



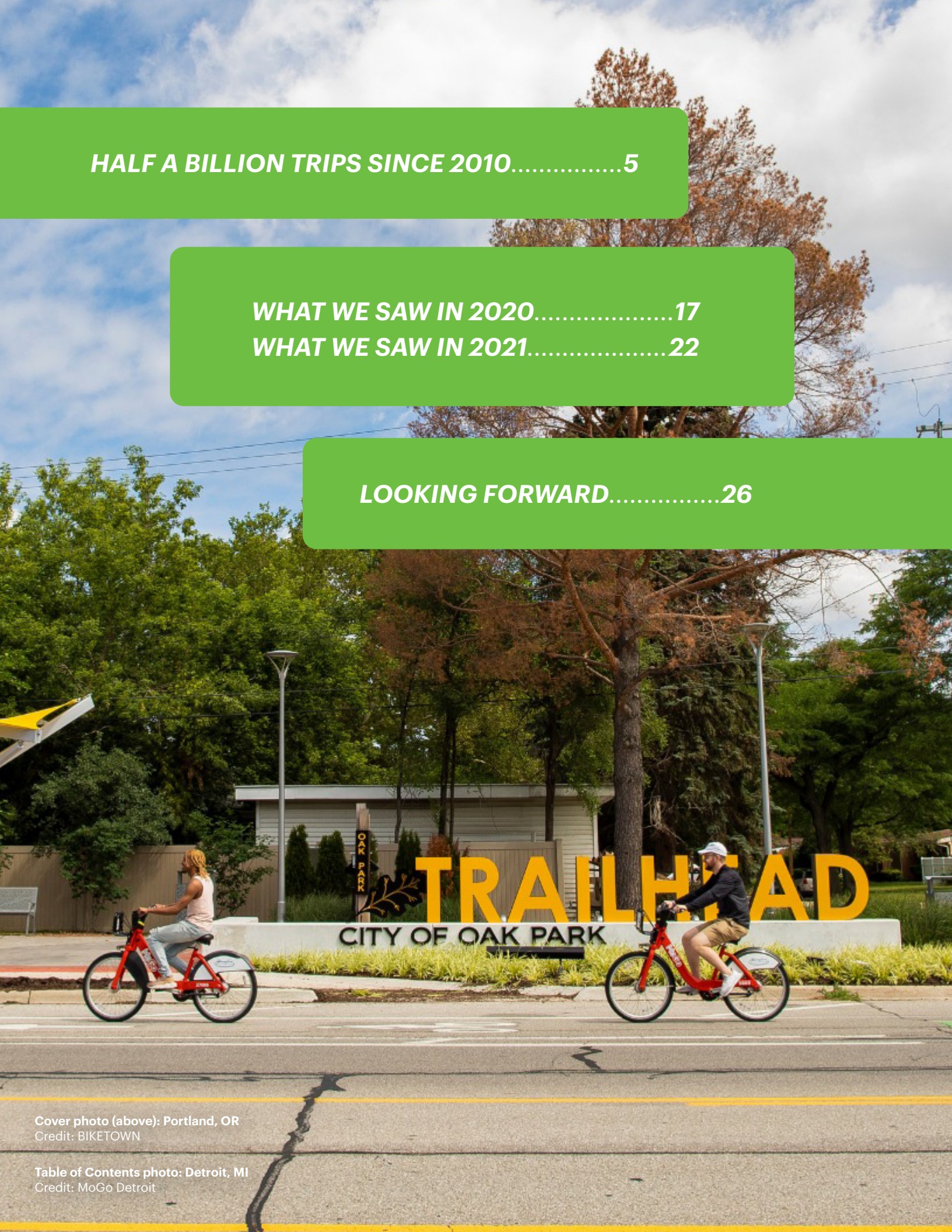
# HALF A BILLION



# TRIPS

On Shared Micromobility  
Since 2010





**HALF A BILLION TRIPS SINCE 2010.....5**

**WHAT WE SAW IN 2020.....17**

**WHAT WE SAW IN 2021.....22**

**LOOKING FORWARD.....26**

Cover photo (above): Portland, OR  
Credit: BIKETOWN

Table of Contents photo: Detroit, MI  
Credit: MoGo Detroit





## BACKGROUND

Since the first modern North American bike share system launched in Montreal in 2009, shared micromobility has become a source of innovation, freedom of movement, and resilience. Though it first began as a transportation option in a few cities, shared micromobility quickly exploded in popularity. Today, shared micromobility programs operate in dozens of regions across North America under established, well-regulated models that benefit operators, cities, and riders alike.



Shared micromobility has ushered in a transportation revolution, providing safer, cheaper, and more accessible ways for people to get around. Building on previous reports, NACTO's 2020-2021 Shared Micromobility in the U.S. Report encapsulates the significant changes that have occurred since 2020, and the trends that emerged within shared micromobility programs that are likely to continue into 2022 and beyond.



Philadelphia, PA  
Photo: J. Fusco for VISIT PHILADELPHIA®



# Half a Billion Trips on Shared Micromobility Since 2010

**65**  
MILLION TRIPS  
in 2020

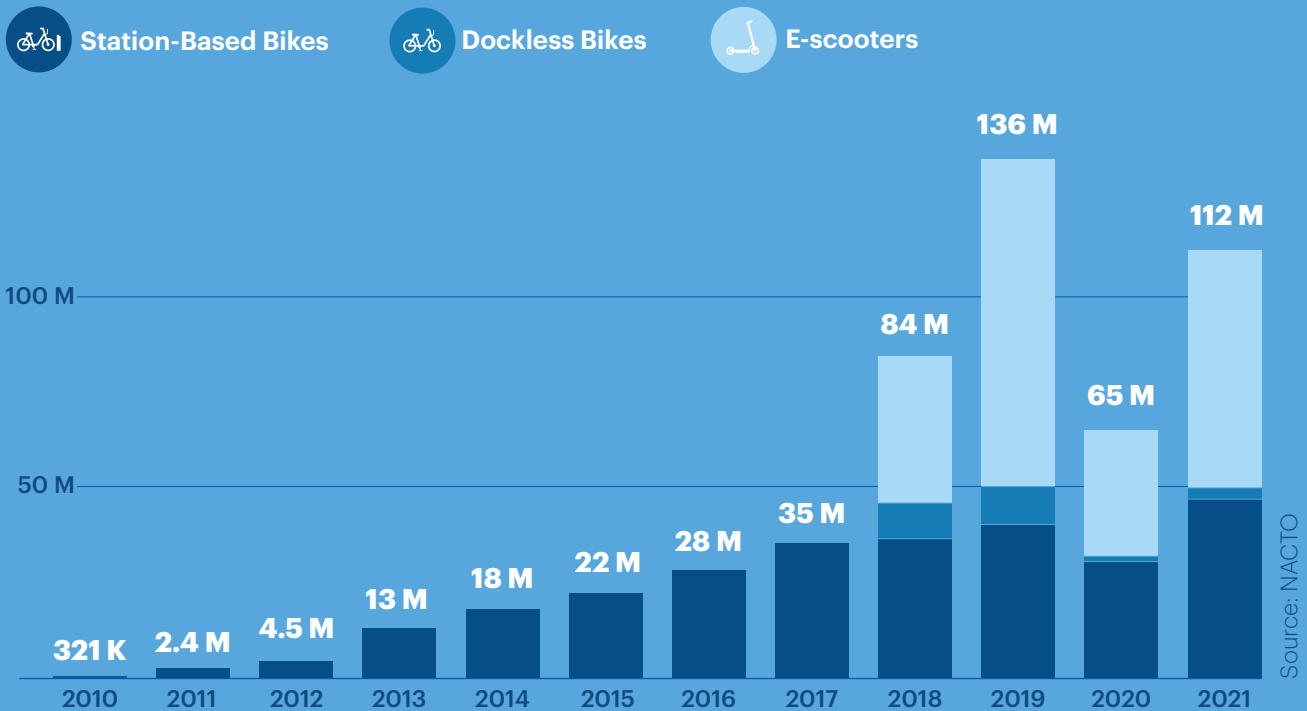
**112**  
MILLION TRIPS  
in 2021





# Shared Micromobility Ridership in the U.S. from 2010-2021

IN MILLIONS OF TRIPS



Since the introduction of the country's first bike share system in 2010, people in the U.S. have taken **half a billion** trips total on shared micromobility.

Despite a 70% decrease in travel across all modes in 2020 due to the COVID-19 pandemic, shared micromobility ridership in the U.S. nearly rebounded to pre-pandemic levels in 2021, with **112 million** trips. Over the course of the year, people took **47 million** trips on station-based bike share systems, **62.5 million** trips on dockless e-scooters, and **2.5 million** trips on dockless bikes in the U.S.—a sharp contrast with 2020, when people took only **65 million** trips across all shared micromobility modes.

Ridership on station-based bike share systems, which typically operate under a public-private partnership business model, was particularly stable compared to other modes. In 2020, people took **30.5 million** trips on station-based bike share systems, 24% fewer than in 2019 (40 million trips). But by 2021, ridership had rebounded to 18% above pre-pandemic levels, with **47 million** trips on station-based systems. Strong partnerships between cities and operators ensured consistent availability of devices throughout the pandemic, and cities continued to invest in station-based systems (see [Equitable Service Expansion](#) below).





San Marcos, TX  
Photo: Spin



Kansas City, MO  
Photo: RideKC Bike

## In total, people took 33 million trips on shared e-scooters in 2020, compared to 86 million in 2019.

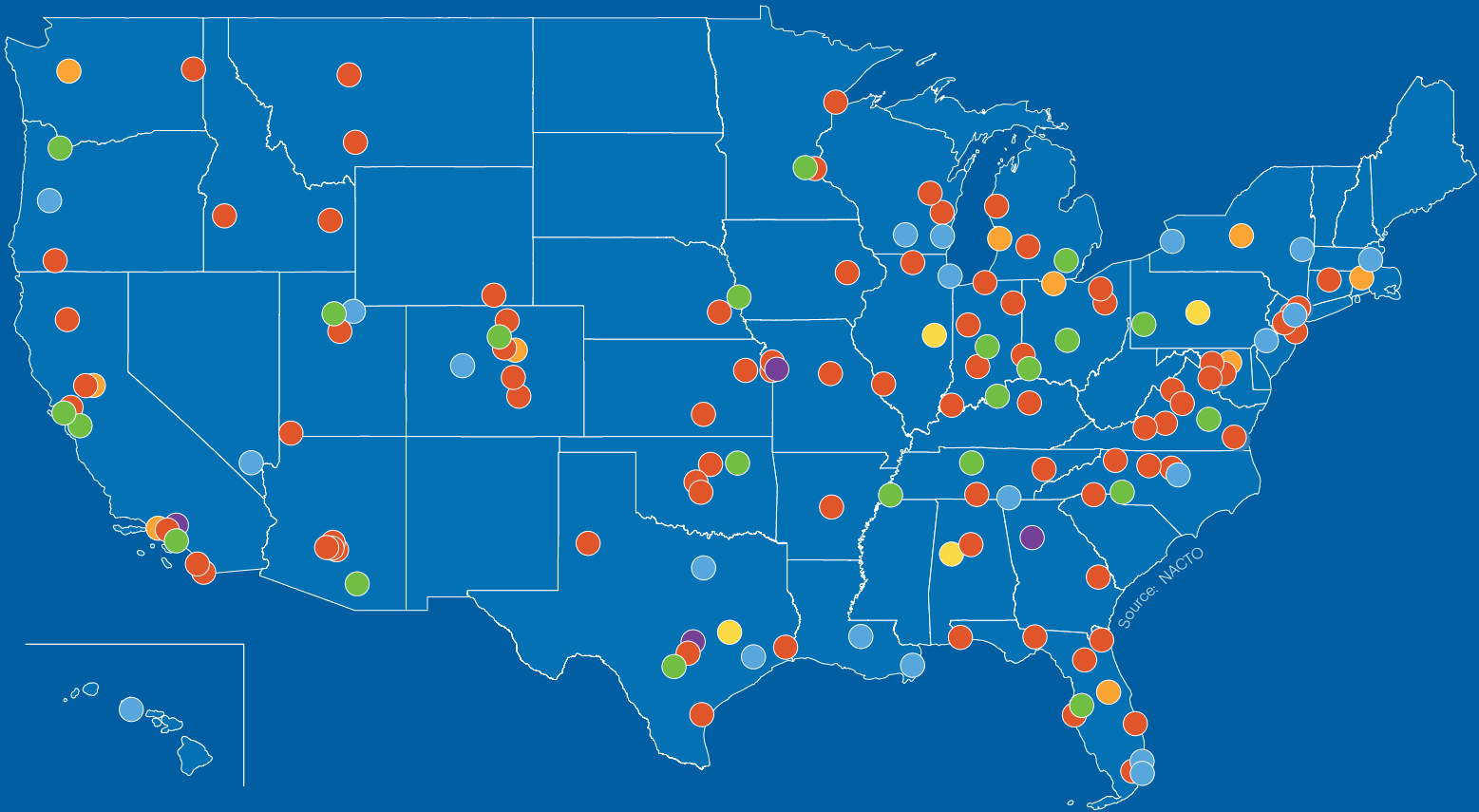
Dockless e-scooters and bikes saw more dramatic drops in ridership in 2020. Operators pulled out of dozens of cities in spring 2020 amid workplace and school closures, or on the heels of company-wide layoffs, leading to an overall decrease in the availability of dockless systems in 2020. That year, ridership on dockless bike and e-scooter systems fell by 64%. In total, people took **33 million** trips on shared e-scooters in 2020, compared to 86 million in 2019.

Dockless bikes first launched in U.S. cities in 2018, and accounted for almost half of all shared micromobility trips. In part because of consolidation in the private sector market, dockless bikes have become much less common. However, dockless bikes are still an important component of micromobility in 10-20 cities across the U.S., accounting for **1.5 million** trips in 2020.

In 2021, shared e-scooter and dockless bike operators began to re-enter new and existing markets, but did not recover as quickly as station-based systems. Dockless e-scooter trips nearly doubled from 2020 (33 million) to 2021 (62.5 million), making up 56% of all shared micromobility trips that year. But the number of trips in 2021 remained 27% lower than in 2019 (86 million).



# Shared Micromobility Across the US

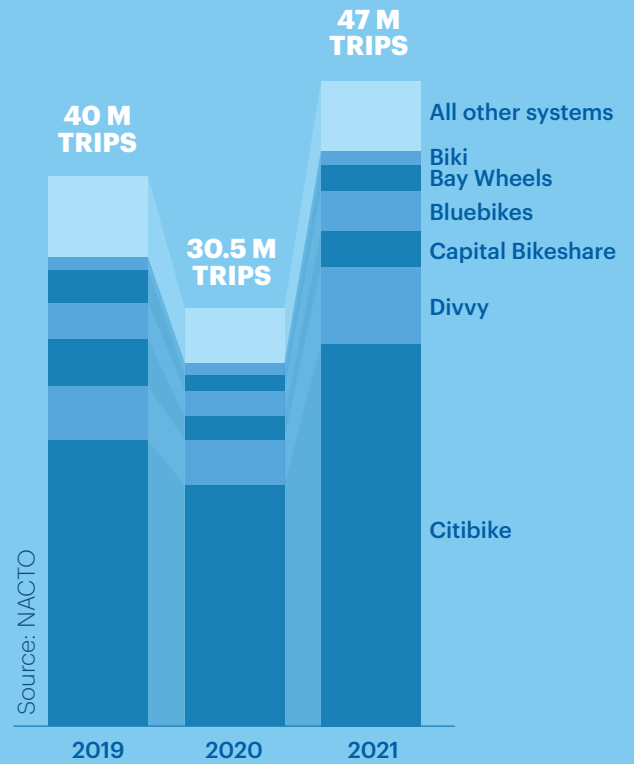


- Station-based bikes, dockless bikes, and e-scooters
- E-scooters only
- Dockless bikes and e-scooters
- Dockless bikes only
- Station-based bikes and e-scooters
- Station-based bikes only

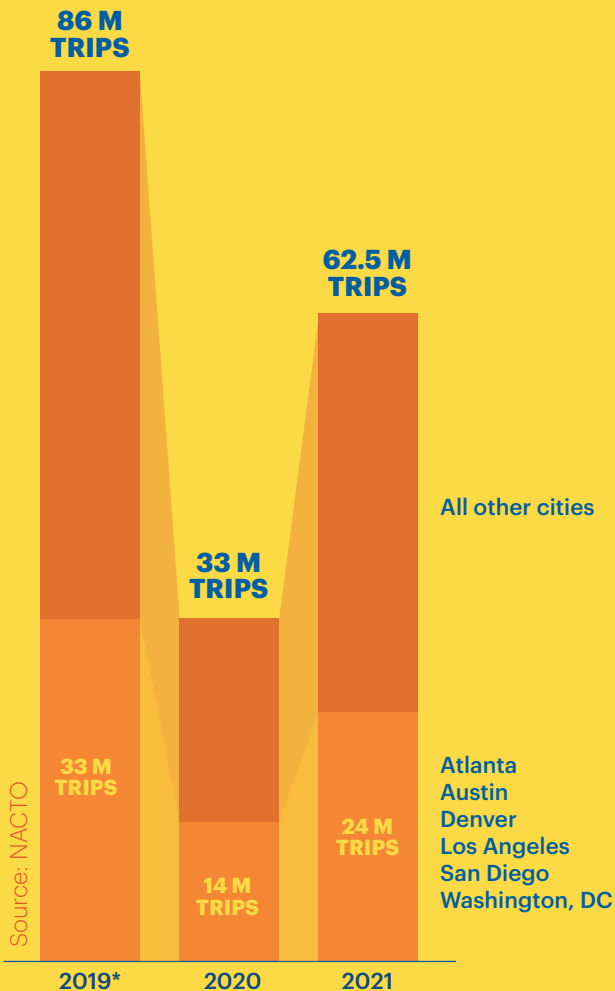




## Station-Based Bike Share Ridership 2019-2021



## E-Scooter Ridership 2019-2021



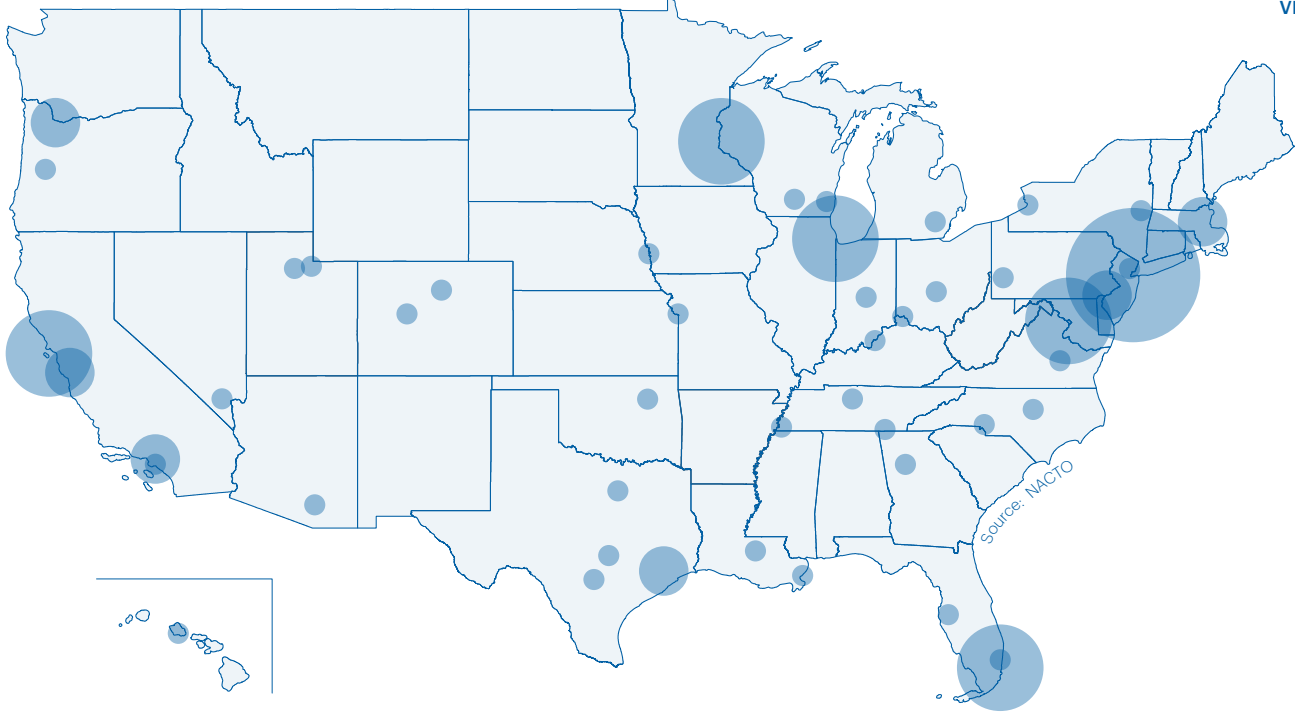
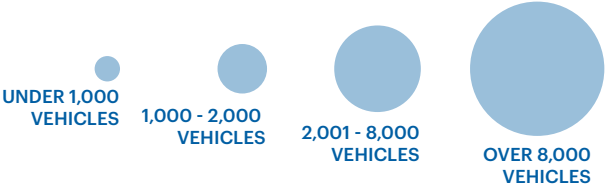
\*2019 cities included: Atlanta, Austin, Dallas, Los Angeles, San Diego, Washington DC

The majority of station-based bike share trips continue to be concentrated in a small number of cities. More than four-fifths (86% in 2020 and 89% in 2021) of station-based bike share trips nationwide took place in just six places: the San Francisco Bay Area, Greater Boston, Chicago, Honolulu, New York City, and Washington, DC. These cities all use public-private partnership frameworks for providing shared micromobility services to the public. Ridership is more widely distributed among e-scooter share systems; about two-fifths (41% in 2020 & 39% in 2021) of e-scooter share trips took place in six cities: Atlanta, Austin, Denver, Los Angeles, San Diego, and Washington, DC.



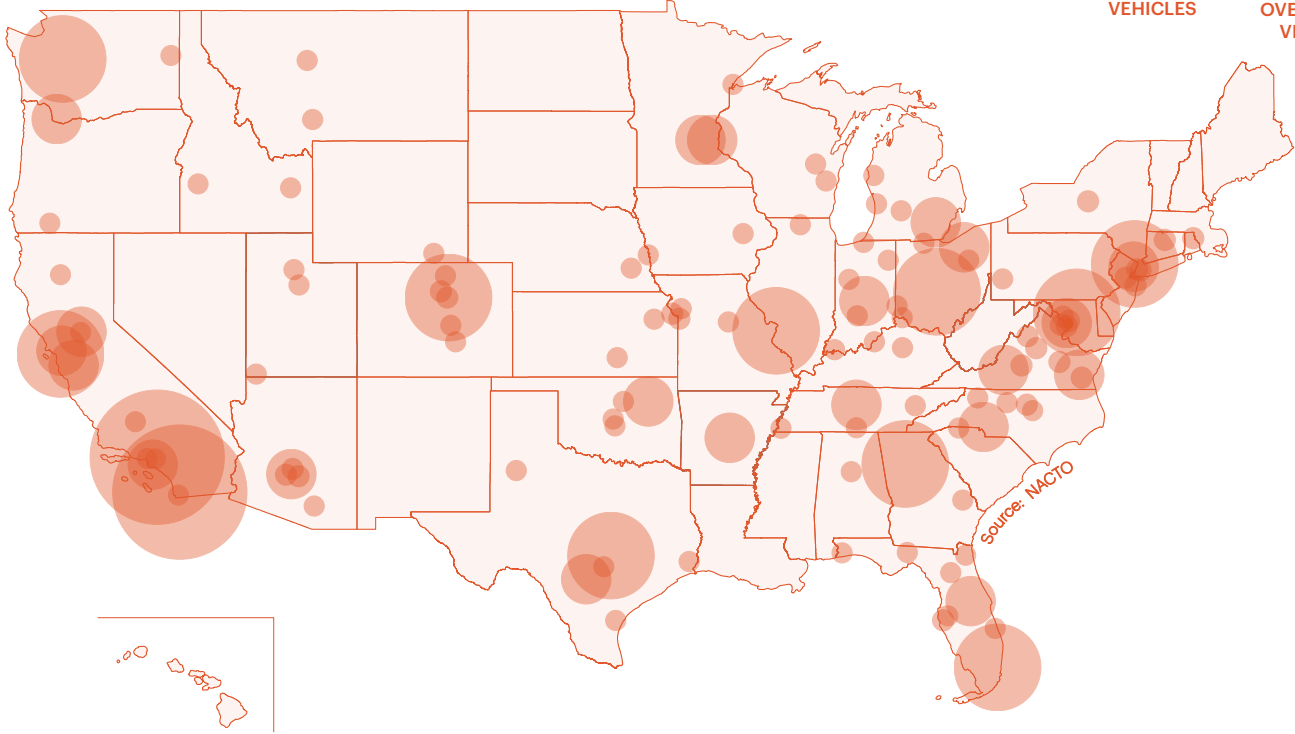
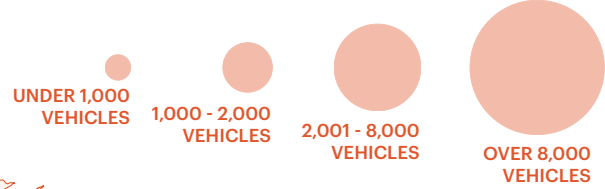
# Station-Based Bike Share System Sizes

2021



# Scooter Share System Sizes

2021



# Major Trends



## BIKE SHARE AND THE E-BIKE BOOM

Beginning in March 2020, when trips on all modes of transportation dropped by nearly 70% nationwide and typical commuting patterns disappeared, people found new ways to get to work, to school, and to other daily activities, using bikes, e-scooters, and mopeds. Bike sales skyrocketed in 2020 and 2021; across the two years, people in the U.S. spent \$15 billion on personal bicycles and bike accessories. A major driver of this bicycle boom? Shared micromobility, and more specifically, shared electric bikes.

Shared e-bike trips nearly doubled from 9.5 million in 2018 to 17 million in 2021. The growth in shared e-bike trips can be almost entirely attributed to the adoption of e-bikes in station-based systems. By the end of 2021, **two-thirds** of station-based bike share systems had e-bikes, and a **quarter** of all station-based system bikes in the U.S. were electric. Riders took 14.5 million e-bike trips in station-based systems in 2021—an almost 30-fold increase over 2018 (500,000 trips).

The popularity of shared e-bikes will only grow in the coming years, especially as e-bike sales begin to outpace those of electric vehicles. Following the lead of Madison, WI—the first U.S. bike share system to transition to an all-electric fleet—a growing number of cities overhauled their systems to make them entirely electric. Charlotte, Portland, OR, and Boulder, CO all introduced electric-only systems in 2020 or 2021, hoping to provide faster trips for a broader range of riders.



## NEW TRAVEL PATTERNS

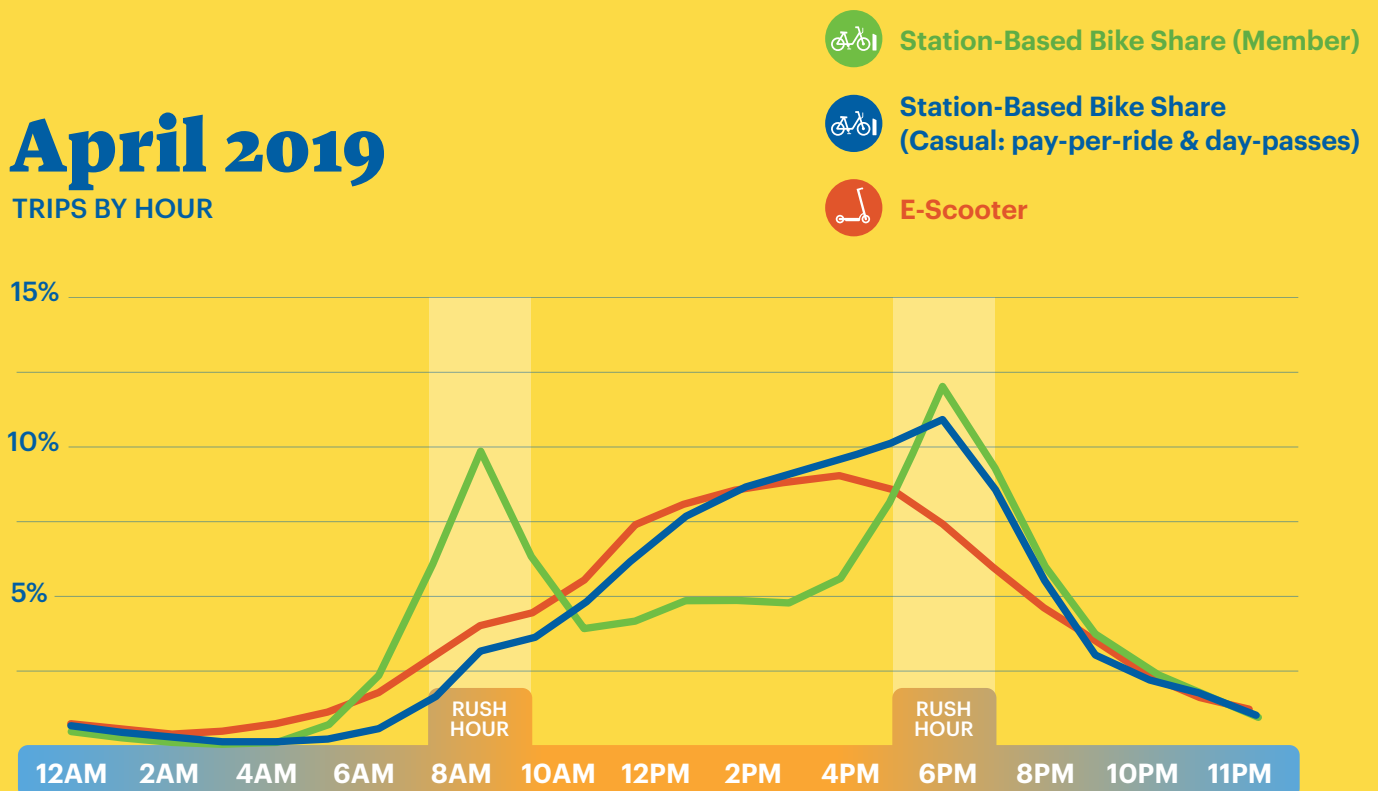
**Trip patterns—when, where, and why people ride—changed dramatically from before the pandemic.** Where bike share systems previously saw pronounced ridership spikes during traditional rush hours, data from 2020 and 2021 showed a shift away from the AM rush hour and towards increased trips throughout the day. Several factors may be at play, including changes in travel patterns, an increase in hybrid work and work-from-home policies, increased use of shared micromobility services (especially by essential workers at off-peak hours), and a general shift toward a wider range of trip purposes.

As people returned to in-person activities in 2021, trip patterns among bike share members—people who purchase annual or monthly passes—showed three distinct peaks during the morning, midday, and evening periods.

The share of casual trips—trips taken by people who purchase a single ride or day pass instead of a membership—increased significantly over the past two years. Previously, most rides among the top five most heavily-riden bike share systems were taken by monthly or yearly members. Throughout 2020, as many people’s work and travel schedules were disrupted by the pandemic, trip patterns shifted: people holding monthly and annual passes took 16% fewer rides than before the pandemic, while the number of pay-as-you-go and day-pass rides increased by 54%.

### April 2019




TRIPS BY HOUR

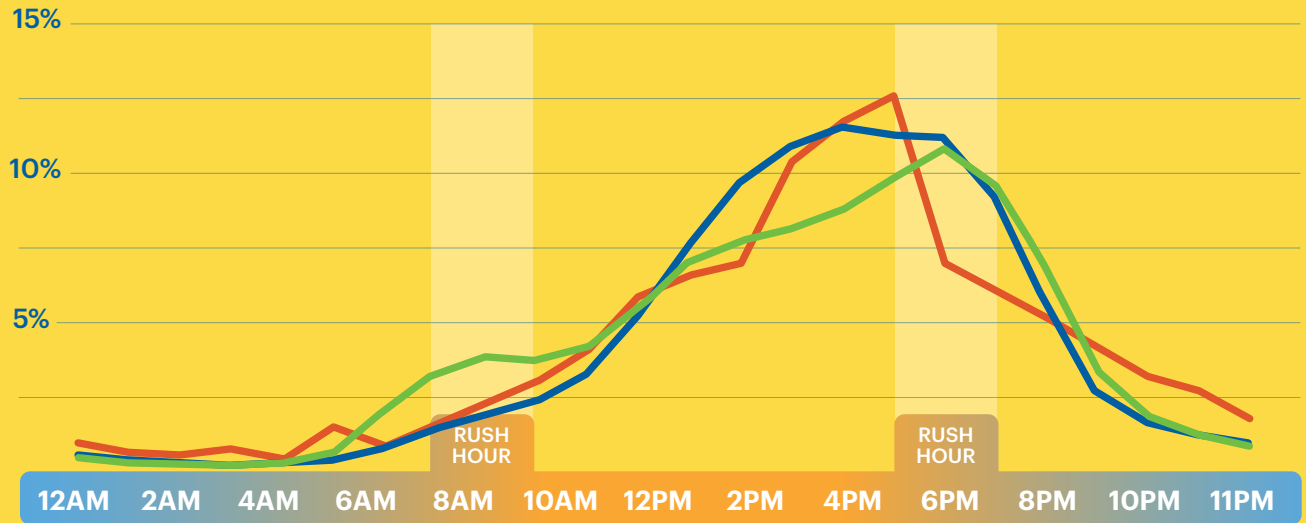


Source: NACTO

# April 2020

TRIPS BY HOUR

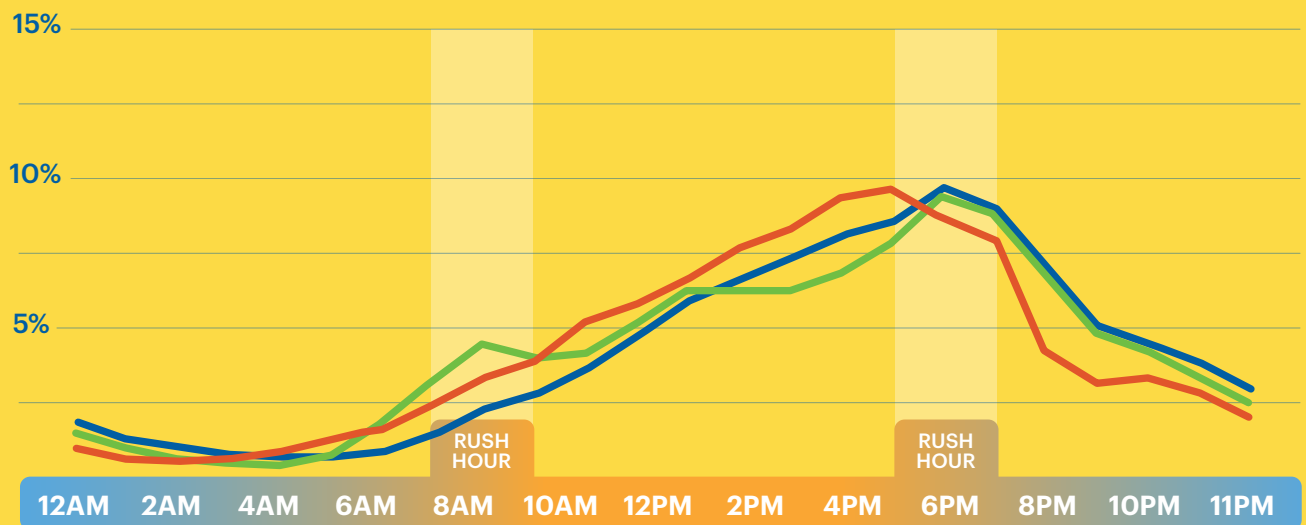
-  Station-Based Bike Share (Member)
-  Station-Based Bike Share (Casual: pay-per-ride & day-passes)
-  E-Scooter



Source: NACTO

# April 2021

TRIPS BY HOUR



Source: NACTO

- 2019 and 2020 station-based bike share (member and casual): average of top 5 cities (NY, SF, BOS, CHI, DC)
- 2019 and 2020 e-scooters: average of Denver, CO; Portland, OR; Louisville, KY
- 2021 station-based bike share (member and casual): average of top 5 cities (NY, SF, BOS, CHI, DC)
- 2021 e-scooters: average of Denver, CO and Louisville, KY





## ***SIMILAR TRIPS, HIGHER PRICES***

Despite a brief increase in longer trips during the early pandemic (see [Longer Trips, Different Purposes](#) below), the average trip length in 2020 and 2021 was comparable to [2018](#) and [2019](#). On average, the typical scooter user or bike share member rode for 11-15 minutes and 1-1.5 miles, while casual station-based bike share users took longer trips: 24-28 minutes and 2.4-2.7 miles.

Nevertheless, trip prices have increased substantially since 2018, especially in systems where prices are not regulated by the city. Trip costs for e-scooters and e-bikes have more than doubled since 2018, from an average of \$3.50 in 2018 to around \$7 for a similar trip in 2021.

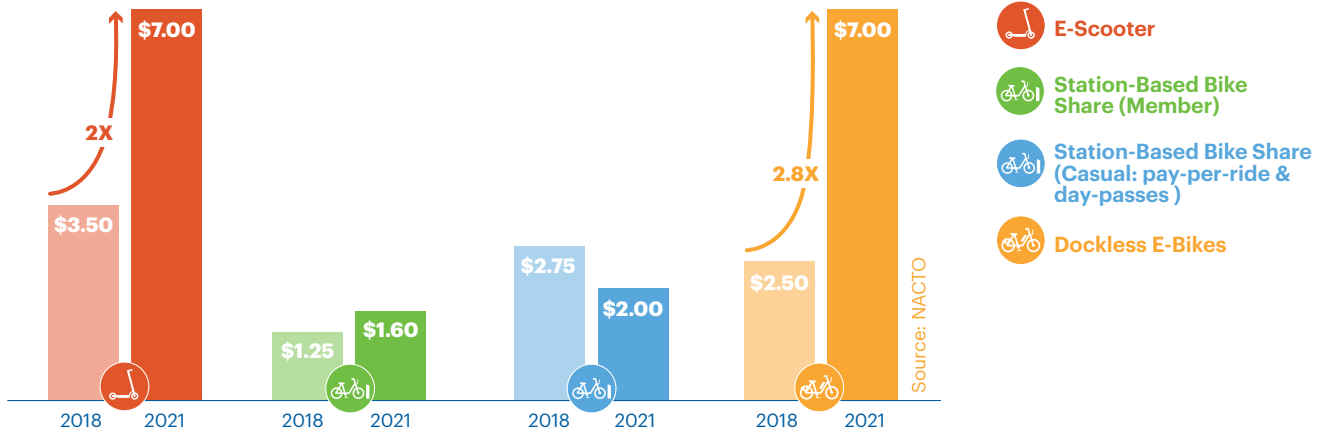
Prices for non-electric station-based bike share trips also increased, although less dramatically than dockless systems. Some station-based systems [raised annual membership prices to recoup lost operating costs](#) caused by lower ridership in 2020, or in [anticipation of future system expansions](#). E-bike surcharges in 2021 added an additional \$0.10 - \$0.39 per minute (plus an extra \$1 unlocking fee) for bike share trips, depending on system pricing structure and rider membership status.

Per-minute pricing complicates trip costs across system and device types, as trip times are impacted by a variety of factors: travel speed, the number of stops made during a trip, the density of a city's docking stations, and the time it takes to start and end a ride. For a casual ride on a station-based e-bike, a single 1.5-mile trip can cost anywhere from \$2.50 to \$5.25. Using a shared e-scooter for the same distance could cost between \$5 and \$9.

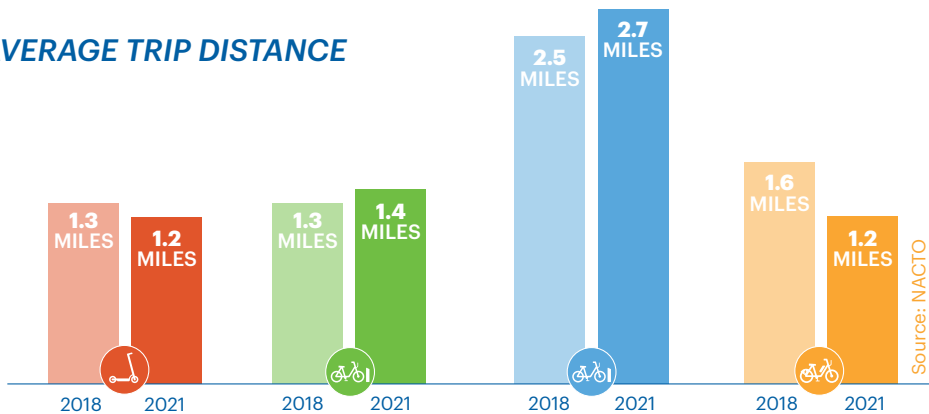
# The Average Trip

While trip lengths on shared micromobility have largely remained the same, trip prices for dockless bikes and e-scooters have increased since 2018.

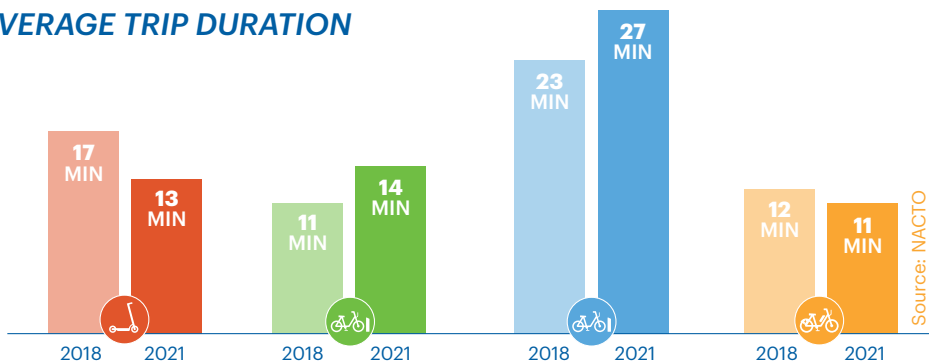
## \$ AVERAGE TRIP COST



## MEASUREMENT AVERAGE TRIP DISTANCE



## 🕒 AVERAGE TRIP DURATION



**Trip cost:** Average of top 5 cities (Boston, Chicago, New York City, San Francisco, Washington D.C.)

**Trip Distance:** Average of subset of cities (Alexandria, VA; Arlington County, VA; Atlanta, GA; Baltimore, MD; Charlotte, NC; Chicago, IL; Denver, CO; Grand Rapids MI; Memphis, TN; Minneapolis-St. Paul, MN; Orlando, FL; Portland, OR; Providence, RI; Salt Lake City, UT; Seattle, WA; Tucson, AZ)

**Trip Duration:** Average of subset of cities (Atlanta, GA; Denver, CO; Seattle, WA; Baltimore, MD; Grand Rapids MI; Orlando, FL; Arlington County, VA; Providence, RI; Alexandria, VA; Chicago, IL; Austin, TX)

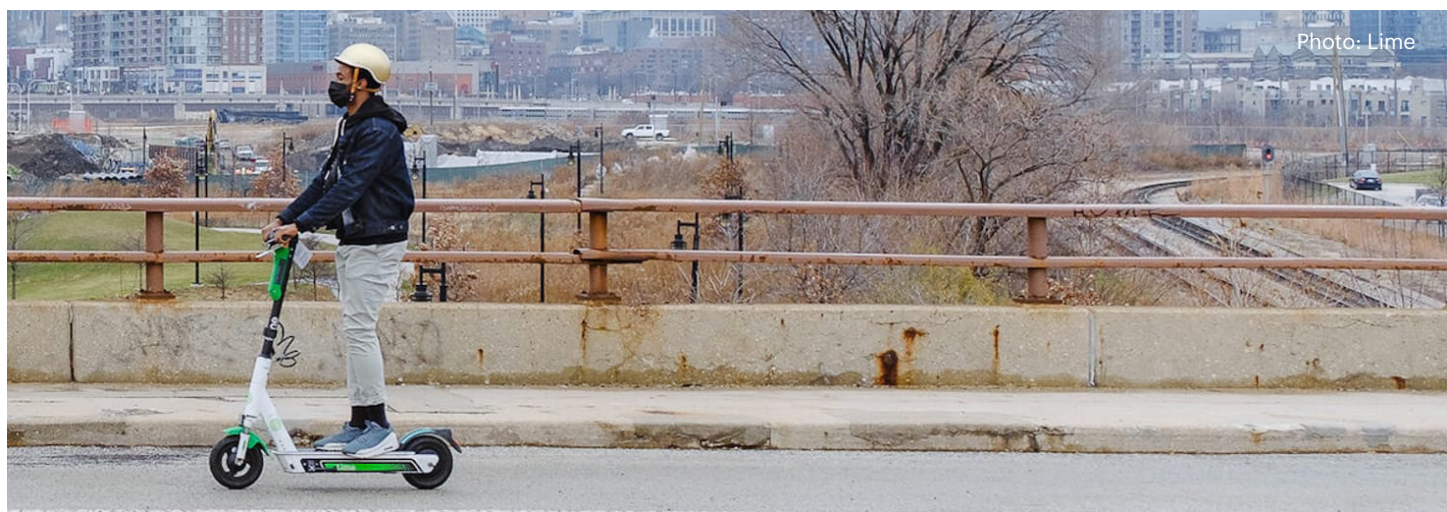


## MEASURING SYSTEM PERFORMANCE (RIDES/VEHICLE/DAY)

Rides per vehicle per day (r/v/d) is a measure of how much a system is used. A system with very few rides per device may not be profitable enough to be viable. Conversely, riders in a system with too many trips per device might find it difficult to find a vehicle, or find that vehicles are not present in lower-demand areas.

Trends in utilization among station-based bike share systems largely remained the same from 2019. Very large station-based bike share systems with over 10,000 devices—like New York City's Citi Bike, which consistently averages around 5 r/v/d—generally saw more daily use than smaller systems. But some systems in warmer weather or recreation-heavy cities were exceptions to the rule, like Honolulu's Biki system, which saw an average of 3.3 r/v/d in 2021 with a fleet size of only around 900 bikes.

For e-scooter systems, fleet size has become less relevant in determining daily ridership, especially as many cities have started to cap e-scooter fleets as part of broader regulatory changes. Denver—another city where outdoor recreation is popular—emerged as a notable standout for e-scooter rides per day, averaging 4 to 5 r/v/d between 2020 and 2021 and surpassing cities like Atlanta and Chicago, which have much larger e-scooter fleets.





# What We Saw In 2020

## PEOPLE KEPT RIDING SHARED BIKES

The **COVID-19 pandemic upended almost all established mobility patterns**. Public transit ridership plummeted across the nation as millions sheltered in place, leaving U.S. transit agencies in funding jeopardy. In the U.S., total trips across all modes fell by 70% in 2020, with people taking 81% fewer transit trips and 40% fewer trips by car.

But people kept riding bikes. Station-based bike share systems registered only 24% fewer trips in 2020, and in numerous cities, systems broke monthly ridership records in the latter half of the year. Personal bike ridership increased overall in 2020, with cities like Houston reporting as much as a 138% increase in bike traffic. While most office workers remained at home during the height of the pandemic lockdowns, healthcare, service, and other essential workers continued to travel throughout the day, driving the continued use of shared bikes and e-scooters.



New York, NY  
Photo: NYCDOT



## SHARED MICROMOBILITY AS AN “ESSENTIAL” SERVICE

As public transit agencies across the U.S. faced operator shortages and service reductions during the pandemic, shared micromobility stepped up to provide other options for essential workers to get around. Shared micromobility operators, partnering with city departments of transportation or local non-profit organizations, offered free or discounted passes for healthcare workers throughout 2020 and into 2021. The Better Bike Share Partnership, for example, awarded emergency response grants to assist bike share operations in cities. Five of these awardees—Fort Worth, Pittsburgh, Omaha, Boston, and Buffalo—used grant money to reduce trip costs for healthcare and essential workers.



Photo: PeopleForBikes

## CITI BIKE'S COMMITMENT TO FRONTLINE WORKERS

To support New York City's frontline workers, Lyft offered free one-month memberships for first responders, transit operators, and healthcare workers under the Citi Bike Critical Workforce Program. The program was immensely successful, with over 5,500 sign ups after its initial launch. Just a month after its inception in March 2020, Lyft extended the program with free one-year memberships to an expanded group of critical workers. By the end of 2021, over 33,000 frontline workers had benefited from the Critical Workforce program, leading to its second extension in the early months of 2022.

New York City's Department of Transportation and Citi Bike also added additional stations and bikes outside hospitals across the five boroughs, noting the rapidly increasing demand in the early months of the pandemic. For example, the Citi Bike station near the Hospital for Special Surgery, New York-Presbyterian, Weill Cornell Medicine, and Memorial Sloan Kettering Cancer Center became the most-used station in the entire system in 2020, a dramatic rise from its ranking as the 59th most-used station in 2019.

## MOBILITY IN THE SUMMER OF PROTEST

It is no surprise that bikes—including shared micromobility bikes— played a role in the **Black Lives Matter protests of the summer of 2020**. Black and Latine/x cyclists face unique challenges: they are more likely to be targeted and ticketed, and safe biking infrastructure is disproportionately absent from many communities of color.

Transportation itself became an issue at the height of the protests. In some places, city governments, looking to enforce curfews and reduce the size of protest, ordered partial shutdowns of transit and shared micromobility systems. In others, cities and dockless operators—citing fear of vandalism or misuse—remotely disabled and removed equipment from streets, shutting down or limiting service.

Many station-based bike share systems, especially those operating under public-private partnership-style agreements, remained open. In Philadelphia, Detroit, Milwaukee, and Jersey City, systems continued to function, and operators offered discounts and waived fees for protesters.



New York, NY  
Photo: Robert K. Chin / Alamy Stock Photo

 **Citi Bike**   
@CitiBikeNYC

Look outside and you'll see bikes on the front lines of this fight against racial injustice — where they belong. In support of Justice Ride IV with [@StreetRidersnyc](#) tomorrow, we'll be waiving overage fees from 3–9 PM. Let's keep this movement going together.

5:45 PM · Jun 26, 2020

 **Bay Wheels**  
@baywheels

To support [#GeorgeFloyd](#) solidarity rides in SF and Oakland tonight, we will be waiving system-wide Bay Wheels overtime fees on rides over 30 min (or 45 min for members) through 8pm. Standard pricing still applies: [lyft.com/bikes/bay-whee...](https://lyft.com/bikes/bay-whee...)

7:52 PM · Jun 5, 2020





Detroit, MI  
Photo: MoGo Detroit

## LONGER TRIPS, DIFFERENT PURPOSES

In 2020, many systems saw increases trip length during the early months of nationwide office and school closures, especially among casual riders. When the traditional 9-to-5 commute was essentially eliminated in spring 2020, shared micromobility remained a tool for socializing, exercise, and seeing the city. In Atlanta, the average e-scooter trip distance

doubled to 2 miles after the program reopened in July 2020. Philadelphia also saw Indego trip durations increase between 7 and 12.5 minutes across the city, and across socioeconomic and demographic groups.

Round trips—trips starting or ending at the same docking station—grew in popularity in the spring of 2020. In Boston, 8% of all Bluebikes trips were round trips in 2020, double the rate of similar trips

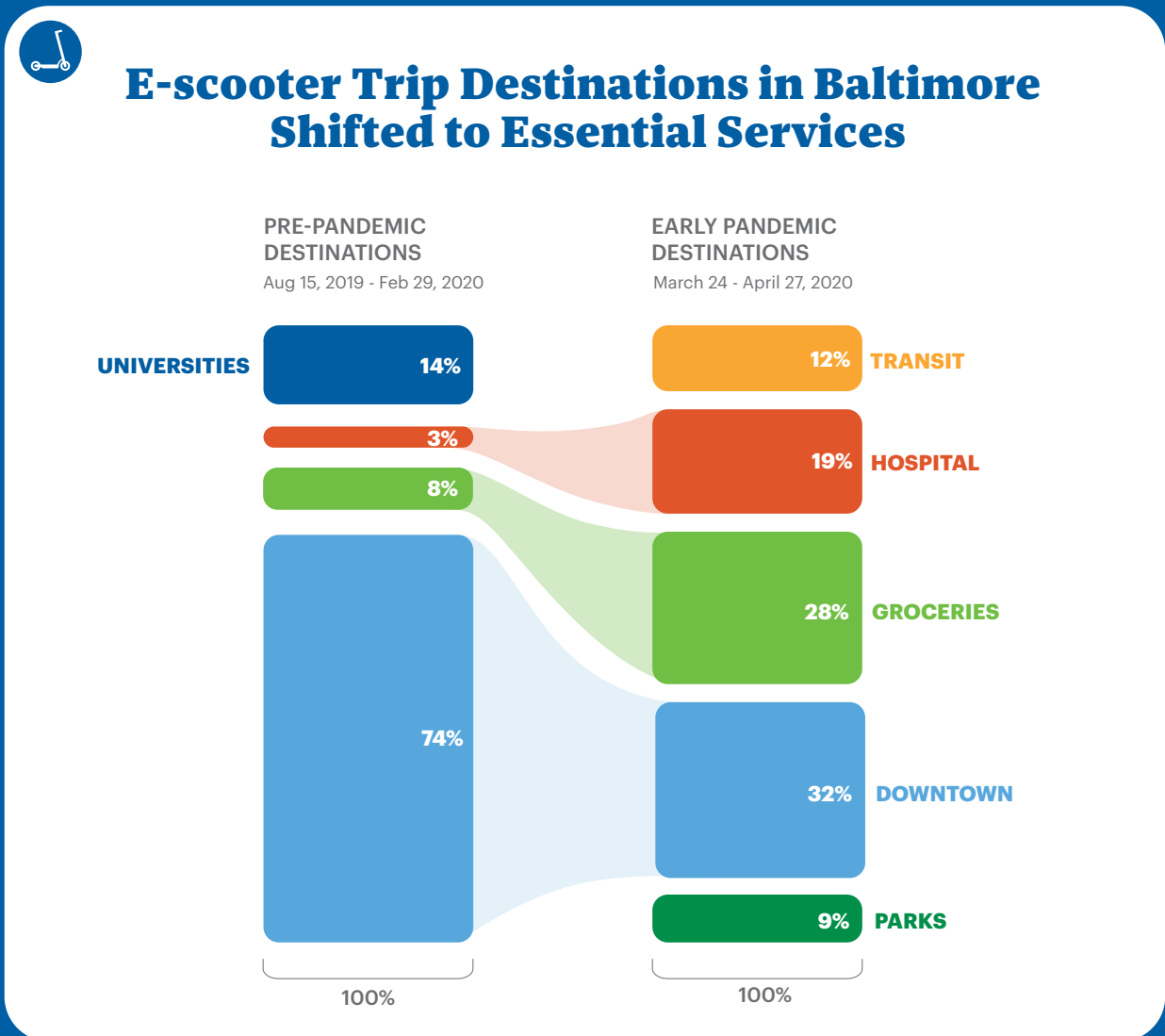
### **In the second half of March 2020, the two most common trips on Washington D.C.'s Capital Bikeshare were those that started or ended at U.S. National Parks.**

taken in 2019. In the second half of March 2020, the two most common trips on Washington D.C.'s Capital Bikeshare were those that started or ended at U.S. National Parks, notably uncommon trips in previous years. Round trips in both cities were concentrated near off-street bike paths, indicating that people felt most comfortable riding away from cars, and suggesting that bikes replaced closed gyms and indoor recreational centers, allowing people to exercise and safely spend time with family and friends outdoors.

**PROVIDING ESSENTIAL WORKERS ACCESS TO E-SCOOTERS IN BALTIMORE**

In mid-March, the Baltimore City Department of Transportation encouraged dockless micromobility permit holders to place more e-scooters at grocery stores, hospitals, and food distribution sites to support disruptions in transit service. All three dockless operators in Baltimore also offered free 30-minute rides for healthcare and other essential workers. As a result, trip patterns between March and April 2020 differed from the typical trip patterns in 2019.

During the early pandemic, the proportion of dockless e-scooter trips to hospitals, grocery stores, and transit stations quadrupled, while the proportion of trips to universities and downtown declined by more than half. Prior to the emergence of COVID-19, daily trips were largely concentrated within downtown tourist areas in the Inner Harbor and John Hopkins University; the top five destinations for e-scooter trips during the early pandemic included Patterson Park, grocery stores, and Johns Hopkins Hospital.





# What We Saw In 2021

## **STRONG REBOUND IN STATION-BASED BIKE SHARE**

**Trips on shared micromobility began to rebound by mid-2021 in most cities, with many station-based systems—such as Citi Bike in New York City, Divvy Bikes in Chicago, and Indego in Philadelphia—breaking ridership records.** This rapid rebound can likely be attributed to thoughtful system expansions and an influx of workers returning to physical offices.

2021 also underscored how valuable shared micromobility systems can be as sustainable transportation options (even in the midst of a pandemic), especially when they are designed as public-private partnership between operators and governments. For example, in Washington D.C., maintenance issues caused a significant period of reduced transit service on key Metro lines. To help keep the D.C. region moving, Capital Bikeshare offered free 30-day passes. During that time, 89% of Capital Bikeshare users were new riders, suggesting that transit riders shifted trips from transit to bike share.

Overall, the most popular systems share a number of similarities, including a large number of bikes, densely-placed stations or designated pick-up/drop-off areas, and robust rebalancing operations. These planning and operations efforts require strong partnership between operators and local governments.

**The most popular systems share a number of similarities, including a large number of bikes, densely-placed stations or designated pick-up/drop-off areas, and robust rebalancing operations.**



Portland, OR  
Photo: BIKETOWN

## EQUITABLE SERVICE EXPANSIONS

**Cities continued to move forward with service expansion into 2021, targeting previously underserved communities and strengthening their equity requirements for operators.**

Chicago, Los Angeles, Philadelphia, Washington D.C., Portland, OR, and New York City, as well as a number of other cities, expanded their bike share systems between 2020 and 2021. In Boston, as of 2021, over 80% of households are now within a 10 minute walk of Bluebikes stations. Philadelphia's Indego system added 300 electric bikes and over 25 stations in new neighborhoods, while Biketown expanded 13 square miles into North and East Portland in September 2020. The expansion brought the Portland system's total service area to 32 square miles, four times its reach when it launched in 2016.

Accompanying these expansions were strategies for ensuring greater access to shared micromobility. In Chicago, the City's Office of Equity and Racial Justice implemented citywide equity targets, which led the Chicago Department of Transportation to develop an e-scooter permit program against the backdrop of a broader city vision for equitable transportation. The program ranks permit applicants on a variety of criteria, such as equitable hiring, training, and outreach plans, and the ability for operators to provide access for people with disabilities and those facing additional economic, health, or social barriers. Minneapolis began requiring operators to distribute a third of their fleet to low-income communities, and to provide a reduced fare option. To hold operators accountable, the city began tracking compliance with a public data dashboard, increasing transparency.





New York, NY  
Photo: NYCDOT

**In 2021, shared micromobility stepped in as a resilient solution, supporting transit systems inundated by extreme weather.**

## **FACING THE REALITIES OF A CHANGING CLIMATE**

In 2021, shared micromobility stepped in as a resilient solution, supporting transit systems inundated by extreme weather. For example, in September 2021, the day after Hurricane Ida flooded New York City and forced large portions of the subway system to shut down, the bike share system set a new ridership record, with over 125,000 trips in a single day.

Shared micromobility itself is not immune to climate disasters. Throughout 2021, a concerningly large number of extreme weather events disrupted shared micromobility services in a number of cities across North America. In a survey of NACTO member cities, around a third reported their station-based or dockless service had to be temporarily suspended due to an extreme weather event such as a heatwave, hurricane, or wildfire. Cities in regions with historically consistent winter weather emergencies or tropical storms typically had contingency plans in place, but some systems—notably Portland, OR and San Francisco Bay Area cities—had to unexpectedly shut down their systems after record temperatures and multiple days of poor air quality due to widespread fires. These experiences illustrate how essential it is for cities and operators to plan for changed operations and unexpected service disruptions as part of their broader climate resilience strategies.

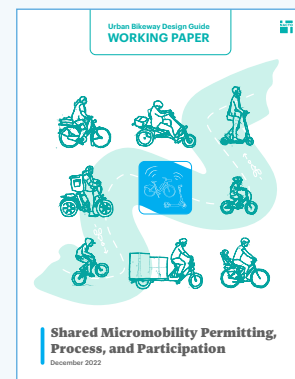


Orlando, FL  
Photo: City of Orlando

## REFINED REGULATIONS

**Even in the midst of operational challenges, cities continued to refine operating requirements for dockless systems in order to encourage better business practices and increase access for their residents.** More cities issued requests-for-proposals (RFPs) and selective permits, with some cities establishing fully new regulatory mechanisms to combine bikes and e-scooters into single contracting agreements. In 2021, the cities of [Providence](#) and [Denver](#) issued joint bike and e-scooter RFPs to start brand new shared micromobility programs, while [St. Paul](#) and [Minneapolis](#) coordinated to select bike and e-scooter operators to serve the entire metro region in 2022.

Strong city-operator partnerships with smart regulatory frameworks established systems that were resilient and could support a variety of trip needs, even with record ridership during an ongoing pandemic. Other regulatory trends in 2021 included requiring [slow speed zones](#) and [slow first rides](#), [designated parking corrals](#), and [lock-to requirements](#), as well as broader equity policies.



NACTO's recent working paper [Shared Micromobility, Permitting, Process, and Participation](#) supplements [NACTO's 2019 Guidelines for Regulating Shared Micromobility](#) and includes a discussion of three recent trends in regulating shared micromobility: electrification, goal-based operator selection, and expanded regulations to organize devices. For each emerging trend, the paper discusses why the trend is prevailing and what city staff need to consider as these trends evolve.

To support strong shared micromobility programs, cities need to continue [collaborating with communities](#) and [investing in safer streets](#).





Kansas City, MO  
Photo: Zach Bauman for RideKC Bike

## Looking Forward to **2022**

**To support shared micromobility systems and the millions of people who rely on them, cities must invest in safety** by redesigning streets, lowering speeds, and prioritizing bikeway projects that create dedicated space for people on bikes, scooters, and other micromobility options. Cities and operators must also strengthen their partnerships to ensure that shared micromobility continues to provide the essential service that helps people get where they need to go safely, comfortably, reliably, and at prices they can afford. Working together, cities, operators, funders, and regulators must ensure that shared micromobility systems reduce driving and emissions, and help mitigate looming climate disasters.

We concluded our last update with high hopes for the future of shared micromobility amidst an uncertain landscape. Shared micromobility has proven itself to be an integral part of many cities' transportation systems, and has become embedded within the day-to-day lives of millions of people. The continued increase in the number of trips, despite the disruption of the pandemic, shows shared micromobility's value as a resilient and essential part of our transportation systems.

# Methodology

NACTO counts all station-based bike and scooter share systems with over 150 vehicles. For purposes of clarity and analysis, smart bike systems, where the electronic components are incorporated into the bike itself and use of a dock is optional, are included in station-based share counts throughout the report. Dockless systems (e-scooters, e-bikes) are counted as those that are designed to be free-floating and do not require the use of a docking station for operations. NACTO does not include bike library systems or systems that operate solely or mostly on closed campuses such as universities or corporate campuses.

Consistency and accuracy of data remains an ongoing issue. Cities have found discrepancies between what is reported by companies and what they find during spot checks. There is a growing conversation about data specifications and tools to audit and verify company-reported data.

Data presented in NACTO's Shared Micromobility in the U.S: 2020-2021 report was received directly from cities and shared micromobility companies, and cross-referenced wherever possible.

## ***“NEW TRAVEL PATTERNS” METHODOLOGY***

1. Station-based member and casual trips by time of day were calculated with publicly available data provided for Boston Bluebikes, Bay Wheels (San Francisco and Oakland), Capital Bikeshare (Washington, D.C. and surrounding areas), Citi Bike (New York City), and Divvy (Chicago). We analyzed all trips taken in April 2019, April 2020, and April 2021, omitting any trips with a duration longer than 2 hours.
2. E-scooter trips by time of day were calculated with data provided directly from Denver, and public data from the Louisville and Portland, OR city websites. We analyzed all trips taken in April 2019, April 2020, and April 2021, omitting any trips with a duration longer than two hours.

## ***“THE AVERAGE TRIP” METHODOLOGY***

### **Average Trip Durations and Distances:**

1. Average station-based bike share trip duration was calculated from publicly available data provided for Bluebikes (Boston and surrounding areas), Bay Wheels (San Francisco and Oakland), Capital Bikeshare (Washington, D.C. and surrounding areas), Citi Bike (New York City), and Divvy (Chicago) websites. We analyzed total trips taken



in 2020 and 2021, omitting any trips with a duration longer than two hours. Average trip distances were calculated with Uber's [H3](#).

2. Average e-scooter duration and distance calculated using data reported by 16 cities: Alexandria, VA; Arlington County, VA; Atlanta; Baltimore; Charlotte; Chicago; Denver; Grand Rapids, MI; Memphis; Minneapolis-St. Paul; Orlando; Portland, OR; Providence; Salt Lake City; Seattle; and Tucson.

#### **Average Costs:**

1. Average station-based member bike share cost was calculated using annual membership prices, total membership trip counts, and average number of member trips per month in Boston, Chicago, New York City, San Francisco, and Washington, D.C.
2. Average station-based casual bike share cost was calculated using single ride pricing in Boston, Chicago, New York City, San Francisco, and Washington, D.C, and averaging 1.5 mile trips at 4 mph and 8 mph.
3. Average e-scooter costs were calculated based on average trip duration as reported by cities, and calculated using publicly available pricing information across companies in seven cities: Atlanta; Austin; Baltimore; Denver; Minneapolis; Portland; and Seattle.
4. Average dockless bike costs were calculated based on average trip duration as reported by cities, and calculated using publicly available pricing information across companies in four cities: Denver; Orlando; Providence; and Seattle.



**November 2022**

This report is made possible in part by the [Better Bike Share Partnership](#). The Better Bike Share Partnership is a collaboration funded by The JPB Foundation to build equitable and replicable bike share systems. The partners include The City of Philadelphia, the Bicycle Coalition of Greater Philadelphia, the National Association of City Transportation Officials (NACTO) and the People For Bikes Foundation.