehicles is recommended, as well as using buses with larger-capacity racks where needed. SunRail permits bikes and micromobility devices and provides limited bike parking spaces; coordination is encouraged to increase storage areas on each train and at each station. See Section 1.5.1 of Appendix A for more details.
Standards and requirements for bike parking signage	Suggested language requiring wayfinding signs for long-term bicycle parking and bicycle parking within a parking garage has been developed.
Restrictions for parking at informal locations such as poles or fences	Currently no such restrictions apply, except that a bike cannot block an accessible route or reduce the width of an accessible route below the minimum standard. It is not recommended to implement a rule that would prevent bicycle parking at informal locations such as poles or fences.

Additionally, differences between permitted dockless micromobility program vs. point-to-point shared systems (e.g., Lake Nona program), vs. personal scooters and e-bikes (as regulated by State Statute). Point-to-point programs, also known as docked micromobility programs, requires vehicles (bikes or e-scooters) to be picked up and returned to designated, fixed stations, while dockless systems are free-floating, allowing users to locate, ride, and park them anywhere within a city's operating boundaries. Research has been summarized in the **Table 13** below.

TABLE 13: REGULATIONS BY PROGRAM TYPE

Criteria	Dockless	Point-to-Point	Personally Owned
Can be used by	Anyone (subject to age restrictions)	Anyone (subject to age restrictions)	Only the owner
Requires dedicated spaces in public ROW to park/store	No	Yes	Yes
Can be electric or non-electric	Yes	Yes	Yes
Requires physical infrastructure to park the device	No	Sometimes ¹	Yes
Intensity of effort required from vendors to relocate/rebalance devices	High	Medium/Low	None
Sometimes require membership fees	No	Yes	No
Requires a fee to use	Yes	Sometimes	No
Limited service area	Sometimes	Yes	No
Can legally travel on sidewalks ²	Yes	Yes	Yes
Can legally travel on the road ²	Yes	Yes	Yes

Notes:

1. Most point-to-point shared micromobility programs have physical infrastructure where trips start/end, but some use geofencing to enforce parking in specific areas, reducing the infrastructure investment required.
2. Some jurisdictions enact ordinances that prohibit bike and micromobility use on sidewalks or on the road. Orlando permits bike and micromobility use on sidewalks unless there is signage present indicating otherwise.

A strike through/underline version of relevant sections of the City's municipal code is included in **Appendix E** with the recommended code changes that support bike and micromobility parking. These recommendations supplement the recommended updates from the City of Orlando Bike Plan update.

A review of peer cities' micromobility regulations was conducted, referencing land development codes and city websites were referenced to determine the characteristics of each micromobility program. The findings below summarize the analysis, results, and recommendations for bike and scooter parking and charging, spanning short-term, intermediate-term, long-term improvements, as well as secure and covered options for facilities.

St. Petersburg, FL

St. Petersburg offers both a bike share and E-scooter program, like Orlando. Other notable similarities and differences between St. Petersburg's and Orlando's micromobility programs are summarized below.

Policy	St. Petersburg	Orlando
<i>Where can you ride a shared scooter (and how does that affect shared scooter staging)?</i>	No sidewalk riding (staging is designed to be accessible from the street level). No riding on the pier (staging provided near the entrance of the pier).	Sidewalk riding is prohibited where signage indicating the ban is present, including Lake Eola Park (parking areas should be located near entrances to the park).
<i>Where can you park a shared scooter?</i>	Only in geofenced corrals.	Any paved area that does not interfere with vehicle, pedestrian, or cyclist routes.
<i>Where can you ride a shared bike (and how does that affect shared bike staging)?</i>	No sidewalk riding (staging is designed to be accessible from the street level). No riding on the pier (staging provided near the entrance of the pier).	Geofenced areas are no-ride zones but may be restricted only during certain times of day or during events. Additionally, sidewalk biking is prohibited where signage or markings indicating the ban are present, including Lake Eola Park.
<i>Where can you park a shared bike?</i>	Only in designated bike share hubs.	Any paved area that does not interfere with vehicle, pedestrian, or cyclist routes.

Jacksonville, FL

Jacksonville operates a limited dockless mobility program in its downtown area. Similarities and differences between Jacksonville's and Orlando's micromobility programs are summarized below.

Policy	Jacksonville	Orlando
<i>Where can you park a shared scooter or bike?</i>	Only within geofenced pick up and drop off locations.	Any paved area that does not interfere with vehicle, pedestrian, or cyclist routes.

Tampa, FL

Tampa operates a shared micromobility program similar to Orlando's.

Policy	Tampa	Orlando
<i>Where can you ride a shared bike or scooter (and what does that mean for shared device parking)?</i>	Anywhere besides Tampa Riverwalk, Bayshore Boulevard, and 7 th Avenue (staging areas provided near these locations).	Sidewalk riding is prohibited where signage indicating the ban is present, including Lake Eola Park (parking areas should be located near entrances to the park).
<i>Where can you park a shared bike or scooter?</i>	Only in designated corrals.	Any paved area that does not interfere with vehicle, pedestrian, or cyclist routes.

2.4. STRATEGIES/SPECIAL EVENTS

Strategies related to special events and key destinations are described below.

2.4.1. SPECIAL EVENTS

The study identified and evaluated bike parking and management strategies for large special events and for major venues such as Camping World Stadium, Dr. Phillips Center for the Performing Arts, Inter&Co Stadium, and Kia Center. Strategies include bike valets, corrals, temporary staging areas, and a mix of short- and long-term bike parking facilities.

Short-term bike parking areas allow those attending events to park their bikes in an orderly, secure manner. Short-term bike parking spaces should be located just outside of heavy pedestrian traffic areas but should be in a publicly visible space to prevent theft.

Long-term bike parking areas allow for event staff or even members of the public to park their bikes in a covered, secure area during events. Long-term bike parking areas should be in secure locations and ideally would include electrification so that ebikes and scooters can charge during events. If the intent is to allow the public to use these spaces, then wayfinding signage should be included.

2.4.1.1. Bike Valet

A bike valet allows riders to easily and conveniently cycle to events without having to worry about theft or parking far away from an event. Bike valets provide a secure area where staff can access and park customers' rides, eliminating the need for locks²⁹. There are two main types: event valets

²⁹ What is a Bike Valet? Accessed on October 28, 2025, via <https://bccycling.ca/bike-valet-explain>

for temporary needs at gatherings like festivals or sporting events, and fixed-location valets for ongoing service in a set area. Both types effectively prevent bike theft by restricting access to the storage area. They also offer significant convenience, especially for families, older adults, people with disabilities, and riders with e-bikes or other micromobility devices that may have valuable or bulky items. Bike valets can even store things like strollers.

A bike valet operates like a coat check for bikes and other mobility devices. Cyclists drop off their ride and receive a tag with a unique identifier. That identifier corresponds with another tag that is placed on the bike. The bike is then stored in a secure area and returned to the cyclist once they return and present their tag.

Bike valets have some constraints, notably the staffing and infrastructure required. The infrastructure and materials required to run an event valet include an enclosure, bike racks, bike parking tags, tent(s) or other cover in the event of adverse weather, a table and tablecloth, and signage. They also require at least two people to man the valet, which allows staff to take breaks while the other guards the bikes and is available to serve customers. A bike valet is often operated by a local bike coalition, typically on a fee-for-service basis.

FIGURE 18: BIKE VALET IN WINTER PARK



Enclosures should be at least five feet tall to prevent theft and should fully enclose the storage area. Taller enclosures or fully enclosed storage facilities provide additional security. The only entrance in and out should be manned by staff during valet operations. The ideal bike rack to use in a bike valet is a triathlon style bike rack, where bikes hang by their seat posts. An example of a triathlon rack in a bike valet is shown in **Figure 19**. While not recommended for traditional bike parking due to lack of security, the enclosure provides adequate security. Triathlon racks allow for quick and convenient access, take up very little room, and can be moved around easily, even with bikes on the rack, depending on how many bikes are on the rack. There are several template tag systems available online that can be adapted for events in Orlando. Numbering conventions vary, but the best tag system will be trackable, unique, and sortable. **Figure 20** shows an example of a tag pair that can be used to mark and organize bikes. Color coding the tags by type of vehicle (bike, e-bike, scooter, stroller, etc.) can be helpful, but note that the color should be indicated on the tag for color-blind staff and users.

Oracle Park, a ballpark with a capacity of over 40,000, has implemented a bike valet system for San Francisco Giants Major League Baseball games. The service is free and allows cargo and electric bikes, personal kick or electric scooters, and other small personal mobility devices with wheels, but does not accept shared bikes and scooters or larger motorized bikes or scooters. The valet station is located directly outside the stadium on the Port Walk, a waterfront pedestrian area. The valet service opens two hours before the game's first pitch and closes 30 minutes after the last out. The service is very in-demand, with the valet often reaching capacity for high-attendance games. The bike valet is supplemented by over 100 traditional bike racks and a public bikeshare station also directly adjacent to the stadium.³⁰

The Target Stadium in Minneapolis, which is similar in size to Oracle Park, also employs bike valet for Minnesota Twins baseball games. Though the stadium boasted "hundreds" of bike racks monitored by security during games in 2025, bike thefts still occurred due to the racks being spread out. To combat this, the Twins pivoted to using a free valet bike corral which is located just outside the stadium across from the Target Field Metro Transit station. The corral is staffed and operates on a ticket system.³¹

Bike valet services offer increased security, convenience, and accessibility for individuals choosing to cycle to an event.

³⁰ Biking to the Ballpark. Accessed February 25, 2026, via <https://www.mlb.com/giants/ballpark/transportation/biking-to-the-ballpark>

³¹ The Twin Cities have hundreds of miles of bike lanes, but cyclists say one key thing is missing. Accessed February 25, 2026, via <https://www.startribune.com/secure-bike-parking-minneapolis/601323746>

FIGURE 19: TRIATHLON BIKE RACK EXAMPLE IN A BIKE VALET



Source: BC Cycling – What is a Bike Valet?

FIGURE 20: BIKE VALET TAG SYSTEM EXAMPLE



Source: BC Cycling – What is a Bike Valet?

2.4.1.2. Temporary staging areas

Temporary staging areas for shared micromobility can allow for enhanced availability of devices and orderly distribution when coming to or leaving an event. Temporary staging consists of implementing informal staging shared micromobility staging areas near events, mostly to help with egress. Temporary staging areas should be located such that they do not interfere with the orderly ingress or egress from an event. The ideal location is along a sidewalk in between tree wells or landscaping so that the pedestrian route remains unaffected, or in on-street corrals. They should also be sited outside of road closures and high-volume pedestrian routes.

For events with high attendance, it is recommended to work with micromobility vendors to have staff at designated drop-off locations positioned outside event entrances during ingress periods. These staff members would receive devices at the conclusion of each user's ride. This approach enhances customer service and enables staff to organize devices efficiently in areas that facilitate smooth egress following the event.

Formal staging areas near events and destinations may need to be enlarged for events where high micromobility demand is anticipated.

2.4.1.3. Corrals

Corrals provide on-street bike and micromobility parking areas. They are often located in a converted parking space, or at the end of a parking lane near a driveway or intersection. They are known to reduce sidewalk clutter by providing clearly marked parking areas for micromobility devices. They are especially effective in areas with high pedestrian activity or when sidewalks are too narrow to accommodate bike and micromobility parking, which makes them effective for events. Corrals can accommodate both micromobility and bike parking. Additionally, when located at the end of a parking lane, corrals prevent vehicles from parking too close to an intersection thereby reducing visibility.

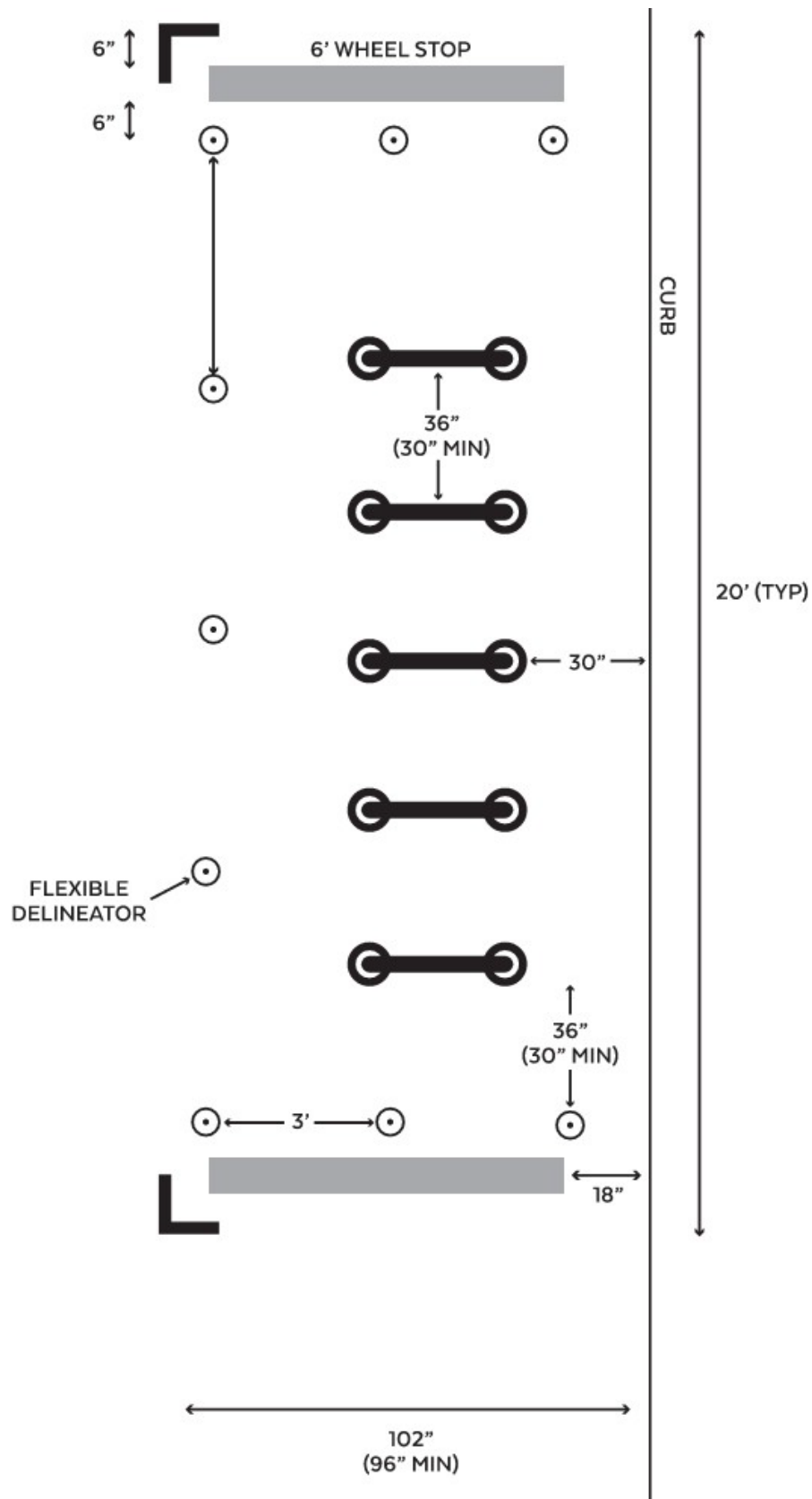
An example of a bike corral near downtown Orlando is shown on **Figure 21**.

FIGURE 21: BIKE CORRAL IN MILLS50 AREA



A diagram showing the recommended design for on-street bike corrals is shown on **Figure 22**.

FIGURE 22: RECOMMENDED ON-STREET CORRAL PLACEMENT STANDARDS



2.4.1.4. Temporary Road Closures

Some cities have taken more drastic measures to increase multimodal access at special events by temporarily closing roads to vehicular traffic, reallocating the street space to pedestrians and bike/micromobility parking. While this effort prioritizes sustainable transportation, it poses logistical and permitting challenges and disrupts traffic patterns at events that are already highly trafficked. Temporary road closures also usually incorporate other strategies listed above, like bike valets.

Providence Park in Portland Oregon is an outdoor soccer stadium that hosts games for the Portland Timbers, Portland Thorns, and Portland Nitro. As of 2019, about 14% of attendants walked, biked, or scooted to games. On Timbers game days, SW 18th Avenue and SW Morrison Street, the streets bordering the stadium to the north and east, are closed, as shown in **Figure 23**. A team of Timbers-funded traffic safety officers manage congestion and ensure safe circulation of guests. In addition to temporary roadway management measures, the City of Orlando should consider coordinating with micromobility vendors to implement temporary no-ride zones around major event venues during special events. Temporary geofenced restrictions can help improve pedestrian safety in crowded areas while directing users to designated bike and micromobility parking or staging areas located outside of high-pedestrian-volume event spaces. The Providence Park Comprehensive Transportation Management Plan (CTMP) 2019 Update stated that free temporary bike parking monitored by stadium staff was provided on 18th Avenue and SW Morrison Street for 250 to 350 bikes. This bike parking area operated under a bike valet system and was first come, first serve. At the time of the plan update, the bike parking supply provided would reach capacity during daytime Timbers games with good weather. In addition to bike valet, Providence Park also designated e-scooter parking areas.³² Temporary bike parking in Portland is not provided by the city, but rather by private providers. However, the Portland Bureau of Transportation (PBOT) offers some recommendations for temporary event bicycle parking: event organizers should reserve space for bike parking equal to a minimum of 2% of the total expected crowd attendance; however, bike parking for 5% or greater is ideal.³³

³² Providence Park Comprehensive Transportation Management Plan (CTMP) Update. Accessed February 25, 2026, via https://images.mlssoccer.com/image/upload/v1624051600/assets/por/PDFs/ProvParkCTMPFinalWEB2_wf0ac1.pdf

³³ Event Bike Parking. Accessed February 25, 2026 via <https://www.portland.gov/transportation/walking-biking-transit-safety/event-bike-parking#toc-temporary-event-bicycle-parking-planning-recommendations>

FIGURE 23: STREET CLOSURE OUTSIDE PROVIDENCE PARK IN PORTLAND



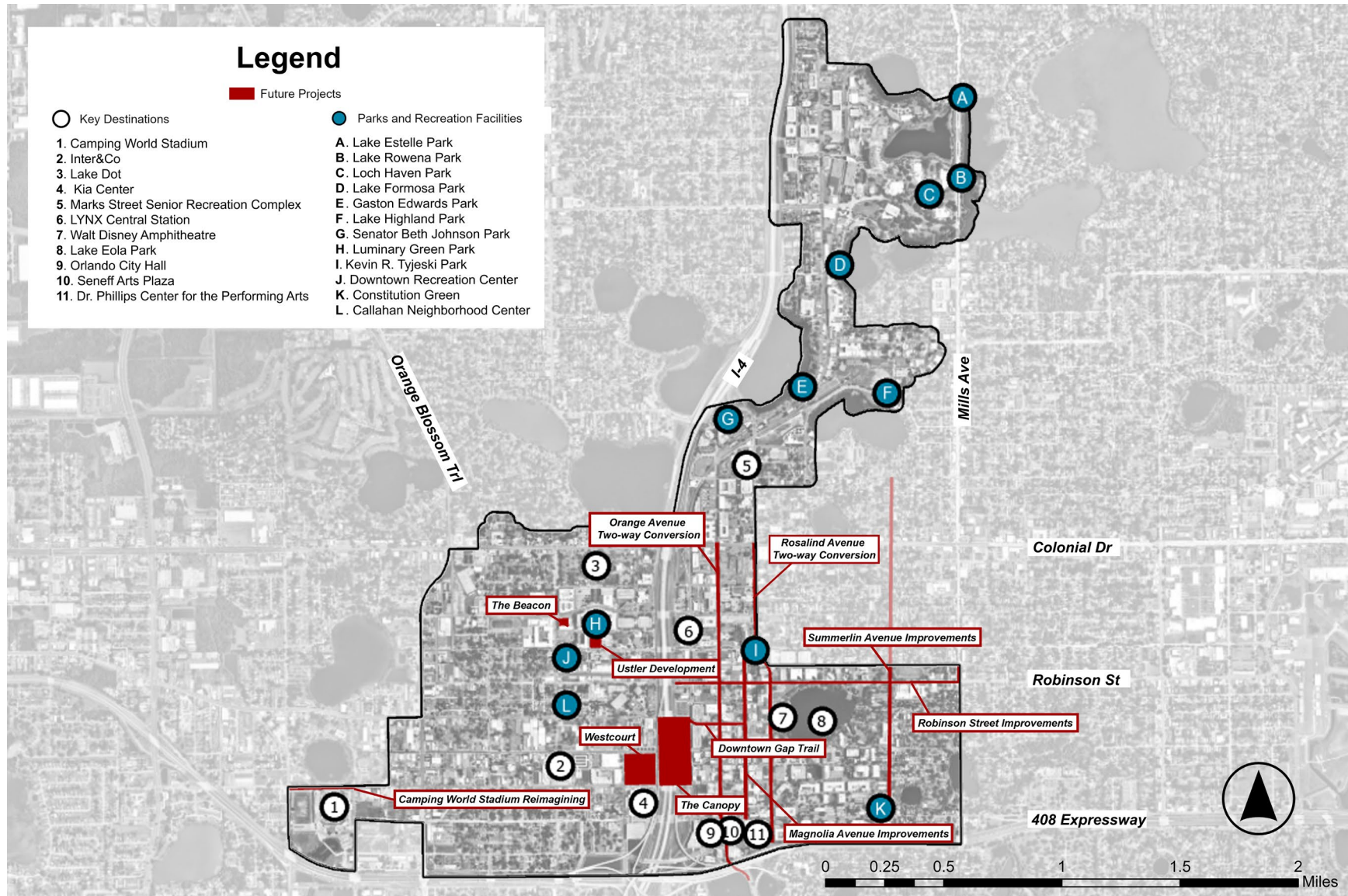
2.4.2. KEY DESTINATIONS

The study will identify best practices for wayfinding and streetscaping that can be applied to destinations and activity hubs, especially those that are connected to bike facilities (trails, bike lanes, etc.). Streetscaping amenities include curbing, striping and colored paving, lighting, signage and wayfinding, and shade amenities. Entities and organizations with which the City can coordinate to support timely maintenance of existing end-of-trip facilities and to consider the addition of new facilities were identified. Key destinations and stakeholders are listed below in **Table 14**. These destinations, along with future projects affecting the project area, are depicted in **Figure 24**.

TABLE 14: KEY DESTINATIONS

Destination Type	Name	Stakeholders
	Camping World Stadium	Florida Citrus Sports, Orlando Venues Department
	Dr. Phillips Center for the Performing Arts	Dr Phillips Center
	Inter&Co Stadium	Orlando City Soccer Club and Orlando Pride
	Kia Center	Orlando Venues Department, Orlando Parking Division
	Walt Disney Amphitheatre at Lake Eola Park	City of Orlando Parks Division
	The Canopy (formerly Under-I)	City of Orlando Community Redevelopment Agency, City of Orlando Parking Division
	Lake Eola Park	City of Orlando Parks Division
	Creative Village	Ustler Development Group (Creative Village Development, LLC), University of Central Florida, Valencia College
	Lynx Central Station	LYNX, SunRail
	Parks and neighborhood centers	City of Orlando Parks Division

FIGURE 24: KEY DESTINATIONS AND FUTURE PROJECTS MAP



2.4.2.1. Camping World Stadium

Camping World Stadium is a multipurpose stadium that has hosted FIFA matches, NFL Pro Bowls, EDC (Electric Daisy Carnival) Orlando, large scale concerts, and regularly hosts college football games including the Citrus Bowl and the Pop-Tarts Bowl. The stadium typically has one or two events per month, with December typically hosting more due to College Football bowl games.

The surrounding streets (Church Street to the north, Rio Grande Avenue to the south, Tampa Avenue to the west, and Long Street/ SR-408 to the south) lack dedicated bicycle facilities but do offer sidewalks.

Existing bicycle parking at and around the stadium is limited. Bike racks are available along Church Street near Will Call at Gate A at the stadium's northwest corner, between the Florida Citrus Sports Building and Gate C at the stadium's southeast corner, and along Rio Grande Avenue just north of South Street, though one of these racks is severely dented. No formal micromobility staging is available, but the furniture zones along Church Street and Rio Grande Avenue are wide enough to accommodate large volumes micromobility devices without obstructing pedestrian or ADA access. For special events, additional staging will occur, typically along Rio Grande Avenue south of Church Street, near the stadium's northeast corner.

As previously mentioned, the area surrounding the stadium is being redone as part of the Camping World Reimagining renovation. Additional bike parking and micromobility staging areas may be incorporated along the edges of the pedestrian and fan zones.

FIGURE 25: REIMAGINED CAMPING WORLD STADIUM



Source: CampingWorldStadium.com

2.4.2.2. Dr. Phillips Center for the Performing Arts

Dr. Phillips Center for the Performing Arts is a performance venue with multiple theaters designed to host a variety of performances. It includes three theaters, areas to host conferences, and a jazz bar space. The center hosts hundreds of events per year, often multiple per day. The area in front of the performing arts center is known as Seneff Plaza and also hosts multiple events per year.

FIGURE 26: DR. PHILLIPS CENTER FOR THE PERFORMING ARTS AND SENEFF PLAZA



Source: DrPhillipsCenter.org

The surrounding streets (South Street to the north, Anderson Street to the south, Orange Avenue to the west, and Rosalind Avenue to the east) all feature wide sidewalks and landscaping. Anderson Street and Rosalind Avenue also feature bike lanes. Bike racks are available along Orange Avenue on either side of the Seneff Arts Plaza to the west of the building, along Anderson Street near the AdventHealth School of the Arts at the building's southeast corner, and along South Street between Magnolia Avenue and Rosalind Avenue. Formal micromobility staging is available across Orange Avenue at City Hall, near the southwest corner of South Street and Orange Avenue. However, improvements could be made by providing more shade along existing sidewalks and bike racks and by providing bike and micromobility closer to the venue's entrances.

2.4.2.3. Inter&Co Stadium

Inter&Co Stadium is a soccer specific stadium that hosts the Orlando City Soccer Club, the Orlando Pride, and other performances. Each soccer team hosts approximately 15 to 25 home games at the stadium each year.

FIGURE 27: INTER&CO STADIUM



Source: InterCoStadium.com

The surrounding streets (Central Boulevard to the north, Church Street to the south, Glenn Lane to the west, and Terry Avenue to the south) lack dedicated bicycle facilities but offer sidewalks. Existing bicycle parking at and around the stadium is robust, especially along Central Boulevard and Church Street. Bike racks are available along both these streets between Glenn Lane and Lime Street, and on the building's east side in front of both parking areas along Pine Street. However, the additional of more shade in the area could improve the experience of cyclists. No formal micromobility staging is available in the immediate vicinity, but informal staging often occurs along Central Boulevard, between the stadium and Terry Avenue, which the furniture zone can accommodate.

Temporary storage lockers are provided at most home soccer games. The lockers provide fans the opportunity to store items they do not want to bring into the stadium or items that are not permitted. They are staffed by attendants before, during, and up to an hour after the game. It is recommended that the City explore if the vendor could also accommodate a bike valet using the same staff as the lockers to reduce staffing costs for a bike valet. Another opportunity to increase the likelihood of a successful bike valet program at Inter&Co stadium is to reach out bike friendly businesses to see if they would be willing to sponsor a bike valet at no cost to the City in exchange for the opportunity to advertise for their business at the event.

2.4.2.4. Kia Center

Kia Center is an indoor arena that is home to the NBA's Orlando Magic and hosts various other sporting events, concerts, and performances.

FIGURE 28: KIA CENTER



Source: KiaCenter.com

The surrounding streets (Church Street to the north, South Street to the south, Division Avenue to the west, and Hughey Avenue to the east) feature wide sidewalks. The section of Hughey Avenue directly adjacent to the arena includes a bike lane, but the other surrounding streets do not have dedicated bicycle facilities. Existing bicycle parking at and around the stadium is robust, especially along Church Street. It should be noted that most bike racks at Kia Center are sited along the north side of Church Street. Bike racks are also available along Division Avenue, near the building's northwest corner, and near the intersection of South Street and Hughey Avenue, at the building's southeast corner. Micromobility staging is available at the northwest and southwest corners of Division Avenue and Church Street, as well as at the northwest corner of Hughey Avenue and Church Street. During special events, additional staging will occur, typically on Division Avenue north of Jackson Street and on Church Street east of Division Avenue.

The section of Church Street directly adjacent to Kia Center is often closed to vehicles on event days, so a portion or even all bike racks along Church Street may not be accessible during event days, depending on the nature and size of the road closure.

2.4.2.5. Walt Disney Amphitheater at Lake Eola Park

Lake Eola Park is an urban park in the heart of Downtown Orlando known for its boat rentals, walking path, and proximity to restaurants. It hosts several festivals and events, including the weekly Orlando Farmer's Market every Sunday. The Walt Disney Amphitheater borders the west side of the lake and hosts plays, music, and other events.

FIGURE 29: WALT DISNEY AMPHITHEATER AT LAKE EOLA PARK



Source: Orlando.gov

The is surrounded by Robinson Street to the north, Central Boulevard to the south, Rosalind Avenue to the west, and Eola Drive to the east. While only the Rosalind Avenue segment has a dedicated bike lane, Central Boulevard is painted with “sharrows” or shared-lane markings. All the segments featured sidewalks, with on-street parking on all streets except for Robinson Street. Bikes and micromobility devices are prohibited in the park, meaning it is a “no-roll zone”.

The Walt Disney Amphitheater is an outdoor stage at Lake Eola Park that hosts concerts and performances occasionally throughout the year. The amphitheater is on the west side of Lake Eola and is surrounded by Lake Eola Park to the north, south, and east.

The nearest bike racks are south of the Amphitheater near the park’s entrance along Rosalind Avenue and north of the Amphitheater between Relax Grill and the public restrooms. The nearest micromobility staging areas are on-street at the southeast corner of Robinson Street and Rosalind Avenue and on both sides of Rosalind south of its intersection with Washington Street. However, there are several bike parking and micromobility staging options on the southern, western, and eastern faces of Lake Eola Park. Bike parking is available at the Osceola Avenue loop in the southeast region of the park, at the park’s southeast corner entrance, and just north of the playground on the park’s eastern border. Micromobility staging is available off-street at the

northeast corner of Central Boulevard and Rosalind Avenue, on-street on Central Boulevard just west of Lake Avenue, and at the Osceola Avenue loop. There is a lack of formal micromobility staging along Robinson Street, leading to frequent high volumes of informal staging at the park's northeast corner.

As mentioned in **Section 2.2.5.1**, the amphitheater is being redone as part of the Lake Eola Masterplan. Incorporating bike parking and micromobility into the edge of the park near Rosalind Avenue is recommended. Better wayfinding signage to direct cyclists and micromobility user towards parking locations should be used throughout Lake Eola Park. There is also potential for a bike valet space for farmers markets, 5ks, festivals, etc.

2.4.2.6. Creative Village

Creative Village is a 68-acre area on the west side of Downtown Orlando bound by Concord Street to the north, SCL railroad tracks to the south, Parramore Avenue to the west, and Hughey Avenue to the east. Phase 1 of this mixed-use innovation district was completed in August 2022 with development to continue on Phases 2 and 3 until the project's completion in 2043.

Creative Village is the site of many facilities for the University of Central Florida, Valencia College, and Orange County Public Schools, as well as several multi-family and student housing developments. Other key destinations in creative village include Luminary Green Park, the Downtown Recreation Center, the Bob Carr Performing Arts Center, EA Orlando, and the Marriott Orlando Downtown.

Redevelopment of the Creative Village area has made bike and pedestrian infrastructure comparatively robust, with ample sidewalks, bike racks, and vehicle street parking available throughout the district. Dedicated bike lanes are present on Livingston Street, Terry Avenue, and Amelia Street. Bike parking is especially concentrated around UCF's Downtown Campus and Luminary Green Park. There are, however, only five designated micromobility staging areas in Creative Village—two on the west side of Terry Avenue just north of Livingston Street, one at the northwest corner of the UCF Downtown Campus building, one in front of the Marriott Orlando Downtown, and one at the northwest corner of the Bob Carr Performing Arts Center Building, near the Blue Lot.

2.4.2.7. LYNX Central Station

LYNX Central Station is a transit hub that serves both LYNX bus services and the SunRail commuter rail service. LYNX Central serves over 30 bus routes and had the highest ridership of any SunRail station in the 2024 fiscal year. The facility also houses the administrative offices of LYNX. The station is bordered by Amelia Street to the north, Livingston Street to the South, and Garland Avenue to the west. Sidewalks are available on all surrounding streets, with a dedicated bike lane on Livingston Street. There are several wave racks for bike parking located at the station's southwest corner, though U-rack and a repair station are also available directly across Livingston

Street. There is no formal micromobility staging in the immediate vicinity, though no instances of informal staging were noted on the surrounding sidewalks or on the platforms during the field data collection process. Formal micromobility staging may be considered, as research from the Urbanism Next Center suggests that shared scooter parking corrals at or near transit stops may need 30% more parking capacity than a corral in an otherwise similar commercial area.³⁴

Bike infrastructure could be improved by providing covered bike lockers and/or a bike room for long-term, weather-protected parking. Standards and best practices for long-term bike parking is described in **Section 2.1.5**. Several respondents of the Orlando Bike and Micromobility Parking Survey (discussed in **Section 3**) requested more secure bike parking, some citing LYNX Central Station or downtown LYNX bus stops specifically as lacking long-term parking. However, long-term bike parking options require higher upfront cost as well as ongoing financial investment for maintenance supplies and staff time. Installing better signage to identify existing bike/scooter parking may be a more accessible option for improvement at LYNX Central Station.

2.4.2.8. SunRail Stations

The study area includes two SunRail stations in addition to LYNX Central Station, AdventHealth Station in Ivanhoe Village and Church Street Station in downtown Orlando. AdventHealth Station currently provides bike parking, and no additional bike parking requests were recorded through the public survey. No additional bike parking is recommended at this station at this time, though existing facilities should continue to be maintained and monitored.

Church Street Station has an existing bike rack on the southbound side of the station. Public survey feedback indicates demand for additional bike parking near this station, particularly to the east of the station along routes to and from downtown office buildings. An additional short-term bike rack is recommended near the northbound side of Church Street Station to improve access and provide more balanced parking availability.

Consistent with the LYNX Central Station recommendations, secure or weather-protected long-term bike parking and micromobility hubs may be considered in the future if demand continues to increase at either SunRail station.

2.4.2.9. Parks and Neighborhood Centers

City-owned community facilities, such as public parks and community centers, are also locations where bike and micromobility parking should be provided. Bike parking is typically provided in a series of racks near entrances. While scooter parking is less common at parks or community centers, designated staging areas can usually be placed adjacent to bike parking areas. All city-owned parks within the study area are depicted in **Figure 24** and their bike and micromobility

³⁴ Shared scooter parking: The role of parking density and land use in compliance and demand. Accessed February 25, 2026, via [https://cdn.prod.website-files.com/5d9f83b8b237fa6c07d5d69d/660ffebecc38d88ac72df8b3_Lime_Demand%20Report_Final_APR%20\(c\).pdf](https://cdn.prod.website-files.com/5d9f83b8b237fa6c07d5d69d/660ffebecc38d88ac72df8b3_Lime_Demand%20Report_Final_APR%20(c).pdf)

conditions are described below in **Table 15**. Expanding bike and micromobility parking and wayfinding is recommended at city-owned parks.

TABLE 15: BIKE/MICROMOBILITY CONDITIONS OF CITY PARKS.

Map Label	Park Name	Bike / Micromobility Parking Conditions
A	Lake Estelle Park	none
B	Lake Rowena Park	none
C	Loch Haven Park	5 bike parking locations (Orlando Ballet, Orlando Science Center, Orlando Shakes, Orlando Museum of Art)
D	Lake Formosa Park	none
E	Gaston Edwards Park	7 bike parking locations, 1 bike repair station, 1 on-street corral
F	Lake Highland Park	none
G	Senator Beth Johnson Park	none
H	Luminary Green Park	4 bike parking locations
I	Kevin R. Tyjeski Park	1 designated staging area
J	Downtown Recreation Center	2 bike parking locations
K	Constitution Green	1 bike parking location
L	Callahan Neighborhood Center	2 bike parking locations

3. Community Outreach

The City developed a Public Involvement Plan for the study. The project team collaborated to develop online outreach materials, a postcard/flyer, website content, and online survey questions for inclusion on the project website and feedback map. The Public Involvement Plan and associated activities supported community awareness and provided feedback opportunities related to bike and micromobility parking in the city. The online survey gathered information about community sentiment towards bike and micromobility parking, collected feedback for improving conditions, and analyzed demographic data about riders, including their typical commute modes. The survey also gauged user awareness of affordability programs and payment options offered by micromobility providers in the city. To promote the survey, a postcard with a link to the survey, the survey's end date, and additional contact information was created for distribution via the city's social channels. A flyer was also created with a QR code linked to the survey for physical distribution at in-person events. The survey collected responses for approximately one month, from January 3, 2026, to February 1, 2026. The results of the survey are summarized below.

3.1. SURVEY RESULTS

The Orlando Bike and Micromobility Parking Survey received a total of 306 responses. Of these 306 responses, 28 were blank submittals, leaving 278 viable surveys. 205 respondents chose to at least one of the survey's 8 free response questions. 192 respondents opted to answer optional demographic questions.

3.1.1. SELECTIONSELECTION RESPONSES

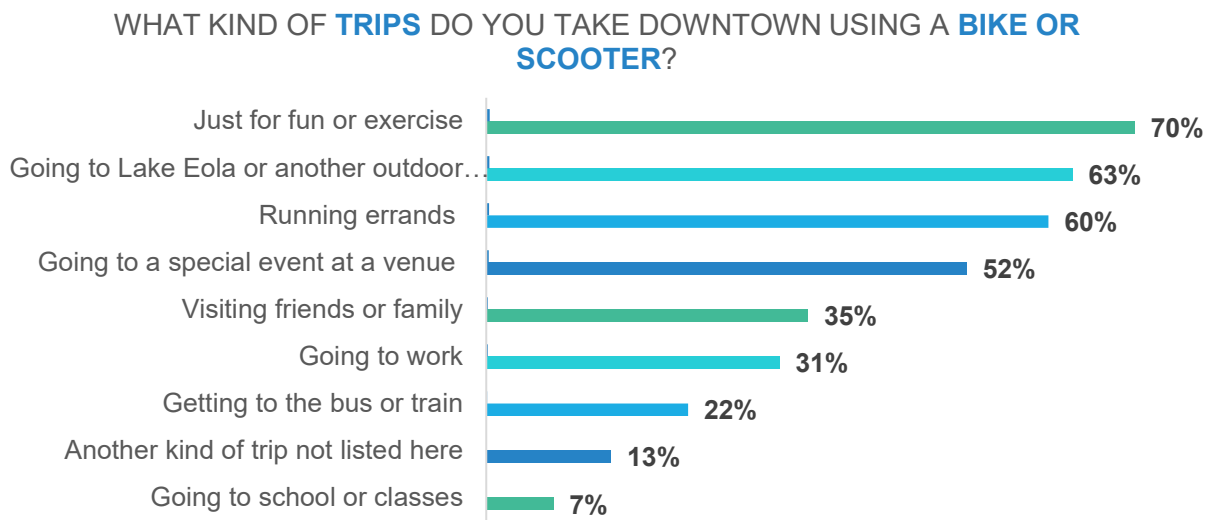
The survey contained a total of 8 questions which prompted users to make selections from a list of responses. The survey's first question asked respondents what type of bike or micromobility devices they have used in the last 12 months. The responses to this question are detailed below.

TABLE 16: SURVEY QUESTION – BIKE AND MICROMOBILITY DEVICE USAGE

In the past twelve months, which of the following have you used regularly to get around downtown Orlando?	# of responses	% of responses
A bike or e-bike I own	145	52%
A bike or e-bike I rent	52	19%
A scooter I own	31	11%
A scooter I rent	57	21%
Another kind of micromobility device	5	2%
I haven't used any of these regularly in the past twelve months	77	28%

If a respondent selected at least one of the modes listed, they were prompted to answer four questions about trip types, safety, and parking. These results indicated that the four most common trip types were for fun or exercise, going to Lake Eola or another outdoor space, running errands, and going to an event at a special venue. Of the methods provided for improving bike and scooter parking downtown, providing more places to park and using more or clearer parking signs were most popular. Detailed results of this portion of the survey are depicted below.

FIGURE 30: SURVEY RESULTS – TRIP TYPES



QUESTION TYPE:

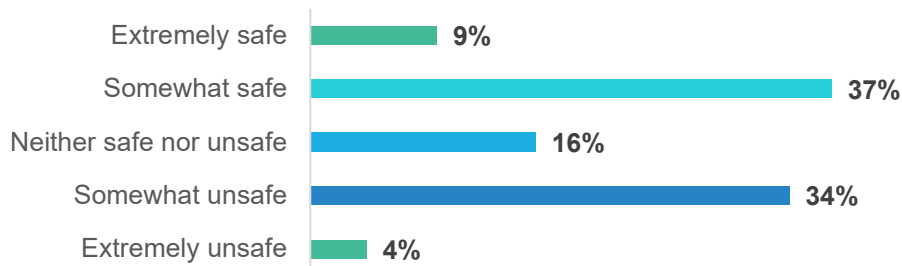
NUMBER OF RESPONSES:

Select all that apply.

194

FIGURE 31: SURVEY RESULTS – PERCEPTIONS OF SAFETY

HOW **SAFE** DO YOU FEEL USING A BIKE OR SCOOTER IN **DOWNTOWN ORLANDO**?



QUESTION TYPE:

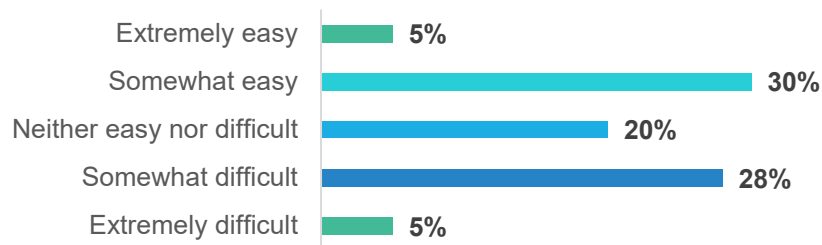
Likert scale

NUMBER OF RESPONSES:

191

FIGURE 32: SURVEY RESULTS – EASE OF PARKING

HOW **EASY** IS IT TO FIND BIKE OR SCOOTER **PARKING** IN DOWNTOWN ORLANDO?



QUESTION TYPE:

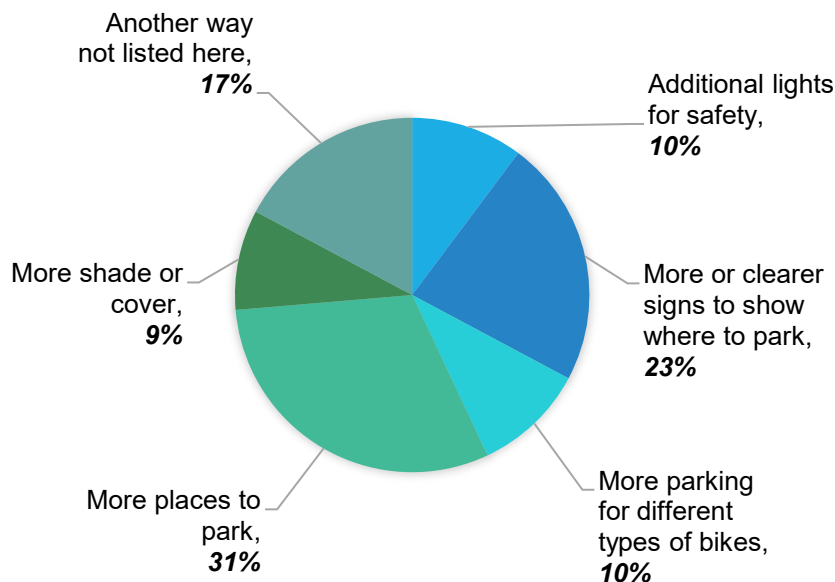
Likert scale

NUMBER OF RESPONSES:

193

FIGURE 33: SURVEY RESULTS – OPPORTUNITIES FOR IMPROVEMENT

WHAT COULD WE DO TO MAKE **PARKING BIKES OR SCOOTERS** IN DOWNTOWN **BETTER**?



QUESTION TYPE:

Select one.

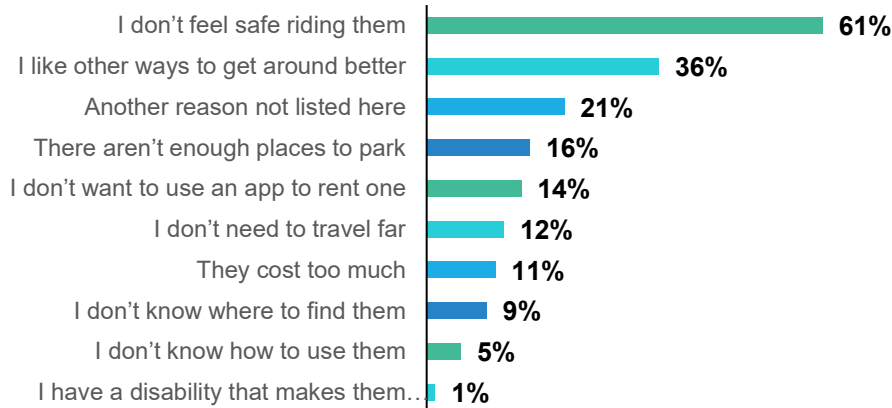
NUMBER OF RESPONSES:

186

Survey respondents who indicated that they had not used a bike, e-bike, scooter, or another kind of micromobility device regularly in the last 12 months were prompted to answer two questions: why they haven't used these devices more often and what would make them more interested in using these devices. The most common deterrent to biking and scootering for these respondents was not feeling safe, and safer bike lanes would make most people more interested in riding.

FIGURE 34: SURVEY RESULTS – NONUSE REASONS

WHY HAVEN'T YOU USED A BIKE OR SCOOTER MORE OFTEN?



QUESTION TYPE:

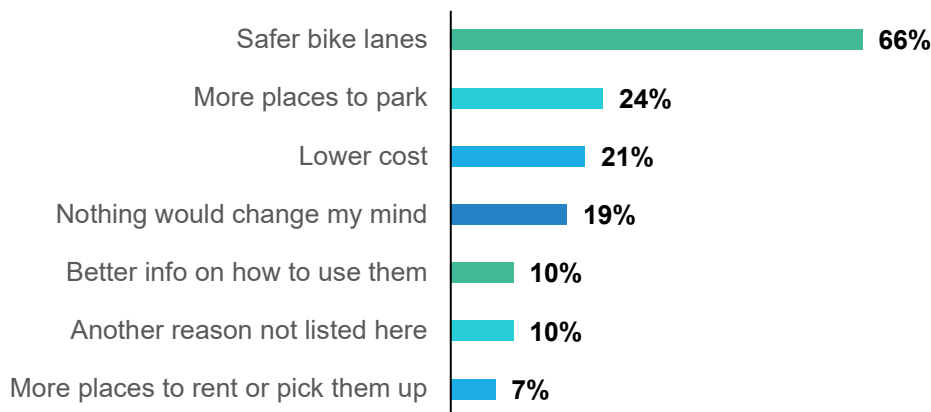
Select all that apply.

NUMBER OF RESPONSES:

76

FIGURE 35: SURVEY RESULTS – INCREASING USE

WHAT WOULD MAKE YOU MORE INTERESTED IN USING BIKES AND SCOOTERS MORE OFTEN?



QUESTION TYPE:

Select all that apply.

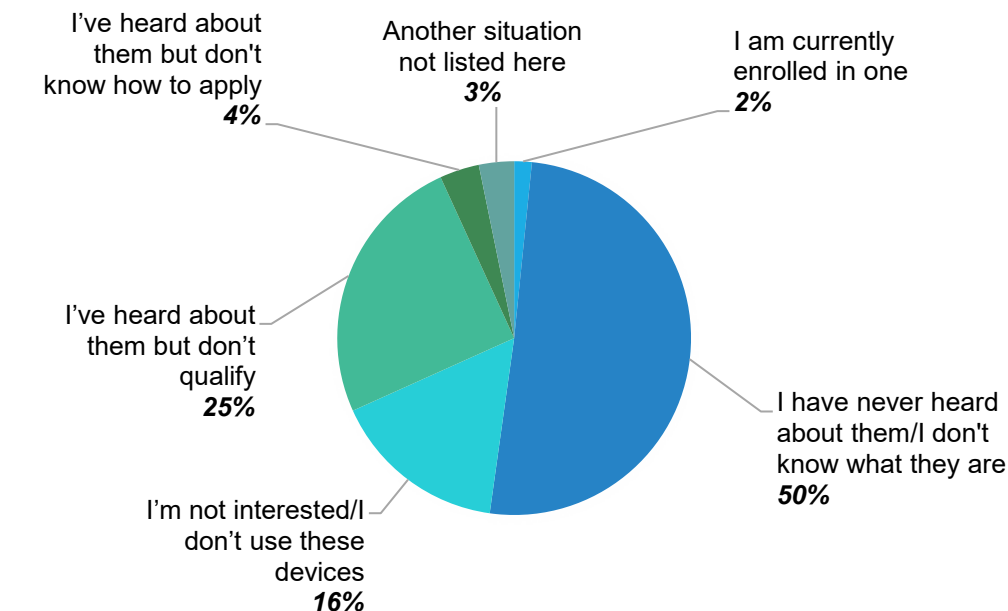
NUMBER OF RESPONSES:

70

All respondents, regardless of their bike or micromobility use, were prompted to answer two additional questions about their awareness of micromobility affordability programs and their trust in the City of Orlando to handle local problems. 50% of respondents had never heard of affordability programs offered by micromobility providers or did not know what they were. The highest percentage of respondents (35%) indicated that they had some trust in the city to address local issues.

FIGURE 36: SURVEY RESULTS – AWARENESS OF AFFORDABILITY PROGRAMS

HAVE YOU HEARD OF MICROMOBILITY **AFFORDABILITY PROGRAMS** BEFORE?



QUESTION TYPE:

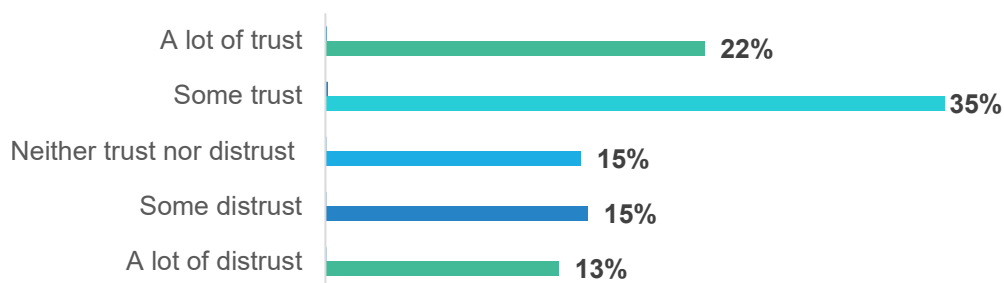
NUMBER OF RESPONSES:

Select one.

249

FIGURE 37: SURVEY RESULTS – CITY TRUST

HOW MUCH **TRUST** DO YOU HAVE IN THE **CITY OF ORLANDO** TO HANDLE LOCAL PROBLEMS?



QUESTION TYPE:

Likert scale

NUMBER OF RESPONSES:

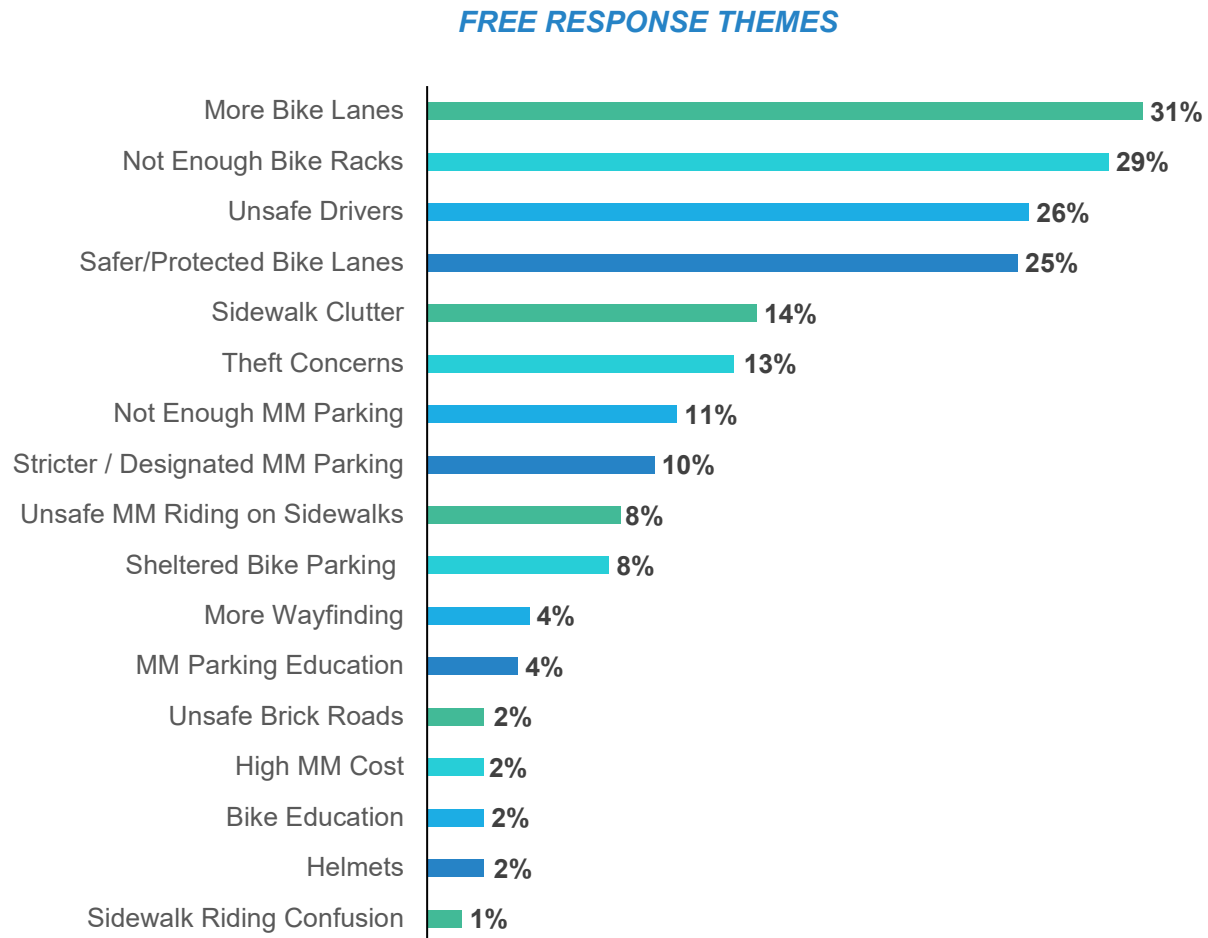
240

3.1.2. FREE RESPONSE

In addition to selection questions, the Bike and Micromobility Parking Survey included 8 text response questions that allowed users to type their answers freely. Seven of these questions asked users to elaborate on previous questions, and the eighth provided an opportunity for respondents

to share any additional thoughts about bike and scooter parking in downtown Orlando. Each response was read and categorized by common themes. Some responses addressed multiple of these themes.

FIGURE 38: SURVEY RESULTS – FREE RESPONSE



NUMBER OF RESPONDENTS:

204

NUMBER OF INDIVIDUAL COMMENTS:

361

Many of the most commonly recurring themes addressed bike infrastructure beyond the scope of this study, requesting more bike lanes or safer bike lanes with physical buffers from vehicular traffic. Micromobility users and bikers alike reported that dangerous, high-speed, or unaware drivers or high traffic volumes made them feel unsafe while riding. Others also voiced concerns about biking on brick roads that could increase the risk of falling or injury. Some respondents also requested helmet rental or free helmet distribution. Others encouraged bike education through public bike tours or downtown biking events.

"The bike lanes are a patchy network that don't always connect in a way that makes sense, so I often have to go out of my way to follow the bike lanes. Because nearly all of the bike lanes are also unprotected, cars often don't care and will veer into the lanes or intentionally use them as space to pass each other."

"I usually end up locking to a street sign or a lamp post. And racks tend to be too far away from the entrance to a building for me to feel safe locking up [...]"

"There should be lighting, cover (from sun and rain) for bike parking, and generally heaps more bike racks throughout the business areas of downtown."

Of the parking related themes, requesting more bike and micromobility parking in general was common. Many also expressed theft concerns, not wanting to leave bikes outdoors or out of view from a building entrance, especially for long periods of time. Some requested more secure bike parking, like bike lockers, and other long-term bike parking infrastructure that is sheltered from weather. Better wayfinding signs to direct users to parking areas were requested. Others requested in-app instructions for micromobility parking guidelines.

There were also a fair number of complaints about micromobility parking and riding behaviors. The fifth most common theme amongst responses was sidewalk clutter complaints. Some users urged the city to restrict micromobility parking to designated staging areas only, or to institute fines for misparking. Others expressed safety concerns about micromobility riding on sidewalks, citing high speeds, dangerous riding, or underage users. A few micromobility users also expressed confusion about sidewalk riding rules.

"Riders should be penalized via an extra charge if they are the last one to ride a scooter or bike and leave them in the middle of a sidewalk. Neighborhoods specifically suffer from this. It makes the sidewalk less accessible or in some cases not accessible at all to kids, handicapped, and others."

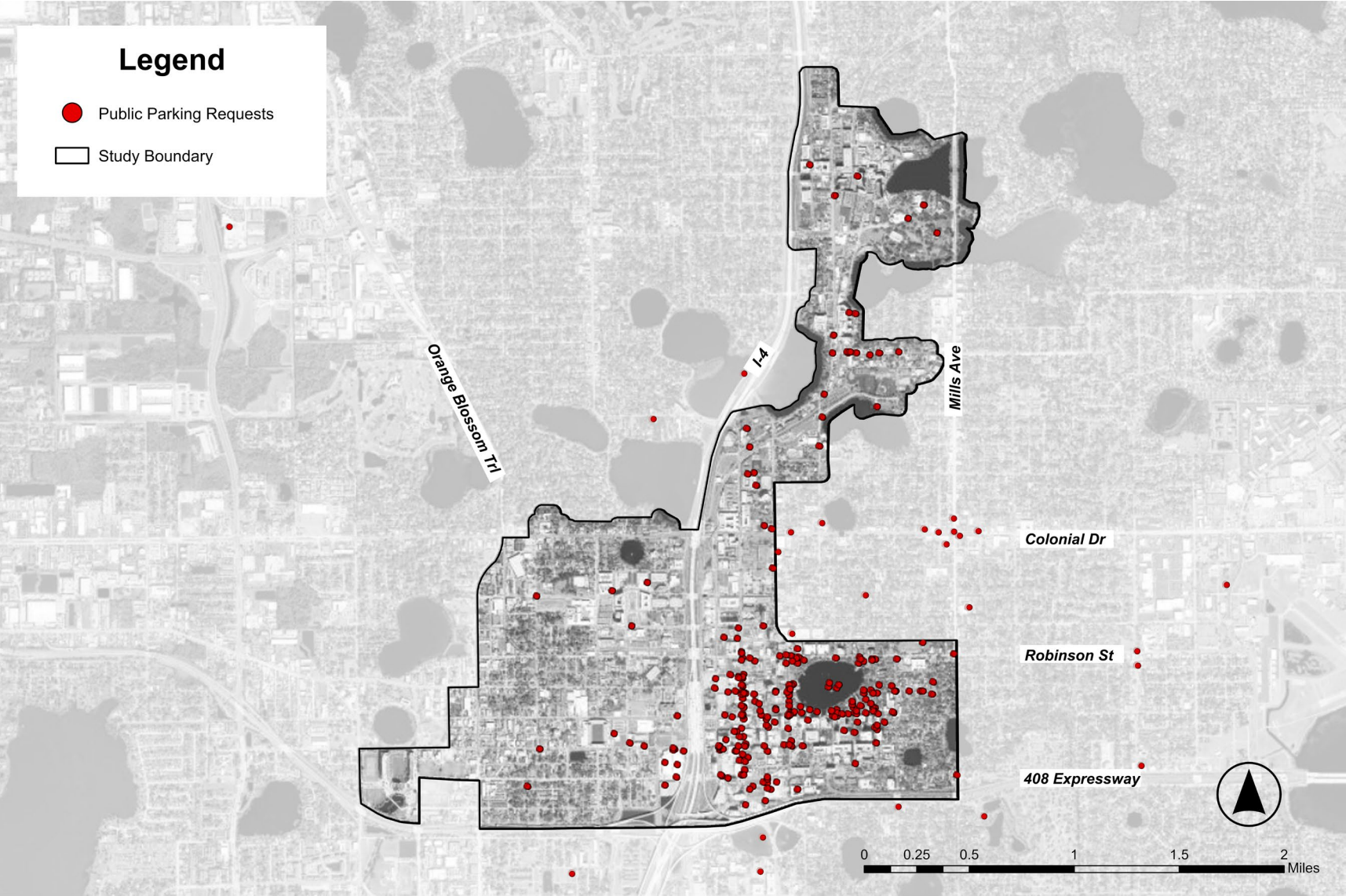
...

"Too many people don't apply safety when they use them, especially on sidewalks. I no longer shop much or walk around as much downtown because of them."

3.1.3. PARKING LOCATION REQUESTS

Survey respondents who reported bike or micromobility use were asked to place up to two points on a map indicating locations where they would like to see additional parking. This resulted in 287 points, 87 of which were outside the study boundary. **Figure 39** shows the locations of all parking requests. Many hotspot locations were recommended for parking, as further discussed in **Section 4.1**.

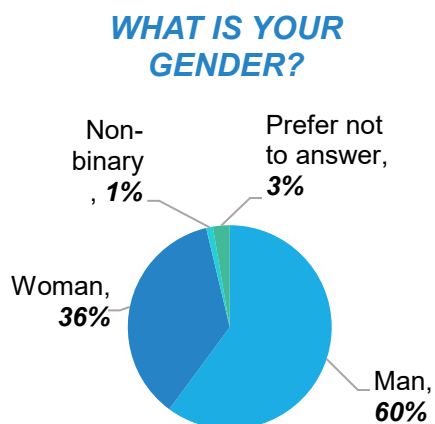
FIGURE 39: PUBLIC PARKING REQUESTS MAP



3.1.4. DEMOGRAPHIC DATA

Following the Bike and Micromobility Parking Survey, respondents could choose to answer six optional demographic questions. Of 192 respondents, 165 (86%) reported that they lived in Orlando, and 124 (65%) worked in Orlando. Of 189 respondent ZIP codes provided, the most common were 32801 (43%), 32803 (14%), and 32804 (10%). 50% of respondents indicated that they had lived in Orlando for over 10 years. Demographically, the respondents were predominately white and were disproportionately male. The most common age range of respondents was 35-44 years old. Detailed results of the demographic survey are depicted below.

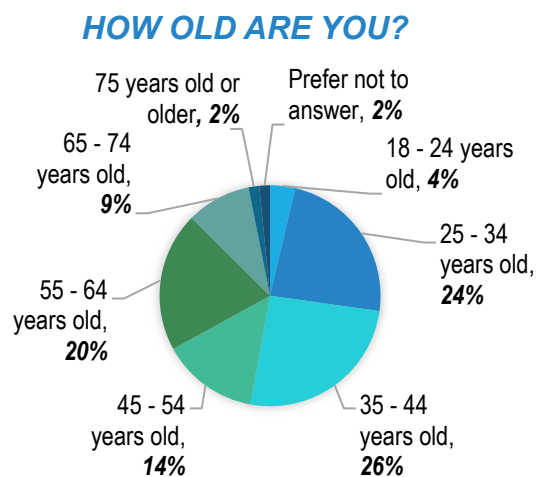
FIGURE 40: DEMOGRAPHIC SURVEY – GENDER



QUESTION TYPE: Select all that apply.

NUMBER OF RESPONSES: 188

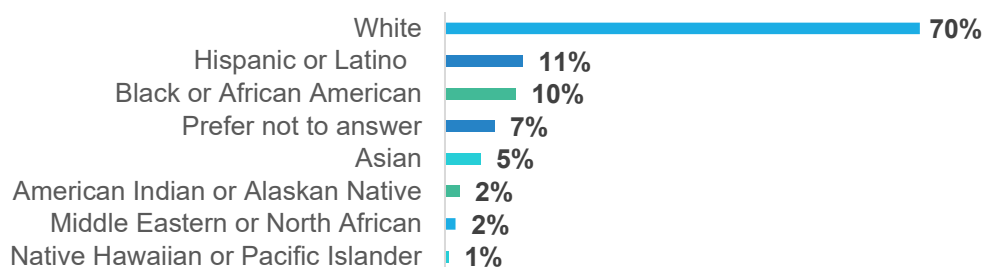
FIGURE 41: DEMOGRAPHIC SURVEY – AGE



QUESTION TYPE: Select one.

NUMBER OF RESPONSES: 191

FIGURE 42: DEMOGRAPHIC SURVEY – RACE OR ETHNICITY



QUESTION TYPE:

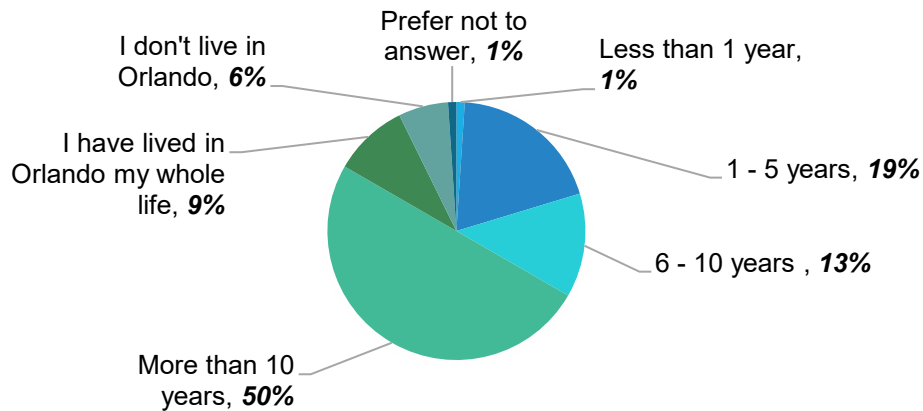
Select all that apply.

NUMBER OF RESPONSES:

190

FIGURE 43: DEMOGRAPHIC SURVEY – DURATION OF ORLANDO RESIDENCY

HOW LONG HAVE YOU LIVED IN ORLANDO?



QUESTION TYPE:

Select one.

NUMBER OF RESPONSES:

192

3.2. COMMUNITY OUTREACH SUMMARY

The Community Outreach section details how the City of Orlando actively engaged the public to gather feedback on bike and micromobility parking through a comprehensive outreach plan and an online survey conducted in early 2026. The survey, which garnered 278 viable responses, provided insights into usage patterns, key trip types, safety concerns, and parking preferences. Over half of respondents had used personal or rented bikes or scooters in the past year, primarily for recreation, outdoor activities, errands, or attending events. The most requested improvements were increasing the number of parking locations and providing clearer signage. Notably, those who do not currently use micromobility devices cited safety concerns as a major deterrent, expressing that safer bike lanes would encourage greater use.

Free-response feedback underscored public demand for more bike lanes with physical barriers, enhanced safety from traffic, secure parking options (such as lockers and weather-protected facilities), and clearer wayfinding, both in signage and in-app guidance. Respondents also highlighted issues with sidewalk clutter and improper parking or riding behaviors, requesting stricter enforcement and education. Location-based input revealed key hotspots for additional parking, many of which aligned with study recommendations, while others were not prioritized due to existing infrastructure or other planning considerations. Demographic data showed most respondents live and work in Orlando, tend to be long-term residents, and are predominantly male and white, with the largest group aged 35–44. Overall, the public's input reflects a strong desire for safer, more accessible, and better-managed bike and micromobility parking downtown.

4. Results and Implementation

4.1. RESULTS

After mapping existing infrastructure, the current bike and micromobility parking inventory was analyzed to identify any prominent gaps. Ridership data, parking activity data, and the most-ridden route data were compared with the existing parking infrastructure to identify areas where current facilities align with or may not adequately serve micromobility demand. This data aggregated counts from all three of the city's micromobility providers and covered the period between January 1, 2019 (earliest available data) and August 22, 2025. Route data from Populus was referenced against 2024 origin and destination data from Strava Metro to ensure consistency between the two data sets. Recommendations for new parking locations were placed along the most travelled routes and adjacent to highly frequented businesses. As these locations were concentrated in the city's Central Business District, recommendations were made to meet the standard of one bike rack per block face in the City District. Access was also a major consideration in recommended parking locations. New bike parking locations were recommended in every main street district except for Creative Village, which already has a good distribution of bike parking which will grow as the area continues to see new development and redevelopment.

Only sites that could accommodate the APBP's standards for bike parking placement were recommended for new bike racks. Parking recommendations were developed exclusively within the public right-of-way or on city-owned property and were screened to ensure they do not compromise public safety or conflict with ADA requirements.

Recommended designated staging areas were chosen by reviewing the locations of informal staging observed during data collection. Informal staging areas that had a high volume of micromobility devices (5+), were in high-demand areas, and/or were over a block from the nearest designated staging area were prioritized to be formalized. A designated staging area was also recommended at the FAMU Law campus in Parramore Zone 2 due to an expressed interest in increasing access to micromobility.

Electrified parking areas were recommended at five locations: LYNX Central Station, City Hall, the Orange County Courthouse, Art² Park, and the Callahan Neighborhood Center. These sites are all major hubs that have access to an existing power source.

The study identified a baseline number of "public bike parking locations" to update and support the related performance measure in the future Orlando Bike Plan update. The baseline number of public bike parking locations established in this study may support an associated performance measure in the upcoming Bike Plan update and serve as a benchmark against which future progress can be evaluated. A total of 70 recommended parking locations were identified: 50 bike racks, 10 designated staging areas, 5 on-street parking corrals with a combination of

micromobility staging and bike parking, and the 5 electrified parking areas. Of the 50 bike rack recommendations, those in areas of greatest need were identified to create a priority list of 20 traditional bike parking locations, along with five of the 10 designated staging location, shown by district in **Table 17**. A map of recommended parking locations is shown in **Figure 44**. Locations for new bike and/or micromobility parking facilities were reviewed on site to verify that proposed infrastructure is contextually appropriate.

A spatial analysis was used to develop the priority list, emphasizing areas with parking infrastructure gaps, elevated multimodal travel demand, and opportunities to support electrified bicycle parking. Further spatial analysis was conducted using the public parking request locations obtained from the Bike and Micromobility Parking Survey. Two hundred requested locations were within the study boundary. Those within 100 feet of an existing bike rack or formal staging area were removed from consideration.

A heat map of the remaining points was made to assess concentrated areas of requests. Many hotspot locations were recommended for bike/micromobility parking: Deeply Coffee, Church Street Market, the 300 South Orange office building, Orange Avenue just north of Robinson Street, and near the intersection of Central Boulevard and Magnolia Avenue.

Recommendations were not made at Lake Eola Park so as not to conflict with the Lake Eola Masterplan's addition of 100 bike racks, as discussed in **Section 2.2.5**. Additional parking was not recommended at the Kia Center or the Dr. Phillips Center for Performing Arts due to comparative high volumes of bike racks and staging areas, however, it is recommended to explore opportunities to implement long term bike parking in the ThreatLocker Parking Garage. Lastly, the hotspot at the intersection of Virginia Drive and Alden Road is approximately 250 feet west of existing bike racks. The heat map of requested parking locations overlaid with priority locations can be found in **Figure 45**.

The remaining 30 bike racks that were identified but not prioritized should still be implemented as there is a demonstrated need for more bike parking infrastructure in downtown Orlando. The full list of all 70 recommended locations and maps of recommendations by main street district can be found in **Appendix F**.

TABLE 17: PARKING RECOMMENDATIONS BY DISTRICT

	Creative Village	Parra-more Zone 1	Parra-more Zone 2*	City District	Ivanhoe Village	Thornton Park	Outside Main Street Districts	TOTAL
Bicycle Parking	0	6	4	6	1	2	1	20
Designated Staging	0	0	1	2	1	0	1	5
Parking Corral	0	2	0	0	2	0	1	5
Electrified Parking	0	0	0	2	0	0	3	5
TOTAL	0	8	5	10	4	2	6	35

*Does not include Creative Village

FIGURE 44: RECOMMENDATIONS MAP

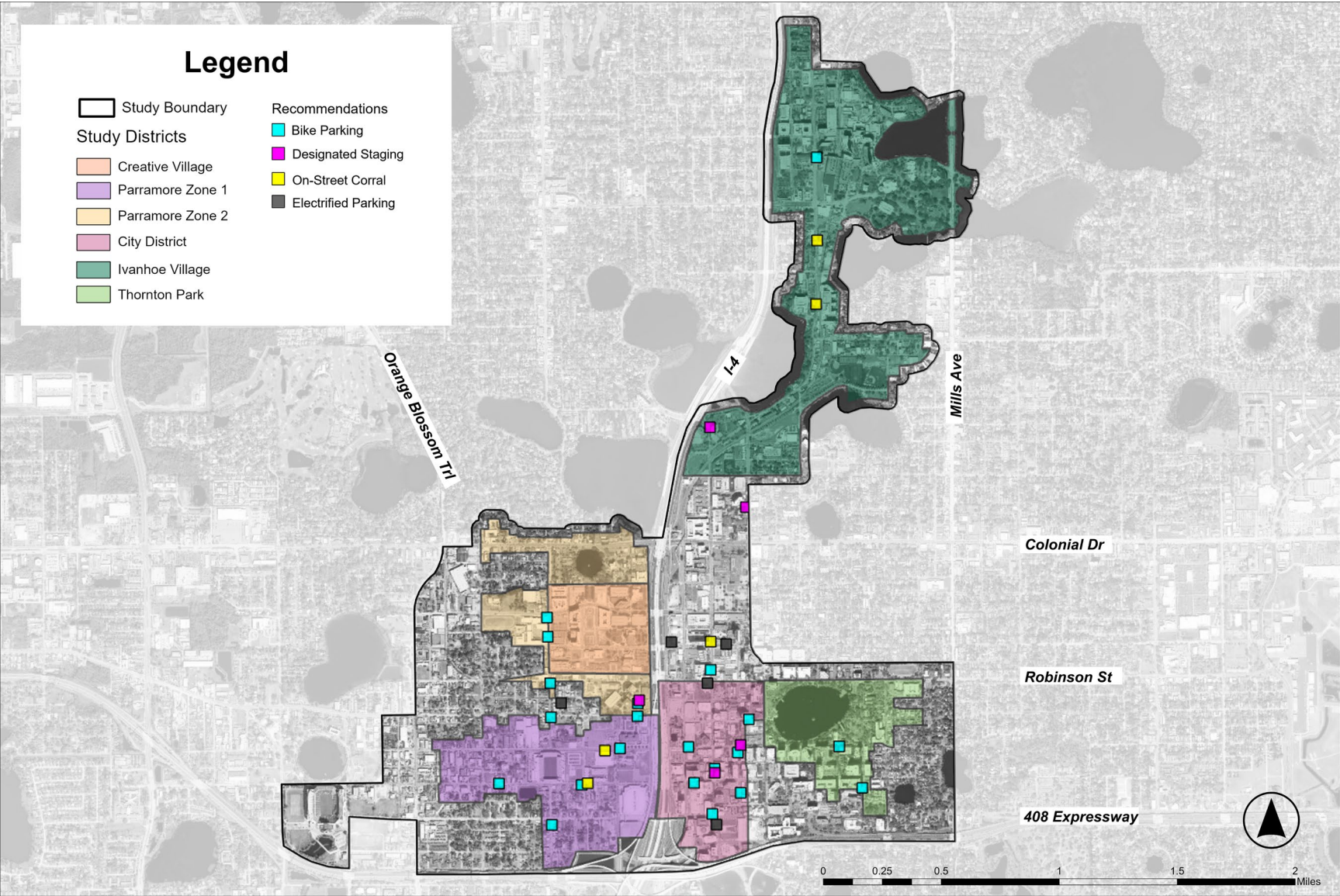
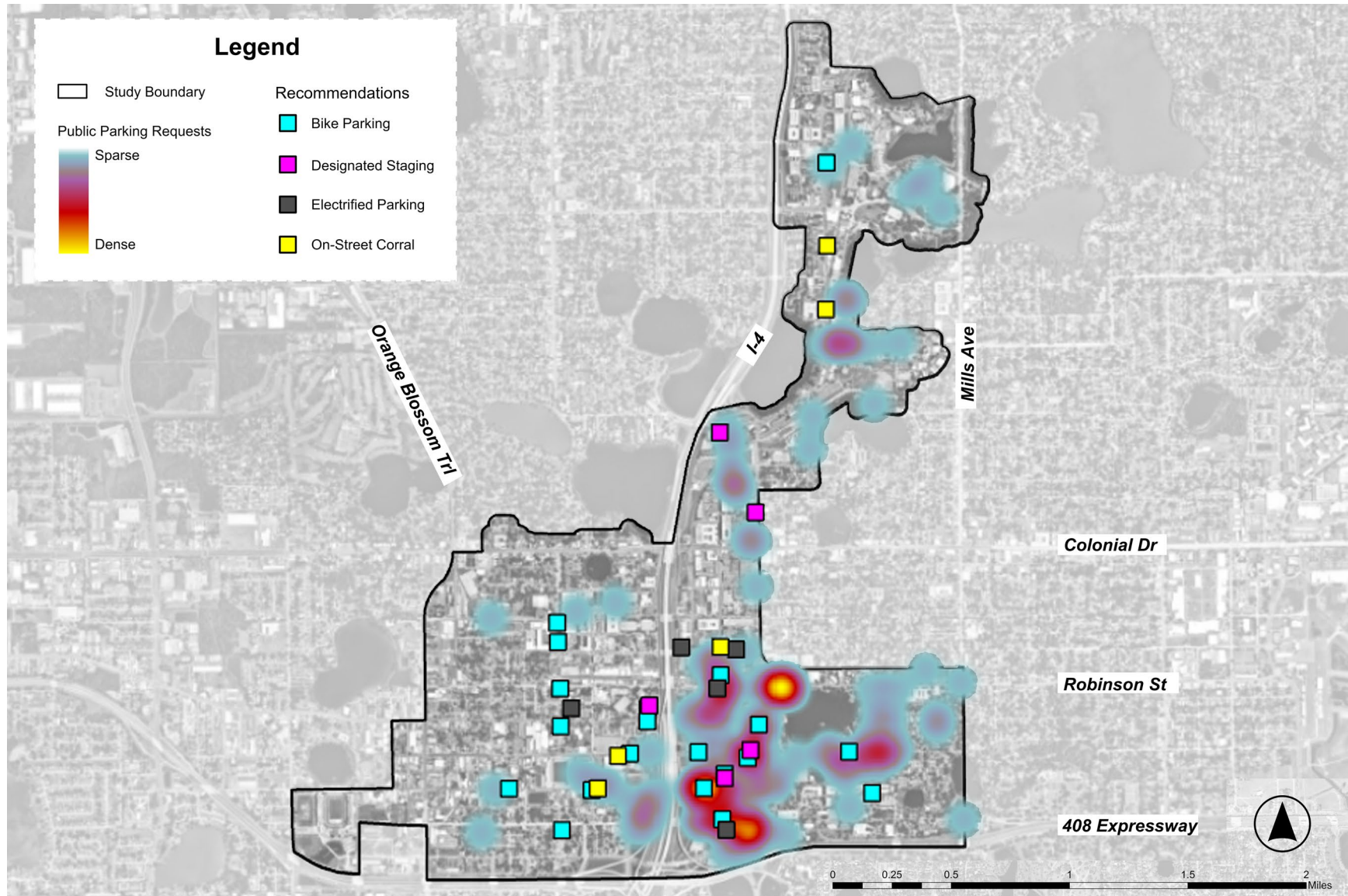


FIGURE 45: PUBLIC PARKING REQUESTS HEATMAP AND RECOMMENDATIONS MAP



4.2. NEXT STEPS

Recommendations identified in this study represent opportunities to improve bike and micromobility parking throughout Orlando's downtown districts. Realizing this vision will require coordinated effort across city departments, partnering organizations, and private stakeholders. The following section outlines priority next steps, including opportunities to integrate parking improvements into upcoming construction and redevelopment projects.

While the City has existing funding mechanisms to support bike and micromobility parking installation, the volume of need identified in this study suggests that additional funding and maintenance strategies will be important to pursue over time. Maintaining the quality and usability of existing facilities is equally important to expanding the network. Potential avenues for additional funding include coordination with micromobility vendors, CRA programs, Main Street organizations, private developers, and venue operators. A more comprehensive funding and maintenance strategy could be considered as part of the upcoming Bike Plan update.

4.2.1. PARKING RECOMMENDATIONS FOR FUTURE PROJECTS

As mentioned in **2.2.5 – Adjacent Projects**, several key locations in Orlando's main street districts and beyond will be undergoing construction or redevelopment in the years to come. Improvements to the Camping World Stadium and its surrounding streets present opportunities for parking infrastructure improvements. Widened sidewalks and enhanced streetscapes along Rio Grande Avenue will allow for bike racks to be placed at regularly spaced intervals between street furniture, similarly to how the three existing bike racks are placed just north of South Street. During construction would also be an appropriate time to replace the existing rack that is severely dented. Additionally, higher density racks may be placed away from the streets near each of the entrance gates. Micromobility staging should be implemented in the furniture zones at the stadium's northwest, northeast, and southeast corners, and may similarly be placed between planters and bollards along Church Street. During construction at both Lake Eola Park and Camping World Stadium, rack types prohibited in the City of Orlando Code of Ordinances, including wave racks and hanger racks, should be replaced with u-racks or post-and-ring racks.

As previously discussed, the Lake Eola Masterplan sets a goal of 100 short-term bike parking spaces, which would triple the current amount of bike parking. Since Lake Eola Park is a "no-roll zone", these parking locations should be located at each of the park's entrances to better enforce this policy. Many of the park's popular gateways currently lack bike parking, including the park's northwest corner at the intersection of Robinson and Eola Drive, the pathway across the street from the Publix at 400 E Central Boulevard, the entrance next to the Centered Eye sculpture, and the entrance leading to the Butterfly Sculpture Garden. Bike parking near the Walt Disney Amphitheater and the swan boat rental station are also limited and could be expanded. Additional

designated staging areas would also benefit the park, as informal staging often occurs in high volumes at the aforementioned locations, especially at the park's northern entrance across from Washington Street and at the corner of Robinson Street and Eola Drive. While the furniture zone could accommodate new staging areas or bike parking at these locations and at the entrance near the corner of Central Boulevard and Eola Drive, the sidewalk is often too narrow on Robinson Street and Eola Drive—and in the case of Central Boulevard—obstructed by on-street parking. Therefore, future park improvements, including the pocket park expansion and the Lake Eola Gateway Entrance project, should incorporate bike parking and micromobility hubs. Recommended hub locations should account for existing no-ride zones and GPS drift to reduce the likelihood of parking and riding violations.

Other pocket park projects in Downtown Orlando and Orlando's main street districts should also consider bike and micromobility parking in their plans. Art² (Art Squared) is an urban pocket park located at the southwest corner of Robinson Street and Orange Avenue that opened to the public on October 11, 2025. An electrified parking station has been recommended at this location. Although there are seven u-racks located outside the furniture zone down the block next to the Seacoast Bank, two new u-racks were installed outside the park on Orange Avenue and Robinson Street. Just a few blocks south, the city has made progress in renovating another downtown pocket park at 30 South Orange Avenue. The space currently features a mural and periodically changing public art but is being reimagined as a more robust public space, with renderings depicting food service, water features, and seating options. Although there are a handful of bike racks within the immediate vicinity of 30 South Orange, one of these racks is dented and in need of replacement. Furthermore, the introduction of vendors and other features will increase the demand for higher density bike parking and micromobility staging. Although the furniture zone is large enough to accommodate parking, these features could also be incorporated into the park's design. Outside downtown, plans for a pocket park in Ivanhoe Village on Virginia Avenue are underway. The park, located on the plot just southwest of 140 Ferris Avenue, will serve as green space between Mills Avenue and Gaston Edwards Park. Conceptual plans from 2024 show the inclusion of a bike rack on what is currently a grass shoulder that must be paved. A designated staging area could also be incorporated into this paved space, as the area lacks micromobility parking. The conceptual plan also shows the inclusion of a security camera, which would be helpful in deterring or remedying bike theft.

Finally, Magnolia Avenue is planned for several improvements, including roadway changes, expanded sidewalks and bike lanes, and new pocket parks, with the intention of transforming it into downtown's main street. The conversion of Magnolia Avenue into a two-way street is intended to increase street parking while also increasing pedestrian access and realigning transit routes. A new dog park is planned for the intersection of Livingston and Magnolia—an area lacking bike parking. One formal micromobility staging area exists here, but it is not large enough

to accommodate the high volume of devices often being parked. With increased pedestrian traffic and plans for universal streetscapes and festival/event streets, bike and micromobility parking should be incorporated into improvement plans. Although sharrows and bike lanes are included in the city's construction plans, sites for bike parking and micromobility sites have not been identified. Plans for Magnolia Avenue's improvements should aim to meet the goals of bike parking and micromobility staging on every block face, with higher volumes for large trip generators for public spaces.

5. Summary

Final recommendations address e-scooters, e-bikes, one-wheels, and other emerging micromobility devices in addition to traditional scooters and bicycles (including recumbent, tandem, and cargo bikes). Recommendations are informed by and will support the “bike parking basics” outlined in the 2020 Bike Plan:

- Security
- Installation
- Visibility
- Access

Work orders will be prepared for the installation of additional bike, scooter, and micromobility parking within city right of way. To streamline delivery, work orders will be bundled together by approval district (e.g., Main Street, CRA, Historic, etc.)

This report provides a clear yet flexible framework for evaluating existing facilities and implementing new or expanded micromobility infrastructure. It enables consistency across districts while respecting each district’s unique character and needs, aligns with established best practices, and identifies opportunities to develop tailored approaches that reflect the needs of the Orlando community. Through this process, the City of Orlando will not only meet local micromobility current and future demands but also position itself as a leader in micromobility management.

Appendix A: Review of Micromobility Parking Practices Memorandum – Toole Design

Appendix B: Access & Micromobility in the City of Orlando – ASHA Planning Consultancy

**Appendix C: City of Orlando Micromobility
Parking Study – Crash Analysis – ASHA Planning
Consultancy**

Appendix D: Existing Bike and Micromobility Parking Inventory

Appendix E: City of Orlando Code Review

Appendix F: Recommendations

Appendix G: Public Outreach Summary