City of San Marcos

630 East Hopkins
San Marcos, TX 78666

Work Session Meeting - Final

City Council

Tuesday, April 7, 2020 | **3:00 PM** | **City Council Chambers**

630 E. Hopkins - Work Session
Due to COVID-19, this will be a virtual meeting. To view the meeting please go to www.sanmarcostx.gov/videos or watch on Grande channel 16 or Spectrum channel 10.

I. Call To Order

II. Roll Call

PRESENTATIONS

1. Receive a project update and hold discussion on the pre-development services relating to the new Public Services Center, and provide direction to the City Manager.

Attachments: PS Center PP 2020-04-07 - Final.pdf

2. Receive a Staff presentation and hold discussion regarding motor-assisted scooters, and provide direction to the City Manager.

Attachments: WS Motor-Assisted Scooter PPT FINAL - 2020-04-07.pdf
WS E-Scooters 040219.pptx
CSAR_MicromobilityReport_FINAL

EXECUTIVE SESSION

3. Executive Session in accordance with the following Government Code Section(s):

A. Section §551.074 - Personnel Matters: to discuss the Appointee Review Process
B. Section §551.071 - Consultation with Attorney: to seek legal advice concerning a request for consideration by council of an anti-discrimination ordinance

III. Adjournment.

POSTED ON FRIDAY, MARCH 27, 2020 @ 11:00 AM

TAMMY K. COOK, INTERIM CITY CLERK

Notice of Assistance at the Public Meetings

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File #: ID#20-154, **Version:** 1

AGENDA CAPTION:
Receive a project update and hold discussion on the pre-development services relating to the new Public Services Center, and provide direction to the City Manager.

Meeting date: April 7, 2020

Department: Public Services - Tom Taggart, Director

Amount & Source of Funding
Funds Required: NA
Account Number: NA
Funds Available: NA
Account Name: NA

Fiscal Note:

Prior Council Action: Resolution 2019-197R, Awarding a Predevelopment Services Agreement to Hunt Companies, Inc.

City Council Strategic Initiative: [Please select from the dropdown menu below]

Choose an item.

Choose an item.

Choose an item.

Comprehensive Plan Element (s): [Please select the Plan element(s) and Goal # from dropdown menu below]

☐ Economic Development - Choose an item.

☐ Environment & Resource Protection - Choose an item.

☐ Land Use - Choose an item.

☐ Neighborhoods & Housing - Choose an item.

☒ Parks, Public Spaces & Facilities - Choose an item.

☐ Transportation - Choose an item.

☐ Core Services

☐ Not Applicable

Master Plan: *[Please select the corresponding Master Plan from the dropdown menu below (if applicable)]*

Choose an item.

Background Information:

A Predevelopment Services Agreement (PSA) was awarded to Hunt Companies, Inc. (Hunt) in the not-to-exceed amount of $1,500,000 for pre-development phase services including financial development, design development, constructability reviews, cost estimating/budgeting, procurement of additional professional services, etc. prior to the execution of a Development Agreement and financial closing.

Within 4 months of the execution of the Predevelopment Services Agreement, Hunt will provide the City with a Guaranteed Maximum Purchase Price (GMPP) proposal for review and negotiation based on a detailed development schedule and preliminary construction drawings and specifications. The GMPP is the total cost to complete the project comprised of financing costs, design fees, construction cost, project contingency, 3rd party testing services, and building commissioning. A negotiated GMPP will be presented to City Council for approval at which time the City will execute the Development Agreement to proceed with completing the design and begin construction phase services. If the City and Hunt cannot come to an agreement on the GMPP proposal, the City reserves the right to terminate the PSA for convenience, reimburse Hunt for predevelopment services performed, and retain ownership of any drawings, specifications, models, renderings or other materials prepared in connection with the project.

This procurement methodology provides the City with the maximum flexibility to help minimize the potential cost of the development because Hunt and the City of San Marcos will work together throughout the process to develop the most efficient program as it relates to the various building components and the related design features such as building materials. It is anticipated that the GMPP will be presented to Council in May 2020.

This presentation will provide an update to Council on the on-going activities of this project.

Council Committee, Board/Commission Action:

Click or tap here to enter text.

Alternatives:

Click or tap here to enter text.

Recommendation:

Click or tap here to enter text.

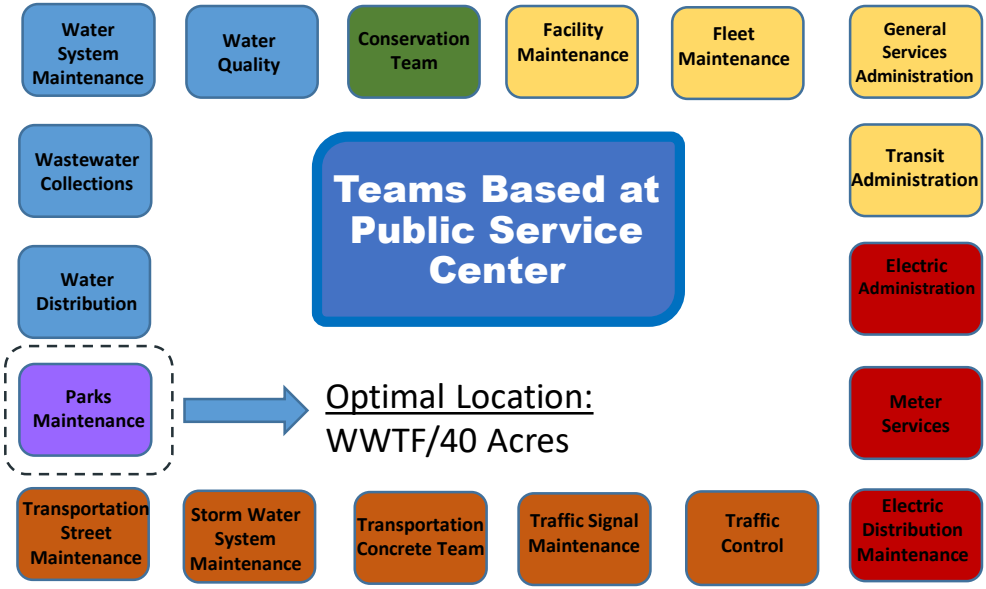
City of San Marcos
Public Services Center

April 7, 2020

COSM Public Service Center

This presentation will provide an update on proposed Facility and next steps:

- Latest Department Occupancy/Functional Benefits
- Updated Site and Building Designs
- Proposed Sustainability Measures
- Upcoming Waiver Requests
- Latest Project Cost Estimates
- Procurement Process Next Steps


Water System Maintenance
Water Quality
Conservation Team
Facility Maintenance
Fleet Maintenance
General Services Administration
Wastewater Collections
Teams Based at Public Service Center
Transit Administration
Water Distribution
Electric Administration
Parks Maintenance
Optimal Location:
WWTF/40 Acres
Meter Services
Transportation Street Maintenance
Storm Water System Maintenance
Transportation Concrete Team
Traffic Signal Maintenance
Traffic Control
Electric Distribution Maintenance

Proposed Solution to Parks & Recreation Operational Needs

- After further review of operational needs for Parks Maintenance staff, it makes more sense to keep them centrally located near the 40 acres.
- Water quality moving out of their current facility frees ~ 3,850 sqft of office and work space adjacent to the 40 acres that fits the needs of the Parks and Rec. Maintenance staff (converted former animal shelter bldg.).

<u>Advantages</u>

- Near perfect functional fit for both office and workspace
- Improved efficiency for P&R staff travel time utilization
- Provides additional day one expansion space at Public Service Center
- Preserves building footprint expansion for anticipated 15 year growth
- Avoids ~$1M+ increase in project costs
- Consolidates Parks & Rec staff, equipment, storage yards adjacent to 40 acres

COSM Public Service Center Staff

Staff based at this location will be:

Department	November Update	Current Design
Public Services	203	217
General Services	22	22
Parks and Rec	19	0
Total Staff	244	239

Facility Capacity/Life/Growth profile

- The facility will be designed to house the 2021 staffing level space requirement with associated parking, vehicle needs, and equipment
- The facility site plan includes additional area for staff expansion and building expansion room with additional square footage to serve a City population of 110,000 (15 years)
- Future additional facilities could be at satellite locations or this location with reallocation of existing parking, storage or other areas.

Facility Site Plan

- Show a video of the 3D model flyover

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Interior Renderings

Interior Renderings

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Interior Renderings

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Interior Renderings

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Interior Renderings

Proposed Sustainability Measures

- HVAC with economizer and outside air demand control ventilation
- Low flow plumbing fixtures
- Four 5,000 gallon rainwater capture cisterns
- Additional daylighting in the Utility Building and Warehouse
- ~500 KW rooftop solar panels on utility building (not included in current pricing)

Solar Panel Design/ ROI estimate

- ~500 KW (1,278 panels) or roughly 75% average load
- Construction Cost Estimate ~$750K
- Payback 15-19 years depending on electricity rate escalation assumptions (0%-3%/year)
- Includes 25 yr manufacturer performance monitoring agreement and linear power output warranty

Solar Panel Annual Environmental Savings

Environmental Savings Summary
For
COSM Public Service Center

Estimated Solar Array Size: 510 kW
Estimated Annual kWh Savings: 774,920 kWh

Estimated Annual Environmental Savings Results:

580	Tons of Carbon Dioxide
110	Cars Removed from Road
59,920	Gallons of Gasoline
13,520	Trees Planted
50	Homes Powered
11,790	Light Bulbs Powered

Waiver/Exemption Requests

- Block length waiver to allow for security purposes, no roadway bisecting the property between Clovis Barker and FM110
- Partial landscaping/tree requirement waiver
- Parking count and parking island waiver
- Perimeter fence in front of utility building
- Permit and Development Fees

Current Project Cost Estimate

Construction Cost*	$34.5M
Design Cost	$2.5M
FF&E Cost	$2.0M
Fees/Soft Cost	$3.6M
Financing Cost	$1.4M
Total	$44M

* Does not include concrete for laydown yard alternate(~$400K) and solar panels alternate (~750K)

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Financial Capacity Analysis

	Electric	W/WW	Drainage	General Fund	Total
Cost allocation by Fund	31%	31%	7%	31%	
Total Project Cost*					45,000,000
Debt/Cash funds available**	4,520,000	4,525,000	-	500,000	9,545,000
Project Cost Allocation	13,950,000	13,950,000	3,150,000	13,950,000	45,000,000
Debt Issuance Needed	9,430,000	9,425,000	3,150,000	13,450,000	35,455,000
Annual Debt Service:					
Existing Debt Service	39,000	299,000	-	32,500	370,500
30 Year @ 0.052 interest	490,360	490,100	163,800	699,400	1,843,660
25 Year @ 0.057 interest	537,510	537,225	179,550	766,650	2,020,935
20 Year @ 0.065 interest	612,950	612,625	204,750	874,250	2,304,575

* Does not include $2.4M for the land that has been purchased
** Electric Utility used $4M in cash funds, all other funds are debt funded

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Funding Considerations

Period	Phase
Q4 2019	Contract approved by Council
Q2 2020	Design complete
Q3 2020	Construction Begins
Q4 2021	Construction Complete
Q1 2022	Move in and Buy out
FY2023	First Debt Payment Due

Funding considerations:

- Reduce debt service for General Fund in early years
- Front load Enterprise Funds debt service without significant impact to rates

Procurement Timeline

- **City decided to procure project via Design-Build-Finance Method**
- **Project to be implemented in Two Phases to maximize flexibility**
  - Phase 1: Validation of Scope, Schedule, Budget
  - Phase 2: Implementation of Final Design and Construction
- **Currently working through Phase 1 with end goal of Guaranteed Maximum Purchase Price (GMPP) agreement**
- **GMPP proposal negotiations based on 100% Design Development documents due early April**
- **Final estimate due/ GMPP proposal negotiations to begin early May**
- **Contract award recommendation and final GMPP Proposal to be presented at a June Council Agenda**
- **Financial Close and Phase 2 to begin after Council approval**

Next Steps

- Council to consider the exception requests
- Council to consider the Guaranteed Maximum Price Proposal agreement on a June Council Agenda

Questions?

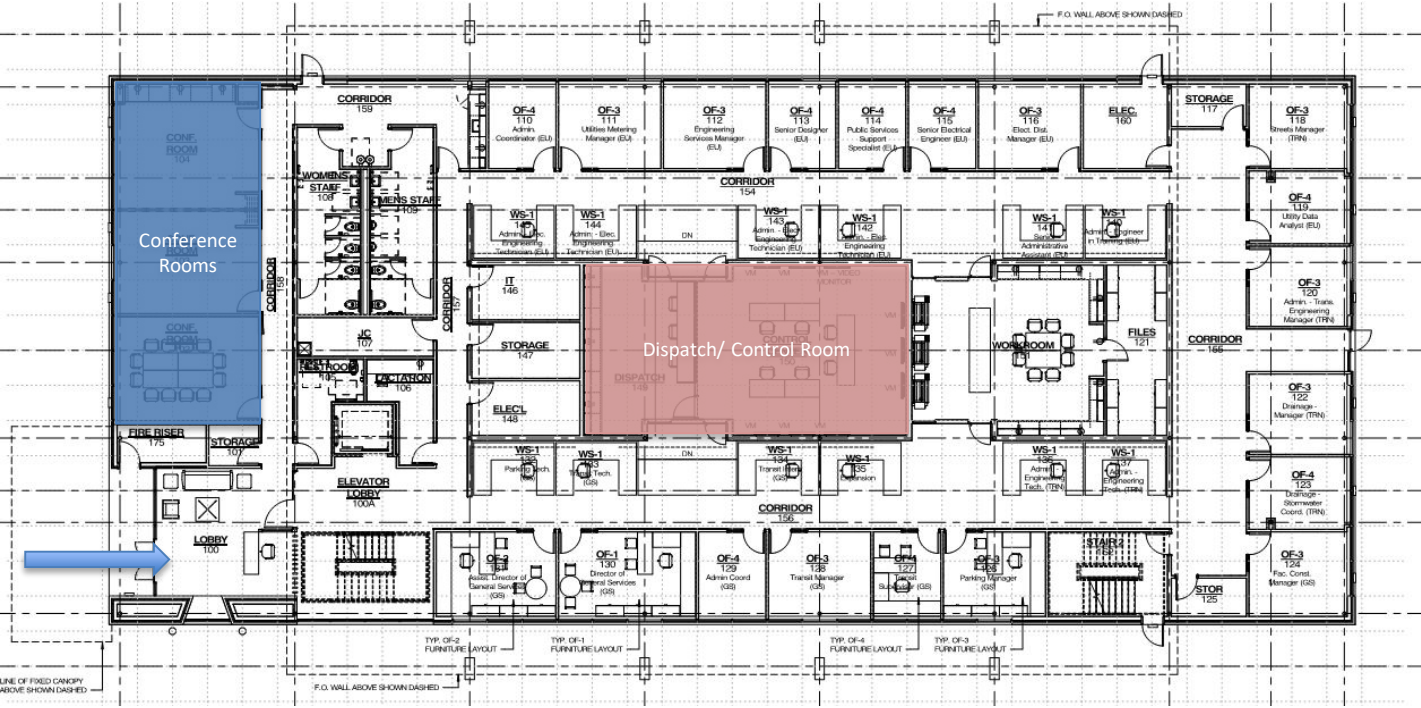
Site Plan

costx.gov

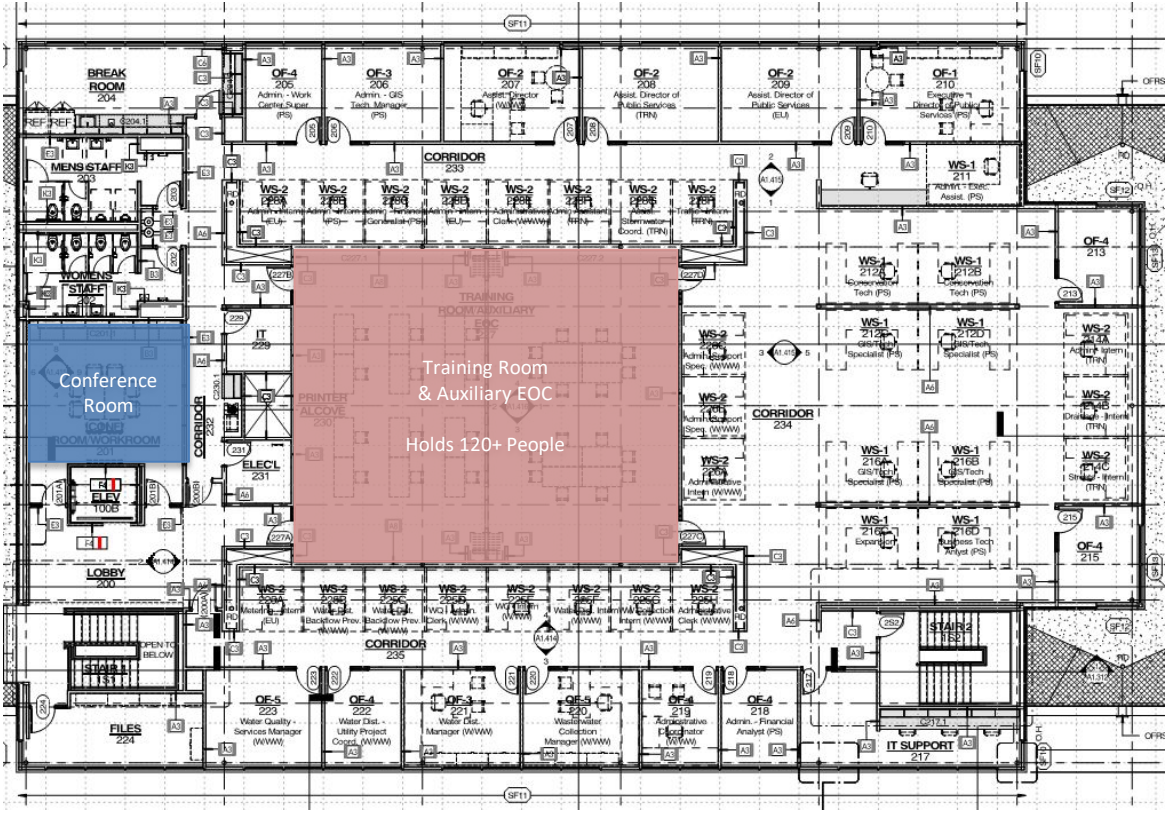
Public Service Center Parking Load

Parking Type	Concept Design	Current Design
Staff/ Visitor Parking	270	241
City Vehicle/ Equipment Parking	377	419
Total	647	660

Admin Building 1st Floor



Admin Building 2nd Floor



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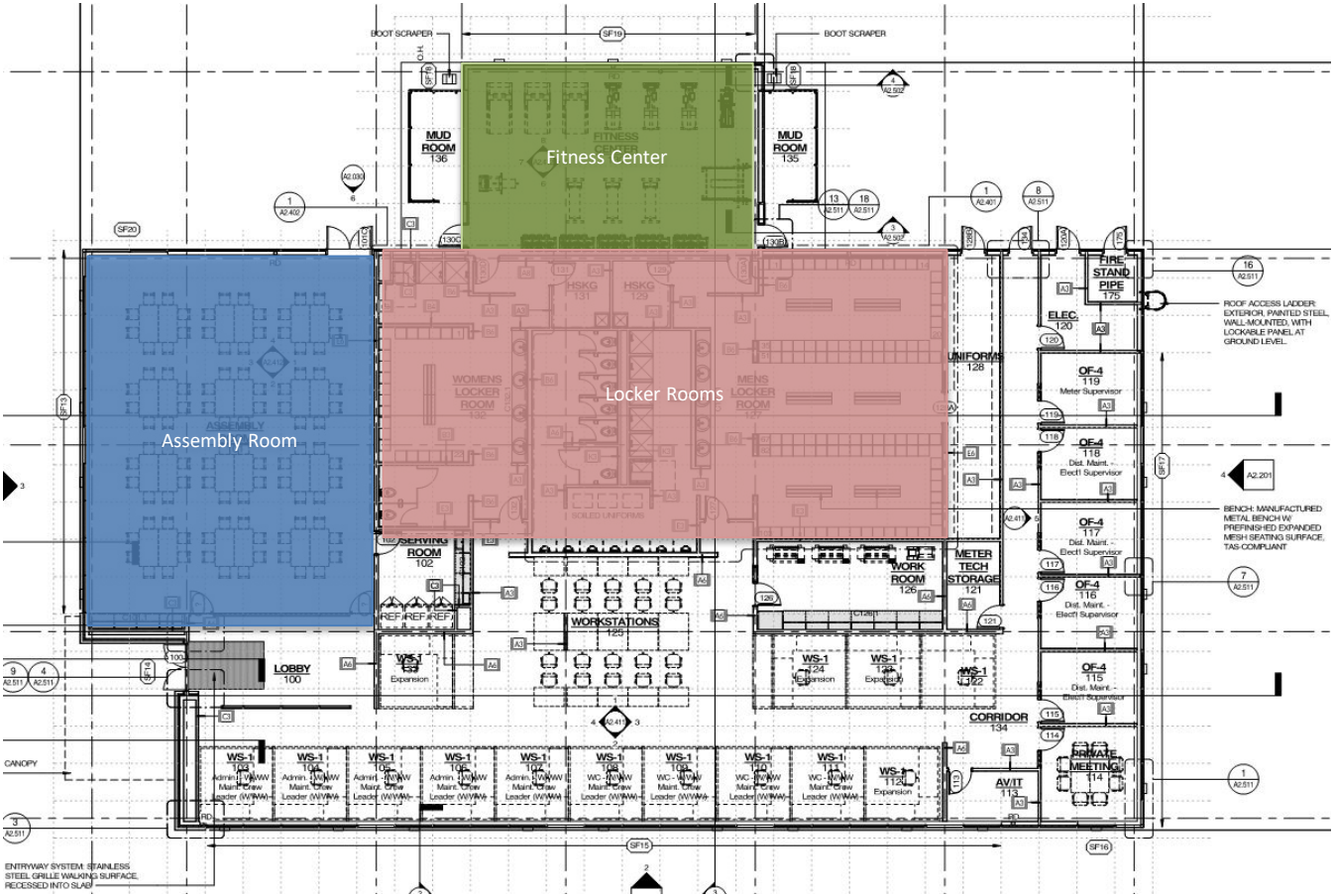
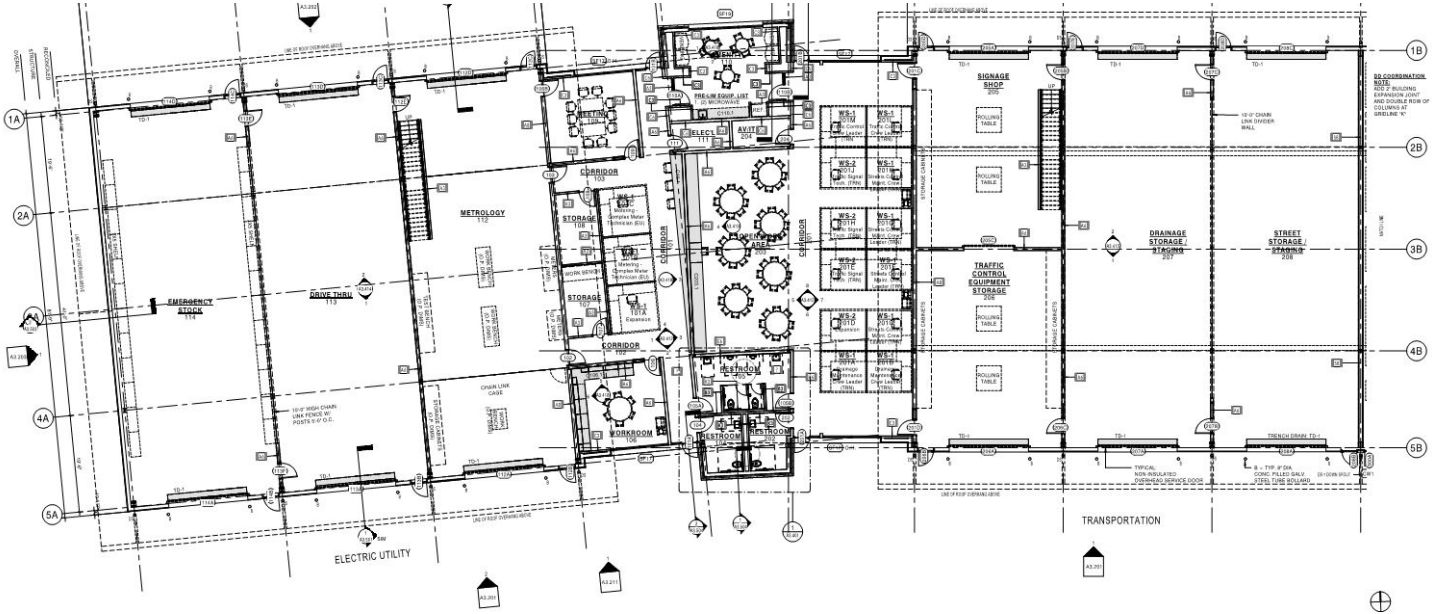
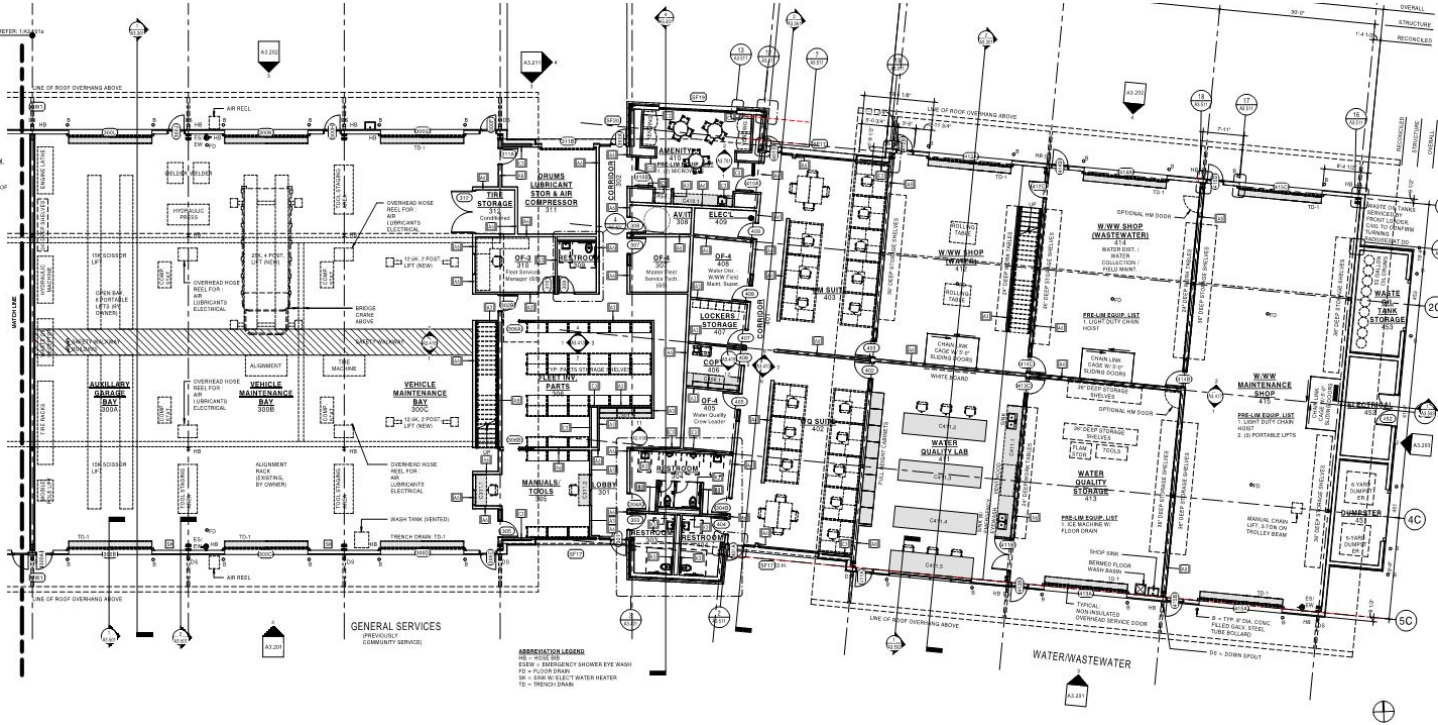
Crew Building



Utility Building West



Utility Building East



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File #: ID#20-155, **Version:** 1

AGENDA CAPTION:
Receive a Staff presentation and hold discussion regarding motor-assisted scooters, and provide direction to the City Manager.
Meeting date: April 7, 2020

Department: General Services Department, Lee Hitchcock

Amount & Source of Funding
Funds Required: N/A
Account Number: N/A
Funds Available: N/A
Account Name: N/A

Fiscal Note:

Prior Council Action: In April, 2019, Council directed staff to develop an ordinance prohibiting motor-assisted scooters. Council passed a first reading of the proposed ordinance with conditions in December, 2019. In January, 2020, Council tabled the second reading of the ordinance for further discussion.

City Council Strategic Initiative:

Multi Modal Transportation

Comprehensive Plan Element (s):

☐ Economic Development

☐ Environment & Resource Protection

☐ Land Use

☐ Neighborhoods & Housing

☐ Parks, Public Spaces & Facilities

☒ Transportation - Choose an item.

☐ Not Applicable

Master Plan:

Transportation Master Plan

Background Information:

In April, 2019, Council directed staff to develop an ordinance prohibiting motor-assisted scooters. Council passed a first reading of the proposed ordinance with conditions in December, 2019. In January, 2020, Council postponed the second reading of the ordinance for further discussion.

Council Committee, Board/Commission Action:

Click or tap here to enter text.

Alternatives:

Click or tap here to enter text.

Recommendation:

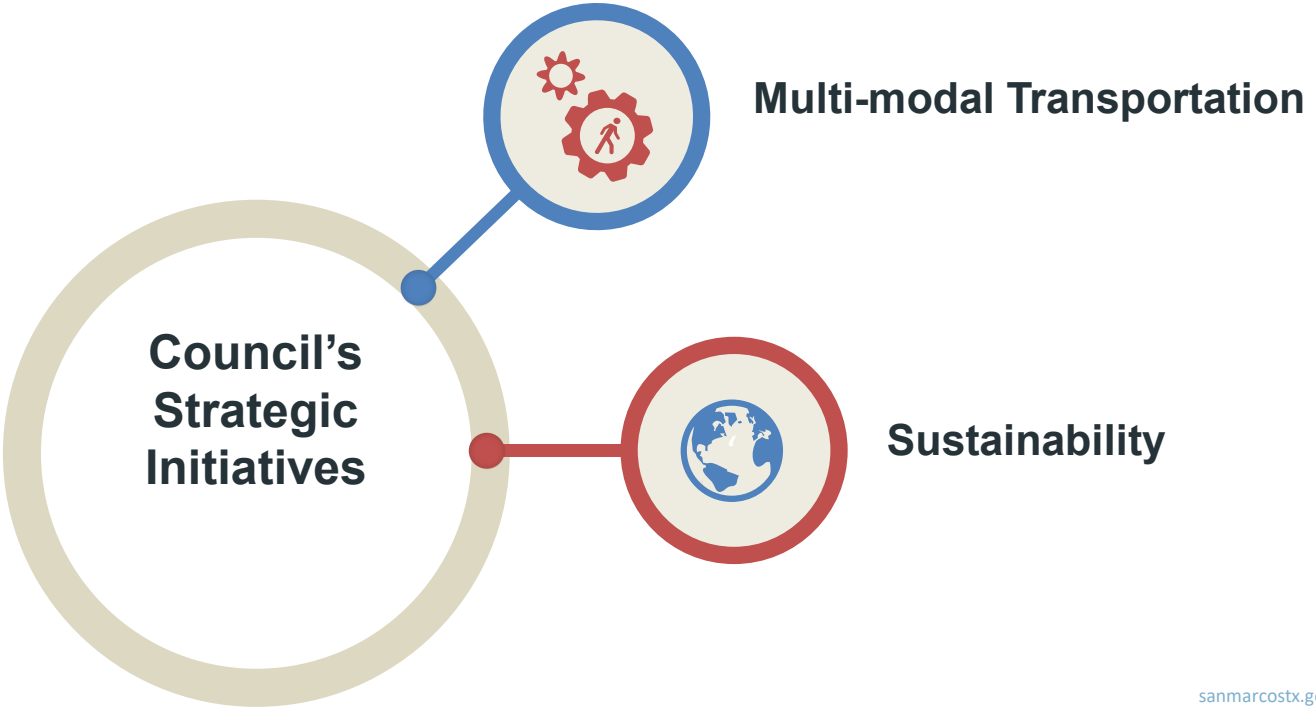
Prohibit all motor-assisted scooters

powered by Legistar™

City of San Marcos
Motor-Assisted Scooters

April 7, 2020

Motor-Assisted Scooter Impacts



COSM Motor-Assisted Scooter History

Apr. 2019

Council directed staff to develop ordinance prohibiting Motor-Assisted Scooters

Dec. 2019

First reading Ordinance 2019-46, Council passes ordinance with conditions

Jan. 2020

Second reading of Ordinance 2019-46, Council tabled the item for further discussion

Apr. 2020

Council discussion and provide direction to staff

Emerging Best Practices

Prohibition

Prohibit all motor-assisted scooters

Prohibition

Prohibit the abandonment of "For Profit" motor-assisted scooters on public property

National League of City Recommendations

- Proactive policies/procedures for transportation planning
- Utilize pilot programs
- Consideration for safety
- Develop contracts with conditions
- Evaluate infrastructure
- Peer city research/coordination

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Public Safety Concerns

- **San Antonio:**
  - September 2018 – June 2019: 173 scooter accidents
  - 109 hospital visits // 13 designated traumas

- **City of Austin & Centers for Disease Control and Prevention Joint Study:**
  - September 5, 2018 - November 30, 2018: 192 scooter accidents
    - **Close to half (80) injuries considered "severe."**
  - Conditions for "severe":
    - Broken bones
    - Nerve, tendon, or ligament injury
    - More than 48 hours in a hospital
    - Severe bleeding // organ damage

Infrastructure Limitations

- **7% of City streets have dedicated bicycle lanes**
- **60% of City streets have sidewalks**
- **2% of the City sidewalks are "shared use" sidewalks**
  - Shared use sidewalks are 8 feet or wider
- **Sidewalks Maintenance Improvement Plan:**
  - 41,779 linear ft. installed // 38,962 linear ft. to complete in current plan
    - Limited to existing right-of-way // Rarely accommodates "shared use"
- **Shared Use Sidewalk Capital Improvement Projects:**
  - Old Ranch Road 12 Bike & Ped & Widening Project
  - Hopkins Sidewalk Widening CM Allen to Thorpe
  - Hopkins/Highway 80 Thorpe to River Rd.

Capacity Limitations

Staff

Budget

Infrastructure

Enforcement

Staff Recommendation

- **Prohibit all Motor-Assisted Scooters**

Question & Answer

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City Council Work Session:

Shared Mobility / E-scooters

sanmarcostx.gov

Tuesday, April 2, 2019

Shared Mobility with E-Scooters

- E-scooters emerged in September 2017.
- Small, battery-powered, two-wheel scooters to rent for one-way trips.
- App-based business model, same as dockless bike share.
- Rapid evolution of the industry, many competitors.

Observations – Other cities:

- Increase in user, pedestrians and traffic-related injuries and deaths.
- Illegal sidewalk riding creates pedestrian conflict.
- Inappropriate e-scooter parking creates hazards and accessibility constraints.
- Parks and Park Trail system impacts.
- Use of streets creates traffic conflicts and challenges with a lack of proper infrastructure.

Legislation and Authority

- HB4499 & SB549: are identical bills and the last page clearly allows municipalities to restrict and regulate the use of scooters.

  "A county or municipality may prohibit the operation of a motor-assisted scooter on a street, highway, or sidewalk if the governing body of the county or municipality determines that the prohibition is necessary in the interest of safety."

- **SB2715**: calls for a study to be completed and presented to the legislature by end of 2020.

- *City Authority:* The current authority to ban is based on San Marcos being a home rule city and the fact that there is no law that currently prohibits a home rule city from enacting a ban. In other words, San Marcos has the authority and will continue to have it unless/until the legislature takes it away by adoption of a preemption statute.

City / Texas State Partnership

1. Coordinated Transit Plan.
2. Joint RFP for single provider for bike share program.
3. Working collaboratively with City on E-Scooters.

Council Options:

1. Establish regulations and a pilot program.
2. Amend VeoRide bicycle contract to include e-scooters.
3. Issue Joint RFP for single provider for e-scooter program.
4. Prohibit e-scooters in the public right-of-way and sidewalks.
5. Take no action.

Staff Recommendation

- Staff recommends prohibiting scooters in the public right-of-way streets and sidewalks.

Questions / Discussion

NATIONAL LEAGUE OF CITIES

CENTER FOR CITY SOLUTIONS

Micromobility in Cities

A HISTORY AND POLICY OVERVIEW

NATIONAL LEAGUE OF CITIES

CENTER FOR CITY SOLUTIONS

About the National League of Cities

About the National League of Cities: The National League of Cities (NLC) is the nation's leading advocacy organization devoted to strengthening and promoting cities as centers of opportunity, leadership and governance. Through its membership and partnerships with state municipal leagues, NLC serves as a resource and advocate for more than 19,000 cities and towns and more than 218 million Americans. NLC's Center for City Solutions provides research and analysis on key topics and trends important to cities and creative solutions to improve the quality of life in communities.

About the Authors

Nicole DuPuis is manager of the Urban Innovation program, Jason Griess is the Heinz Urban Innovation Fellow and Connor Klein is a former research assistant in NLC's Center for City Solutions.

Acknowledgements

The authors would like to acknowledge Laura Cofsky who edited the report, and Paris Williams who designed the report.

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LANE
AHEAD

Foreword

Since the first Model T rolled onto the streets of Detroit in 1908, the automobile has reigned as the predominant mode of transportation in America. Cars quickly became a cornerstone of the American identity – and influenced the way America's cities, towns and villages took shape.

More than a century after the Model T's first trip, the smartphone has opened the door for a new wave of transportation options. Now, app-based mobility services present local leaders with an opportunity to reimagine the mobility environment.

The past year, in particular, has been marked by a race toward micromobility, where bikes and electric scooters provide a new way for residents to move throughout their communities. While there is a great deal of promise with these innovations, the emergence of micromobility comes with its own set of challenges and considerations for planners, residents and local decisionmakers.

At the same time, many communities still have vast surface transportation needs which must be addressed for micromobility to take shape. As federal leaders debate how to fund America's transportation future, the National League of Cities (NLC) will continue to advocate for federal investments that support the wide variety of local projects that connect communities and grow their economies.

To provide local leaders with a comprehensive view of micomobility and the experience of different communities, NLC is proud to release Micromobility in Cities: A History and Policy Overview. The report provides officials with background information, case studies and recommendations to help them make the right decisions for their communities.

Together with our federal and state partners, local leaders will chart the next 100 years of transportation in America. This report will help them do just that.

Onward,

Clarence E. Anthony
CEO and Executive Director
National League of Cities

Introduction

Shared electric scooters have taken cities by storm, and by now, everyone has either seen or heard about this new way to get around. This old mode of transportation — the kick scooter — has been made new with an electric motor and the ability to be imminently shareable through app-based technology.

While scooters are the newest hot topic in micromobility, they are by no means the only form, with shared bicycle usage still the most common way to get around. This class of mobility option has truly taken off. First in docked form and now increasingly dockless, shared bicycles have truly taken off, reflected in growing usage rates in cities nationwide.

The emergence of micromobility, along with shifts in preferences for alternative modes of transportation, and wholesale monumental changes impacting transportation over the last few decades, have pressed us to ask several questions about how and why we design our cities. We need to consider the management of street and curb space, what a complete trip and street looks like, and who we are serving when we design our thoroughfares.

With this white paper, we hope to explore the rapidly changing and disruptive nature of micromobility, and provide city officials useful information to deploy micromobility options in a safe, profitable and equitable way. We begin by defining micromobility and exploring the recent history of docked and dockless bikes and e-scooters. We then explore the challenges and opportunities facing cities, and illustrate a few examples of cities that are addressing these issues head-on. We conclude with a set of recommendations cities can consider as they work to regulate these new mobility technologies.

Seven recommendations are explored in depth within the report including:

- Get out in front of surprise deployments.
- Utilize pilot programs to consider right of way policy, cost structure, sustainability and opportunities to work with different companies.
- Consider safety.
- Develop a plan and agreement for trip data.
- Reevaluate bike infrastructure.
- Focus on equity.
- Be proactive about learning from other cities.

Ultimately, these systems are an increasingly important part of city transit and mobility systems, as they help people move around cities more seamlessly and efficiently. The value is apparent and big questions, if they do arise, center around how these new systems — which are typically run by private operators — interact with existing laws and regulations. The regulatory system in many cities surrounding these new modes is not yet settled. The model of entering a city first and asking forgiveness later is alive and well, as companies seek to create new laws that allow them to operate unhindered. Many places have figured out the interplay between the operators and the regulators, but there are still quite a few cities working through these questions.

What is Micromobility?

The term "micromobility" has become a catch-all term for several modes of transportation, namely docked and dockless bikeshare systems, electric bikes and electric scooters. Many of these modes share some distinct features. The first commonality is the increased flexibility in routes and access spurred by the advent of connected devices. Many of these transportation services can be accessed and purchased with the use of a smartphone or other connected device. The second factor is scale, as these vehicles serve individual users.

Another key feature of some micromobility systems is a model of shared usage. For example, some bikeshare services use docking stations for drop-off and pickup, while others use smartphone apps to provide a dockless option. In both cases, each individual bike is used by many different riders, multiple times a day. There are several models for how these systems are managed. The fleet of vehicles might be owned and maintained privately, like the Chinese bikeshare provider Ofo, or owned and maintained publicly, like Capital Bikeshare in Washington, D.C. New York City's CitiBike is a hybrid model in that it is publicly owned but privately maintained by the company Motivate.

These emerging micromobility services, in most cases, offer both flexible scheduling and flexible pickup and drop-off sites, which allow users to go exactly where they need to go when they need to go there. Some providers are even experimenting with on-demand vehicle delivery in less dense environments.[1] Even cities with expansive public transit systems have mobility deserts, in which portions of the population are underserved by transit or face barriers to access. Micromobility options offer cities another tool in fighting mobility deserts, by closing "first and last mile" gaps for transit systems, opening access to underserved populations and significantly broadening the pedestrian shed.[2] More generally, they also add more options to multi-modal mobility systems.

MICROMOBILITY VERSUS MICROTRANSIT?

The U.S. Department of Transportation (USDOT) defines microtransit as "a privately owned and operated shared transportation system that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling. The vehicles generally include vans and buses." In addition to vans and buses, the past few years have seen the emergence of new modes that fit into this category, such as shared cars and low-speed autonomous shuttles. Occasionally, bikeshare systems are also classified as a form of microtransit.

What Does It Mean for Cities?

The emergence of micromobility options has inspired many cities to rethink the ways in which their transportation infrastructure might accommodate alternative modes. The expansion of bicycle infrastructure that accompanied the first wave of micromobility unlocked opportunities for the current wave of dockless bikes and scooters to thrive. In turn, their rapid deployment and uptake has put additional pressure on cities to accommodate new modes and consider safety of operation in mobility corridors that were largely developed to accommodate single-occupancy vehicles. This might have a compounding effect, as expanded bike infrastructure lowers the barriers for more bicyclists and commuters who choose other alternative modes of transportation.

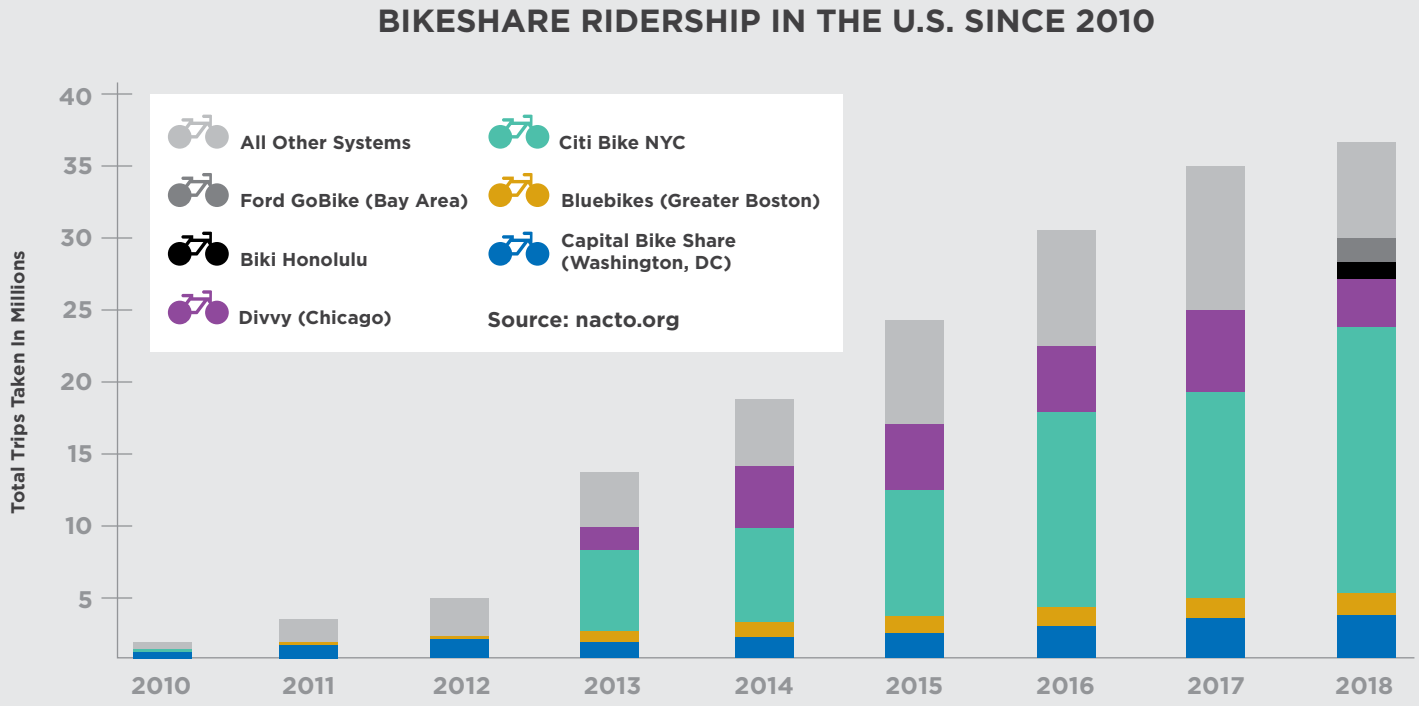
This buildout of alternative infrastructure puts city planners in a delicate spot. While many are optimistic and excited about new directions, others are experiencing the very real tension between early-adopters and the large contingent of commuters in cars, who see this as a new, temporary trend that could further clog the already busy streets and rights of way in central business districts. City leaders and policy makers also face challenges associated with regulating these services, ensuring they are operating safely and equitably, and negotiating the terms of data ownership and use.

Different Types of Micromobility

Bikeshare

Informal systems of shared, communal bikes have been around for more than 50 years. In 1965, a group of anarchists in Amsterdam decided to procure more than 100 bikes, paint them all white, and leave them around the city for the public to use free of charge. After the bikes were stolen, vandalized and impounded, the group declared the project a total failure and stopped providing the service. Thirty years later, the city of Copenhagen tried a pay-to-ride system using a coin-based lock and unlock mechanism, but this too resulted in large amounts of destruction and theft. After recognizing customer tracking as the lynchpin to success, Portsmouth University in England instituted a bikeshare system using a personal magnetic stripe card to tie users to trips. This was an important step for bikeshare as it proved that a service could be created that was both convenient for users and less susceptible to vandalism.

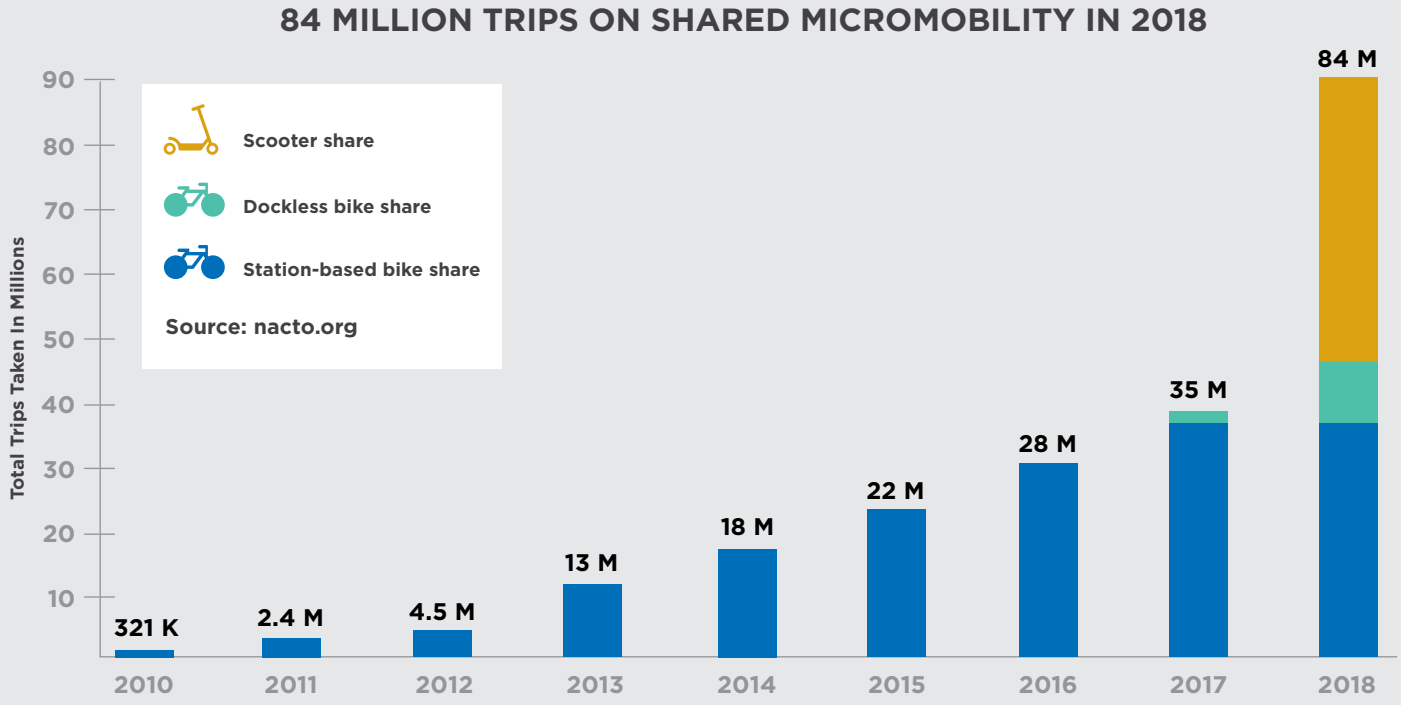
Technological improvements like electronic locks, upgraded telecommunications systems and on-board computers served to improve these services. Rennes, France, and Munich, Germany, pioneered small-scale operations at the city-level in the late 90s, but adoption was minimal.[3] Lyon, France, scaled up the operation in 2005 and launched 1,500 bikes into the city in partnership with JCDecaux, calling it Velo'v. This effort generated adoption and success, and by late 2005, Velo'v reported having 15,000 members and an average of 6.5 rides per day on each bike.[4] Lyon's success piqued a genuine interest from



Paris and thus created a watershed moment for bikeshare. In 2007, Paris launched Velib with about 7,000 bikes. In 2016, Velib reported over 18,000 bikes. Paris' experiment generated significant interest from other cities around the globe, resulting in about 60 similar programs by the end of 2007, including Barcelona's famous Bicing program, which rapidly spread throughout Spain.

Velib's early success ignited a movement that took bikeshare global. In 2008, Washington, D.C., created the first bikeshare pilot in the United States called SmartBike DC, launching 120 bikes at 10 location across the city. This small experiment quickly proved to be successful, and marks the beginning of the bikeshare phenomenon in the U.S. The following year, Montreal expanded on its own pilot program, partnering with a company called Bixi. Following successful deployment and adoption in Montreal, D.C. launched Capital Bikeshare in 2010 with Bixi's help. Other U.S. cities, like Minneapolis and Denver, quickly followed suit, also choosing to leverage Bixi's technology in their programs: Nice Ride and B-Cycle. Growth continued that year on the international market, with bikeshare programs launching in Australia, England, Mexico, Argentina and China.

New York City introduced CitiBike in 2013, which is a city-endorsed system that uses money from corporate sponsors in lieu of public dollars for vehicles and maintenance. The city of Chicago and the San Francisco bay area also deployed bikeshare programs that year. The total number of bikes increased to 700,000 worldwide in 2013, reached 1,000,000 in 2015 and 2,000,000 by 2016. Dockless bike pilots also began appearing in 2013, underwritten mainly by a company called Social Bicycles (now JUMP) in the U.S.



A massive "bike graveyard" in a field near Hangzhou, Zhejiang province, with tens of thousands of unused bikes. Photo Courtesy of: AFP / Getty

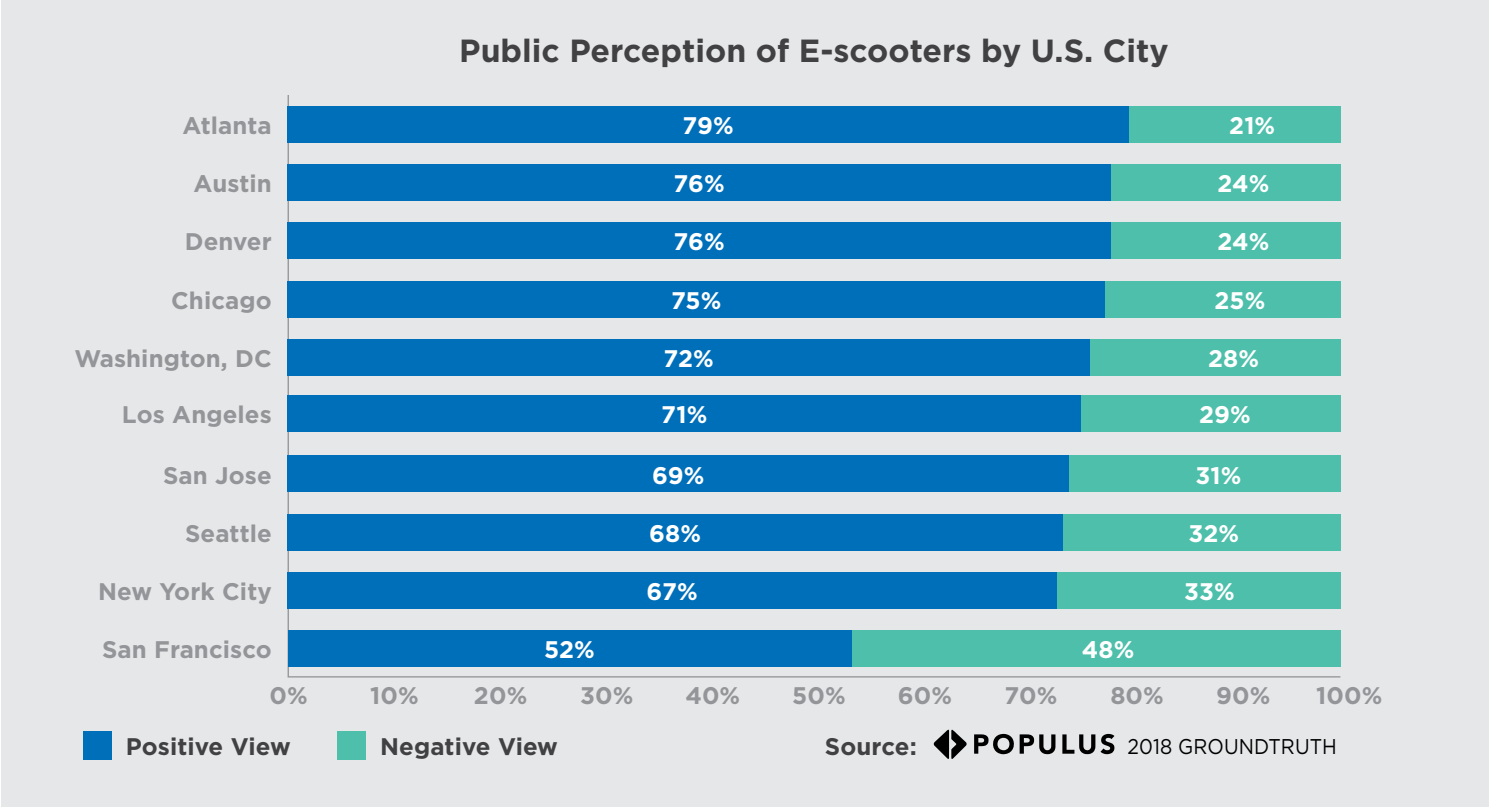
Through fits and starts, docked and dockless systems supported by city governments developed steadily all across the world and continue to do so, however, private micromobility companies are also a significant part of the market. 2014 marked the creation of the soon to be Chinese bikeshare giant Ofo, the first company to make use of GPS technology on a large scale to establish a truly dockless model. By 2017, Ofo had competition, as there were over seventy different bikeshare companies maintaining over 16 million bikes throughout China alone. Ofo attempted a move into other continents including North America. Shortly after they deployed in some U.S. cities, the company made the decision to cease all North American operations, and pulled out of those markets entirely. Since then, the dockless model has boomed in the U.S. due to other companies like Limebike (now Lime), which launched in June 2017. Less than 6 months after launch, the company surpassed 1 million trips across 30 markets.[5]

While 2018 was a turning point for micromobility as a whole, but not for bikeshare. While the number of bikeshare trips continued to climb, growth slowed from the previous two years, despite the expanded use of major bikeshare programs like Citi Bike NYC and Capital Bike Share in D.C.[6] At the highest level, private bikeshare providers are growing rapidly due to the combination of increased GPS reliability and the ubiquity of smartphones. In addition to shared systems using traditional bikes, some companies have added the availability of electric assist bikes. In the U.S., Lime and JUMP (previously Social Bicycles) are leading the way in electric assist bikes — and the market is growing. In 2016, the total known investment in dockless bikes alone was around $290 million. That increased to $2.6 billion in 2017, an almost tenfold increase in only a year.[7] Still, station-based models constitute a vast majority of bikeshare usage. According to NACTO, only four percent of trips in 2017 were taken on dockless bikes, even though nearly half of all bikeshare bikes are dockless. In 2018, dockless bikeshare constituted less than 20% of the total trips made by bikeshare.[8]

While the wave of adoption and investment could be seen as an overwhelming success, city leaders are forced to face the challenges of an ever-expanding and changing mobility market. Challenges include overcrowded rights of way and "bike graveyards" where large amounts of unused bikes are carelessly discarded in ways that obstruct safety or aesthetic. Nowhere is this problem more dramatic than in China. In a little over a year, 60 competing providers have deployed more than 15 million bicycles on Chinese streets with government support, but demand has not come close to matching supply.[9] Ofo alone, China's largest provider, claims to have over 250 million global users.[10] While the number of bikes from American providers pale in comparison, China's problem provides a crucial lesson about the necessity for smart regulation.

The dockless revolution has also created competition for more traditional city-run docked systems, as dockless options are usually significantly cheaper for consumers and offer additional flexibility without required drop off points. Not to mention that their implementation costs are a fraction of those for docked systems, which require additional infrastructure and maintenance for docking stations. In an interview with Quartz, an Ofo executive estimated the typical cost of a docked program to be "$80,000 to $100,00 to set up each dock, and $1,500 to $2000 per bike" — a stark contrast to the "couple hundred bucks" quoted for each dockless bike.[11]

While docked and dockless bikeshare systems have seen unprecedented growth, the emergence of another shared mode of transportation has dominated the discussion surrounding micromobility. In the last couple of years, electric scooters have demonstrated the public's sustained interest in new modes of transportation, all while sometimes surprising and rattling city decisionmakers.

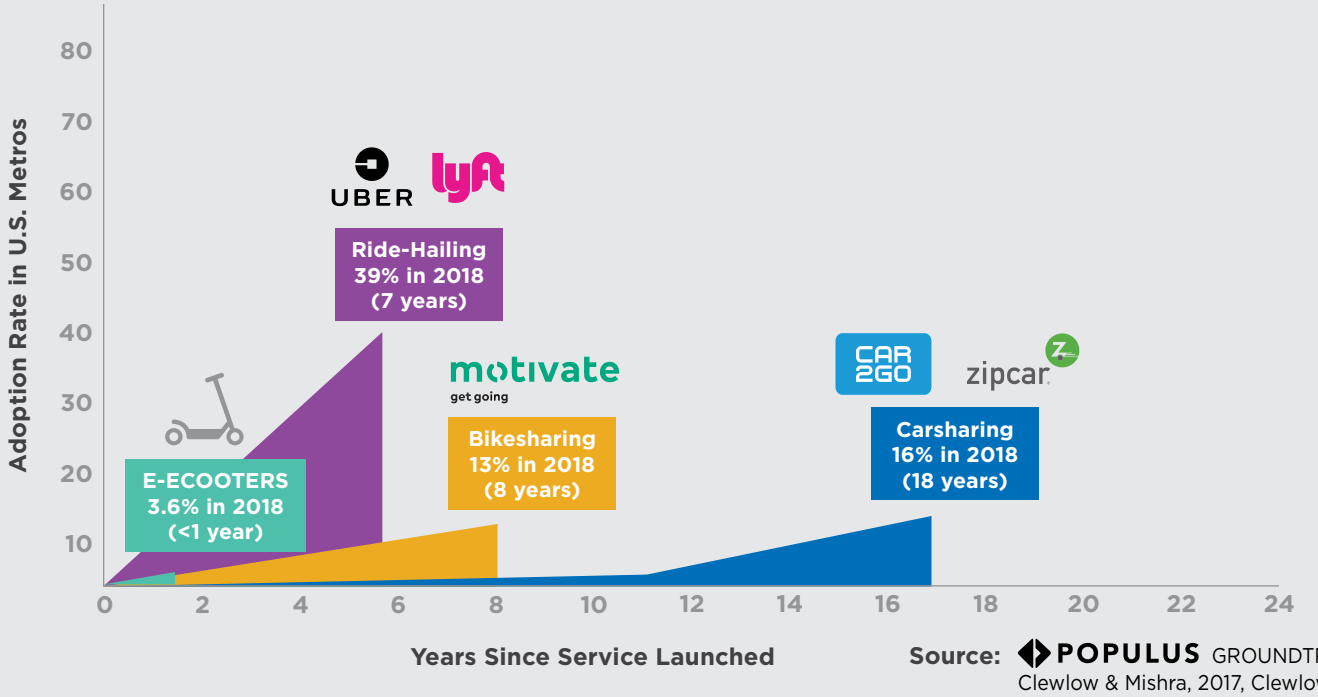


Scooters

2018 undoubtedly was the year of the electric scooter. Less than eighteen months old, scooters have already become the most popular form of micromobility, overtaking station-based bikeshare, and have been a huge boon to the entire industry. According to NACTO, the addition of scooters into the ecosystem boosted the total number of micromobility trips from 35 million in 2017 to 84 million in 2018.[12]

Using the same shared model as dockless bikeshare, e-scooters have quickly gained popularity as an alternative mode of travel for short- and medium-length trips. The scooters can reach speeds of around 15 miles per hour, depending on the company. The two companies dominating the e-scooter market, Bird and Lime, were both founded in 2017, and already they have surpassed over $1 billion each in valuation.[13] Bird, founded in Santa Monica, was the first company to deploy scooters in cities on a large scale. Starting in their home city, the company dropped hundreds of scooters onto city sidewalks overnight, reaching significant levels of use and interest. After seeing Bird's high use rates, other scooter companies like Lime, Skip and Spin followed suit with the "ask for forgiveness not permission" deployment strategy. Spin and Lime, among others, were already providing bikeshare services, so adding e-scooters to their application was an easy next step.

The rapid unexpected deployments were surprising to both local government actors and the public, and elicited a range of responses from the different parties. Each city handled the unexpected deployments differently, and while some opted toward crafting amenable regulations and pilot programs, others were less welcoming. New York City is one of a number of cities that chose to control deployment, limiting operation until a regulatory



Source: POPULUS GROUNDTRUTH
Clewlow & Mishra, 2017, Clewlow, 2016

framework could be established. Many cities impounded hundreds of scooters and others, like Milwaukee, took legal action against the companies. Even in pushing back against uncooperative business practices, cities recognize the potential for e-scooters to reduce congestion, transit inequity, carbon emissions and the cost of mobility for residents.

Furthermore, residents themselves seem to have a favorable view of e-scooters. In a recent report, Populus found that the majority of residents either enjoyed having scooters or were ambivalent towards them, with San Franciscans maintaining the lowest rates of acceptance (but still more than half, at 52 percent).[14]

Many criticisms from residents included the right of way crowding, dangerous drivers and blocked sidewalks from operating or discarded scooters. There were also anti-scooter vigilantes who broke scooters in half, placed them in trashcans, painted them and even tossed them into bodies of water.[15]

Many cities are considering ways to regulate scooters. Washington, D.C., ran a pilot project, which allowed six different companies to run 400 vehicles each. After the District's first scooter fatality occurred tragically in September,[16] the city passed regulations that not only require companies to go through an application process, but also set limits on the number of scooters allowed per provider and the speed at which scooters are allowed to travel.

Meanwhile, when Santa Monica began setting up their own pilot program, city officials ultimately did not recommend permitting Lime or Bird for the designated time period. This came as a surprise to the aforementioned companies as well as to the general public, eliciting protests at city hall as well as an extensive social media outcry from passionate riders.[17] The fate of e-scooters is not certain and will most likely vary from city to city. However, their impressive adoption rates and growing support in the short period of time they've been available may help them establish a lasting presence in the urban mobility landscape.

Mergers, Partnerships and Evolution

Interest in micromobility has increased, and transportation giants have begun focusing on these emerging markets. Recognizing the potential growth and transformation of urban transportation, both Uber and Lyft have sought to add dockless devices to their suites of services. Recently, Uber acquired JUMP, the electric-assist dockless bike company, and added their bikes to the Uber app. Following Lyft's example of deploying their own e-scooters, JUMP added e-scooters to their portfolio. Uber has already added JUMP's services to their app and began adding their logo to Lime scooters and bikes as well.

Investors are also showing interest in the individual bike and e-scooter companies. Lime received funding from the technology company Alphabet as well as a recent partnership with Segway. Bird also makes use of Segway's developed technology by renting scooters designed by the company.[18] Motivate, the bicycle operator for many bikeshare systems such as San Francisco's Ford GoBike and Washington D.C.'s Capital BikeShare, was acquired by Lyft, possibly in response to Uber's purchase of their competitor, JUMP.[19]

Motivate looked to be the largest in the nation for micromobility services before Chinese dockless bike providers like Ofo and Mobike spread the idea of dockless systems into the U.S. Another provider, Spin, that was founded in 2016 in San Francisco, has gained popularity and ridership through their bikeshare program that they initially launched in Seattle. Despite their success using bikeshare, they have decided to remove bikes in favor of offering only e-scooters.[20] Skip, formerly known as Waybots, intends to perfect the scooter industry by not only providing a better vehicle, but also asking cities for permission to deploy regardless of whether or not competitors are already operating. Their intent is to show riders that the quality of the vehicle matters to the quality of the service.[21]

Challenges and Opportunities for Cities

Safety

One of the main concerns surrounding the uptick in scooter and bike use is safety. Perhaps the most controversial, and greatest pain point for city leaders is scooter operation on sidewalks. Crashes between pedestrians and riders have resulted in injuries and stoked concerns in cities about liability. Some of the misuse of the dockless vehicles can be chalked up to users' unfamiliarity with the vehicles and the city's regulation of their operation. Every city has different rules about where bikes and dockless vehicles can be operated, and ultimately, it is up to the user to educate his or herself. The bike and scooter companies have also engaged in various efforts to educate the public about local regulations and the dangers of riding on sidewalks.

Another challenge inherent to micromobility usage is that many communities lack the infrastructure for alternative modes — their transportation networks are set up to accommodate cars. Once micromobility vehicles begin to occupy the street space, the car centric design of many cities might result in some dangerous or hazardous interactions. In fact, cities might find that cars present a danger to micromobility vehicles on the streets, similar to the threat that bikes and scooters pose to pedestrians on the sidewalk. This became tragically clear in September, when a 20-year old scooter rider in D.C. was struck and killed by an SUV.[22] Drivers are not used to sharing the road with other vehicles, and small, unprotected scooters and bikes traveling in the same areas as cars have resulted in crashes and fatalities. This is further complicated by the fact that the scooter companies do not have a good system for tracking accidents.

These challenges have inspired many cities to commit to designated infrastructure that can accommodate alternative modes. Some cities have begun to paint bike lanes in spaces previously dedicated to curbside parking spots or even create road barriers between bike lanes and vehicle lanes. These sorts of policies and actions create a more robust biking culture, by making biking and alternative mode use easier, safer and more efficient. As more residents choose alternative modes, drivers will become more accustomed to sharing road space, which has an agglomerating safety and environmental impact.

Another important safety challenge that providers and cities are struggling with is helmet usage. Many scooter-related injuries are directly tied to riders not wearing helmets. But shared systems give pedestrians the opportunity to hop on a bike or scooter whenever they please, which provides a lot of freedom but also leaves riders potentially unprepared and vulnerable. A traditional biker, using their own bike, is more likely to have their own helmet than riders on dockless devices, who use the vehicles on a whim, and might not want to carry bulky helmets around without knowing if and when they'll be on a bike or scooter.

Although bike and scooter providers implore users to wear helmets when riding, they do not advocate that cities mandate helmet usage. This challenge is particularly difficult to address because providers do not have an enforcement structure in place, and they have a vested interest in keeping riders' engagement with their vehicles nimble and spontaneous. This issue highlights the difficult circumstances scooters present local police and traffic enforcement officials. Enforcement is time

consuming, and violations are ubiquitous. Many cities are still struggling to find the right regulatory mechanisms to improve resident safety.

Curb Space Management

Many cities experience negative feedback from residents about dockless scooters and bikes being discarded carelessly in public spaces, such as sidewalks. Cities and providers require users to leave their vehicles in locations that do not block foot traffic or access points. This can be difficult to enforce, as there is no way to know who left a scooter in an illegal location, and many services lack a required verification method to make sure users are parking vehicles legally. And because these companies do not require stations, drop off and parking after use is subject to a rider's discretion.

One way to address this challenge is to require riders to take a picture of the vehicle after it is parked and send it to the provider. If a user continuously leaves their vehicle in inappropriate locations, then their account can be subject to suspension.

Another solution that many cities have implemented is to create designated parking zones for scooters or bikes. The parking zones are painted, designated rectangles in appropriate areas. Seattle has put many of these parking zones in place and has seen positive behavioral shifts in response.[23]

The parking spots function as an organizational tool for high volume areas where bikes or scooters are more likely to be left. These low-cost interventions provide guidance for riders, encouraging them to avoid blocking the right of way in crucial locations.

First and Last Mile

In any given urban environment, there are areas that are unserved or underserved by transit and mobility options. Fixed route transit options are limited in how many people they are able to serve. In addition, the distance the average American is willing to walk to reach a transit option, sometimes referred to as a pedestrian shed, is somewhere between one-quarter and one-half of a mile.[24] Micromobility options like bikes and scooters have the potential to increase that pedestrian shed distance and solve cities' first and last mile problems. For instance, many people that choose to commute via car may do so because their residence or destination is outside of a comfortable walking distance from public transportation. Dockless technology can function to increase the range of access around public transportation services, increasing ridership and potentially taking cars off of crowded city streets. While not everyone who can use micromobility options in their daily commute will elect to, the expansion of the micromobility industry could lead to large segments of commuters changing the way they choose to get around.

Micromobility is also poised to promote equity by improving services to low-income and underserved communities. Because micromobility services have minimal infrastructure requirements, they can be quickly deployed in low-service regions, helping residents get to where they live, work, play or pray. Additionally, there should be constant emphasis on balancing fleets, so that they serve all communities equitably. While the promise of transit equity has attracted many cities to these services, officials should acknowledge that the dockless nature of these services may lead to unequal distribution of scooters and bikes throughout their cities.

Pilot Programs

Many cities are opting for pilot programs before they commit to providers or to deploying micromobility on a large scale. In most circumstances, testing these vehicles on a smaller scale gives cities an opportunity to understand how they fit into the existing mobility ecosystem. Pilots also provide an opportunity to test the public's reaction to this new technology. While the private sector providers that deploy micromobility vehicles might be interested in launching as quickly as possible, city officials must always consider public safety, equity and the well-being of residents.

The public pushback in San Francisco caused by heavy scooter deployment exemplifies how rapid growth is not always beneficial to the public or, in this case, to the industry. After nearly 2,000 public complaints and 500 scooters were impounded, scooters were banned.[25] But there are success stories. The city of Santa Monica began the process of creating a pilot program for a select few providers. Initially, the committee tasked with recommending which providers should be selected left both Bird and Lime out of the program, due to the fact that the companies were initially unwilling to work with the city. After a series of public protests both at government buildings and over social media, Santa Monica decided to give permits to four companies, including both Bird and Lime. Pilots can be useful in cases like this to help cities regulate overzealous providers from deploying too much too soon, control the local mobility landscape and create a long-term plan using testing and gradual rollout.

City Examples:

San Francisco:

Keeping Providers at Bay

San Francisco has been a pioneer in micromobility, long before the term existed. The city introduced the Bay Area Bike Share pilot in 2013, and expanded the concept (now called "Ford GoBike") in 2017. This program started with 700 bikes based at 70 stations throughout the city. It has since grown significantly and established partnerships with East Bay cities and San Jose.[26]

After finalizing a permit application in June 2017, San Francisco was one of the first cities to create a comprehensive permitting process for dockless bikeshare providers. This allowed the city to regulate and monitor the deployment of the bikes while also allowing providers to quickly roll them out. In 2018, JUMP bikes became the sole permittee to operate a pilot program that included an initial 250 electric assist bikes as well as potential expansion of up to 250 additional bikes. The intention of the pilot was to see how well dockless bikeshare works in the city and to develop further policy recommendations based on its successes and failures.[27]

The introduction of dockless electric scooters into the Bay Area initially elicited some tension. When these companies deployed in early 2018, there was no permitting process or existing regulation in place for dockless e-scooters. Initially, Lime placed a limited number of pop-up scooter rentals throughout the city to test the waters for the scooter market. Their pop-up deployment initiated a rapid rollout by other competing, scooter companies. Lime, Bird and Spin deployed hundreds of scooters in a matter of weeks, and residents quickly began to take notice. Although the scooters

Scooter Share Pilot Program — SFMTA Application Assessments

Safety	Strategies to educate and train users should result in safe operations of scooters by riders.
	Strategies to promote and distribute helmets should result in helmet use by riders.
Disabled Access	Strategies to ensure properly parked scooters, including any commitments to locking or tethering, should result in parking that does not block the right of way.
	User penalties for poor compliance by users with laws governing scooter operation, including possibility of suspension by the applicant, should support appropriate operation.
Equitable Access	Approach to proving service to low-income residents, including diverse payment options and fare discounts, should reduce barriers to participation.
	Service area beyond the downtown core and commitment to rebalancing should ensure availability of scooters in underserved areas.
Community Outreach	Outreach approach should include strategies to ensure that low income residents are aware of service and how to participate.
	Approach to outreach should ensure that members of the public, including those that choose not to use scooter services, have the opportunity to be heard and to stay informed about the program.
Labor	Should demonstrate understanding of operational needs and resource requirements to ensure service reliability.
	Approach to hiring and training employees and/or contractors should ensure that staff have the knowledge and skills to ensure safe operational practices and knowledge of the communities in which they operate.
Sustainability	Approaches to operations and disposal should demonstrate commitment to environmental sustainability.
Experience & Qualifications	Applicant's experience in operating and maintaining shared mobility systems, in San Francisco and elsewhere as well as applicant's history, and the history of their users, in complying with city regulations should demonstrate their capacity to comply with the terms of the scooter share permit.

saw immense usage, some residents saw scooters as hazardous and irritating. Almost a month later, the city passed a law requiring companies to have a permit to park scooters on sidewalks and in public spaces. They also began working on a formal application process. On June 4, nearly three months and 2,000 public complaints later, the San Francisco Municipal Transportation Agency (SFMTA) banned scooters until a permitting process could be developed. After a dozen companies applied for permits, the city allowed two companies, Scoot and Skip, to each deploy 625 scooters, with a cap of 2,500 after the six-month halfway point.[28]

Applications were assessed with 12 criteria in mind, detailed below. According to the chart, both Skip and Scoot came up with innovative and satisfactory ways to promote safety, increase access and conduct community outreach.[29] The city also shielded taxpayers from implementation costs, charging each company a $5,000 application fee, a $25,000 annual permit fee, and a $10,000 endowment per company to cover costs.

San Francisco's approach has been replicated in cities like D.C., and may set the tone for other cities. The three major steps in the process — a legislative restriction on what is allowed in public

Rating Definitions

SFMTA

Strong ratings were given to responses that included detailed, unique or innovative approaches demonstrating the highest level of commitment and ability to solving known challenges and concerns, and substantially exceeding the minimum requirements. The SFMTA evaluated these proposed approaches as highly likely to achieve the stated standard.

Fair ratings were given to responses that included basic or typical, but unexceptional solutions, demonstrating a moderate level of commitment and ability to solving known challenges and concerns and meeting or somewhat exceeding the minimum requirements. The SFMTA evaluated these proposed approaches as moderately likely to achieve the stated standard.

Poor ratings were given to responses that at best met the bare minimum requirements established in the terms and conditions for holding a permit, and often lacked important details, demonstrating a low level of commitment and ability to solving known challenges and concerns. The SFMTA evaluated these proposed approaches as unlikely to achieve the stated standard.

Bird	HOPR	JUMP	Lime	Lyft	Ofo	Razor	Ridecell	Scoot	Skip	Spin	Uscooter
Fair	Fair	Poor	Poor	Poor	Poor	Poor	Fair	Strong	Fair	Fair	Fair
Poor	Strong	Poor	Poor	Poor	Poor	Poor	Poor	Strong	Fair	Poor	Poor
Fair	Strong	Poor	Fair	Fair	Fair	Fair	Poor	Fair	Strong	Strong	Fair
Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Strong	Poor	Poor
Poor	Poor	Strong	Poor	Strong	Fair	Poor	Poor	Poor	Strong	Fair	Poor
Poor	Fair	Strong	Poor	Poor	Fair	Poor	Strong	Fair	Strong	Poor	Fair
Poor	Poor	Strong	Fair	Fair	Poor	Poor	Poor	Strong	Fair	Strong	Poor
Poor	Poor	Poor	Fair	Fair	Poor	Poor	Poor	Fair	Strong	Poor	Poor
Poor	Poor	Strong	Strong	Strong	Strong	Poor	Strong	Strong	Strong	Strong	Fair
Poor	Poor	Poor	Fair	Fair	Strong	Poor	Poor	Strong	Fair	Poor	Fair
Poor	Poor	Fair	Fair	Strong	Poor	Fair	Fair	Fair	Poor	Fair	Poor
Poor	Fair	Fair	Poor	Poor	Strong	Poor	Poor	Strong	Strong	Poor	Poor

spaces, a permitting and piloting process, and a cost recovery mechanism on the back-end — show how cities can leverage control over public assets to influence companies' behavior while staying nimble and innovative.

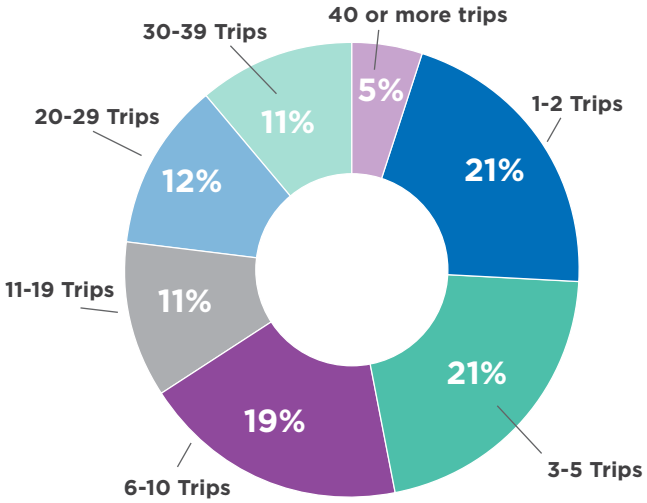
Washington DC:
The Beginning of Shared Micromobility in the US

Washington, D.C., has not only embraced new transportation technology but has also managed to facilitate smooth adoption of new modes. The growing interest around micromobility and the city's openness to innovation make it an optimal place for testing and development of alternative transportation services. The Washington, D.C., metro region has the unique honor of being the first in the U.S. to launch a bikeshare program. In 2008, the city started SmartBike DC which included 120 bikes at 10 different stations in the downtown area. It operated for two years. Surrounding areas, including Arlington, Virginia; Alexandria, Virginia; and Montgomery County, Maryland, worked with the District to create a collaborative bikeshare program that serviced a much larger region. Arlington and D.C. launched the program in 2010, and by 2018 the program had expanded to six jurisdictions under the name Capital BikeShare.[30] Washington, D.C.'s, program has helped many other cities structure, implement and maintain their own city-led, docked bikesharing projects.

The dockless trend began in D.C. in September 2017, first with bike providers Mobike, Spin, Ofo and Lime, which operated under a permitting system allowing them to each operate 400 vehicles.[31] Communicating with the District's local government prior to deployment helped provide the necessary control for the city and access to markets for the deployers. The original three providers were eventually joined by more bike companies as well as scooter providers. LimeBike rebranded as Lime and began to offer scooters in addition to their bright green bikes. Spin did the same and has now taken bikes off the streets in favor of scooters because of the incredible growth they have seen in the scooter market. When dockless services began to emerge in the city, D.C. established a pilot program to test them. While original plans had the pilot program ending in April, it was extended until August 31, 2018.[32] A second extension began September 1 and went through the end of 2018.

In November, the District released a permit application (see Appendix) for dockless companies to operate in the city, using the pilot program to inform new rules for scooter providers, including a cap on fleet sizes (600 scooters per provider), and a speed limit of 10 mph. These rules took effect on January 1, 2019. Scooter providers

How Many Trips Do Capital Bikeshare Riders Take?



Capital Bikeshare is serving many types of users, from occasional riders to superusers. Graph adapted from Virginia Tech (2018). D.C. Dockless Bikeshare: A First Look. Accessed at https://ralphbu.files.wordpress.com/2018/05/dc-dockless-bikeshare_a-first-look_may_10_2018_publication.pdf

like Bird, Lime and Skip have submitted complaints to the District's DOT, claiming the 600 scooter cap is too restrictive. Bird has also called the speed limits a "troubling development," despite the fact that the 10 mph speed limit has been the law since 2006[33] and has only been enforced since January 2019.[34]

New York City:
The Largest Operating Bikeshare System in the U.S.

As the largest city in the U.S., New York City represents a huge opportunity for micromobility providers. NYC adopted a bikeshare system in May 2013, partnering with Citibank to sponsor the CitiBike system. Residents immediately took advantage of the initial 6,000 bike release, racking up over 20 million miles in 18 months. By the end of 2017, the expanded fleet of nearly 12,000 bikes racked up over 1.8 million miles (over 60,000 per day). Each bike was used approximately seven times per day by more than 146,000 users. Mayor Bill de Blasio highlighted the success of CitiBike, saying, "Bikeshare is now an essential part of our transportation system and another way we're making sure New Yorkers have many ways to get around town."[35]

This summer, NYC launched a dockless pilot to supplement CitiBike and explore new modes. JUMP, Lime and CitiBike were granted permission to operate in three areas across the city, and CitiBike began offering a dockless product. Electric scooters have not entered New York City yet, and a spokesperson for the DOT has asserted that: "While [they] are aware of the industry and the larger companies within, these devices are not currently legal to operate in NYC under state law."[36] In November, city councilmembers introduced a bill to legalize e-scooters and establish a pilot program.[37] Most recently, Lyft announced an additional $100 million investment in CitiBike after acquiring Motivate, the nation's largest bikeshare provider, promising to double its current service area and deploy up to 40,000 bikes by 2023.[38]

Kansas City:
Intentional, Incremental and Equitable

Kansas City, Missouri, is working proactively to engage emerging technologies and the often-disruptive business models used to monetize them. One of the keys to Kansas City's approach was proactively communicating with dockless scooter providers. As soon as they found out Bird would be deploying 100 scooters in the city, officials set up a call and insisted on collaboration. The resulting Interim Operating Agreement (IOA) was a win for both parties. The negotiation allowed the city and Bird to find common ground, letting Bird launch legally while the city developed its Shared Active Transportation Pilot Program. Cooperation created an opportunity for Bird to deploy five times the number of scooters they originally planned, while Kansas City secured data-sharing agreements and began planning for cost recovery. The IOA provided a mechanism for Bird to incrementally scale their fleet as specific performance measures were achieved.

Following Bird's deployment, Lime began exploring their own deployment. Officials were able to collaborate with Lime much earlier in the process, which proved valuable for both parties. First, Lime was able to provide a more expansive educational package that included in-app notifications to riders about how to ride, where the scooters were going to be placed and general tips. They also agreed to develop a sophisticated data dashboard with information on all their scooters. The depth of this data equips planners and policymakers with the tools they need to evaluate how well both Bird and Lime scooters are serving the people of

Kansas City. On December 5, 2018, the city began accepting proposals to participate in a pilot program for electric scooters, e-bikes and other forms of shared active transportation.[39] The pilot program is expected to start in early April 2019.

Kansas City's intentionality bought them the time they needed to address the complexities that accompany this new mode of transportation. The Interim Operating Agreements (IOAs) with Bird and Lime expire six months after signing, giving city staff the opportunity to plan and negotiate further with scooter providers before addressing potential full deployment. The companies are required to respond to the Shared Active Transportation Pilot Program in order to continue operations. The city is using this pilot program to give residents and policy makers the time to address crucial questions about how scooter providers will work with the city and be distributed, and how the city might adjust rules of the road to accommodate them. There were several regulatory due diligence challenges that city officials had to deal with, including the crucial balance between education and enforcement. The first major hurdle was establishing whether scooters were legally able to occupy street space, and whether it would be legal for users to ride on sidewalks, public streets and bike lanes. City officials found it easier to apply motor vehicle laws to scooters (including a ban on sidewalk usage), but the city has made it clear that they are reserving the right to enforce that rule for particularly egregious cases.

The city's incremental approach to regulating scooters has several advantages. First, it allows the city to work with Bird and Lime to build relationships with business and neighborhood associations to share information on responsible ridership, parking, and improperly deployed or parked scooters. Second, residents have the time to voice concerns about the disruption scooters might present to their commute. Finally, the city can now analyze ridership data to answer an incredibly important question: Are these scooters benefitting everyone in the city?

The promise of affordable, dockless transportation options is not lost on Kansas City. In fact, the scooters' ability to provide first and last mile transportation to Kansas City residents most in need is one of the main criteria under evaluation. Anecdotally, people are seeing "a wide variety of demographics riding these scooters that you would not see riding bicycles," said city planner Joe Blankenship.

Despite their affordability, the dockless nature of scooters implies a variability in terms of where the hardware ends up.[40] Simply put, there's no guarantee that scooters will be waiting for passengers at their bus stops. The pilot program equips the city with the data they need to answer these access and balancing questions.

Kansas City's approach has allowed them to address the infrastructure costs up front. Since the scooters are occupying bike lanes and ridership numbers are much higher than expected, the city is now forced to drastically rethink how and when to adjust their bike infrastructure. Thankfully, the ridership data provided by the companies is assisting in prioritizing bike infrastructure projects.

Norfolk:
The Cautious Approach

Unlike several of the previous examples, Norfolk did not accept scooter companies' surprise deployments. Bird's rapid roll out was cut short when the city immediately impounded the 66 scooters that showed up overnight. A few weeks later, the city impounded another 500 scooters. To date, those scooters are still sitting in the impound lot, and now come with $90,000+ fee.

Despite this incident, Norfolk is not antagonistic towards launching alternative modes of transportation. Earlier in 2018, the city launched a pilot with 200 Pace bikes — a program that saw over 10,000 rides in its first seven weeks.[41] The city's relationship with Pace, however, has been collaborative and communicative from the start, allowing the city to prepare residents, work towards expanding bike infrastructure and monitor the pilot's progress.

Norfolk is still quite open to the idea of scooters on their streets, and they are currently working towards a more comprehensive and formalized approach to adoption. The city released a request for proposals in January 2019, looking for service providers for a one-year pilot program. This pilot is exclusively geared toward solving the first/last mile gap, increasing access for citizens overall and providing visitors with on-demand transportation.[42]

Los Angeles:
Leveraging Systems for the Public Good

With infamous levels of congestion and an impressive service area, the city of Los Angeles has many incentives to explore alternative modes of transportation for its four million residents. In the summer of 2016, the city launched a bike share pilot through the metro system with approximately 1,000 bikes. Despite their attempts to get ahead of the curve, the wave of micromobility deployments created a lot of pressure for the city to adjust — and quickly. Through their collaborations with other cities, an emphasis on a comprehensive and sustainable plan for data and an open process with their residents, LA created tools to leverage micromobility providers to the residents' benefit — a model other cities are incorporating into their own efforts.

When scooters burst onto the scene early last year, LA was in the process of creating guidelines for dockless bikes. The guidelines for dockless bikes were quickly expanded to include scooters nearly overnight. The city coordinated visits to Seattle to learn from their experience and inspire policy recommendations incorporating data. In September, the city released the first set of rules for dockless vehicles, including applications for a 120-day conditional use permit. After accepting seven applicants, the city allowed the deployment of 21,000 dockless vehicles. The first round of deployments allowed the city to explore the effects dockless vehicles would have on their transportation landscape while buying it the necessary time to develop full, one-year permits.

The city developed the Mobility Data Specification (MDS) as, "a way to implement real-time data sharing, measurement and regulation for 'mobility as a service' providers."[41] The MDS is comprised of two APIs, one for the service provider and one for the agency. Imposing data standards for all dockless vehicles will greatly expand the city's capacity to learn about how these devices are being used. Furthermore, the city released the MDS on GitHub, making it a completely open source product for other cities to use. This is a significant example of public sector innovation.

Los Angeles' approach is characterized by openness and collaboration. The MDS and the city's guidelines have been open to public input from the very beginning, and a result, the city is well-positioned to respond to new services as they sprout up. But crucially, LA is also establishing itself as a leader in the micromobility space.

Recommendations

There are a number of considerations for city decisionmakers to keep in mind as they explore the new and changing regulatory environment surrounding micromobility:

Get out in front of surprise deployments.

A major trend in micromobility is that companies are quicker to ask for forgiveness than permission when it comes to deployment. Companies have rapidly deployed in many markets without any notice to city governments, putting officials on their heels. In San Francisco and Norfolk, this led to temporary bans on operation. This sort of relationship is untenable. Micromobility providers should be communicating with city officials and stakeholders. But for city officials, the risk is in not being proactive. Cities that remain unprepared are essentially relinquishing control of public assets to private companies, while simultaneously taking on the implementation costs of incorporating a new mode. Furthermore, local governments will be held accountable by residents if there are any mishaps or friction. City officials can head this off by communicating with micromobility companies from the beginning, and proactively considering any regulatory processes that might take place.

Utilize pilot programs to consider right of way policy, cost structure, sustainability and opportunities to work with different companies.

A pilot program is a great tool for walking the line between public safety and innovation. Pilots allow cities to experiment with many aspects of these services before moving on to full deployment or committing to working with certain companies. There are several aspects cities should consider during the pilot:

- **Right of Way Policy:**
  Cities like Norfolk and San Francisco used their right of way policy to substantiate their temporary bans/impoundments in the law. Exploring or amending your right of way policy or related fees can help set formal boundaries with companies and for law enforcement, and allow city DOTs time to incorporate curb space management into full deployment.

- **Cost Recovery Mechanisms:**
  Kansas City and D.C. are taking two very different approaches to cost recovery. On the one hand, Kansas City is using the revenue from scooters to fund a separate account dedicated to expanding alternative transportation infrastructure. On the other hand, D.C. is requiring a $10,000 bond to cover the costs of removing broken or improperly parked scooters. Developing a clear plan for what your city will charge micromobility providers and how revenues will be distributed should be a key part of any pilot.

- **Sustainability:**
  Micromobility promises smaller, more affordable and more environmentally sustainable modes of transportation. While many companies have declared success on this front, cities can use a pilot program to understand who is riding, how many bike/scooter trips are replacing car trips and other indicators that might be important to a city's sustainability goals.

- **Working with Different Providers:**
  While a few companies have shot out of the gate in the micromobility space, there are a multitude of providers, and they all have slightly different approaches and business models. A pilot program is an opportunity to explore every option, and determine which of the many micromobility companies might be the best partner to meet your community's specific mobility needs. Though many of these companies provide similar services, the way they cooperate and interact with cities can vary dramatically.

Consider safety.

One of the major lessons gleaned from the short history of micromobility is that companies will encourage but not enforce safety standards. That responsibility falls squarely on the city's shoulders. Understanding how to keep residents safe while allowing them to utilize these new services is one of the biggest challenges cities will face. Of course, safety means more than requiring riders to use helmets or imposing speed limits; it means reevaluating the city's entire transportation ecosystem. Examinations of how riders interact with sidewalks, bike lanes, roads, cars, pedestrians, potholes and other parts of public infrastructure all factor directly into safety concerns.

Develop a plan and agreement for trip data.

Dockless bikes and scooters are unique in that they were popularized during an era of connected devices. This means providers have an unprecedented amount of quality data on vehicle locations and trips, which can be critical to city governance decisions. Not only can this data help bolster safety and accountability efforts, but it can also help cities see who is using these services, where they're going and when, and how well their current transportation infrastructure maps to that information. Los Angeles recognized this early and developed its open source Mobility Data Specification for any city to use. Carefully planning and executing data-sharing agreements with these companies may be one of the most important ways to hold them accountable and use these technologies to move toward your city's transportation goals.

Reevaluate bike infrastructure.

Micromobility also promises benefits for residents who already use bicycles as a primary mode of transportation. As Kansas City demonstrates, there is demand for expanded bicycle and alternative transportation infrastructure. While many stakeholders in the biking community see this as a positive shift toward more bicycle-friendly communities, there are other stakeholder groups that are not as enthusiastic about dedicating more space to other modes. Along with potential for increased safety and widespread adoption of smaller, more affordable and more sustainable modes, micromobility produces a real tension with urban commuters in cars. This should be a key consideration in deployment strategies. Making the case for, and taking the steps toward, a balanced expansion of bike infrastructure, will be a nuanced and difficult path.

Focus on equity.

Providing equitable transportation options is one of micromobility's greatest potential offering. Some cities, such as Columbus, Ohio, and Washington, D.C., are requiring companies to deploy in underserved areas so as to ensure these new pilots and programs align with their goals around equity.[43] Many cities are also working with companies to provide solutions and access for unbanked users. While there are several ways to consider equity and ensure it aligns with your city's goals, equity should be central to deployment negotiations.

Reach out and connect with other cities.

Many of the cities in this report are taking innovative approaches to the growing wave of micromobility services, using some or all of the strategies outlined above. City staff around the country have engaged in creative responses to service providers' surprise deployments, which put them in a position to succeed in 2019. Their work also allows them to share knowledge with other cities. When staff from Los Angeles visited Seattle to learn from their experiences with micromobility, they came away determined to make data open and usable. Their efforts created the Mobility Data Specification, which is now available to all cities. This experience could be replicated to address issues around equity, cost structure and vehicle caps and to generate best practices and standards across the country. Setting these standards could set the tone for how service providers interact with cities in the future.

Appendix

Washington's DC's Permit Application Requirements

	BICYCLES	SCOOTERS
Fleet	• Up to 600 vehicles, to be reevaluated quarterly • Must be equipped with a lock • Cannot travel more than 20 mph	• Up to 600 vehicles to be reevaluated quarterly • Cannot travel more than 10 mph • Must provide users with a free helmet within 14 days of request
Performance-Based Fleet Expansion (up to 25% per quarter)	• Number of monthly trips, daily trips per vehicle, trips originating or terminating in Equity Emphasis Area, • Number of Parking/Safety violations, • Vehicle Idle time • Installation of bicycle parking infrastructure, • Incentivizing users to park at corrals or DDOT-specified locations	
Parking	• Must maintain a pedestrian travel space of at least 5 feet • Unimpeded access to private property, CaBi stations, bus stops • Outside of protected tree planting locations • If parked incorrectly, provider must move vehicle within 2 hours of notification	
Vehicle Distribution	• Must deploy at least 6 bikes in each ward by 6 am • Shall not impose additional fees on any rider	
Fee	• $10,000 refundable bond to pay for failure to meet any above requirements • $50 application fee • $25 technology fee • $250 initial permit fee • $100 annual renewal fee • $5-$60 fee depending on month of deployment	
Data and Reporting	• Provide publicly accessible API with real time location data • Must comply with Generalized Bikeshare Feed v1.0 • Private API for DDOT • Monthly Report with user, vehicle, and trip data, safety and parking reports	

Source: DC DDOT Permit Application Process

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CENTER FOR CITY SOLUTIONS

File #: ID#20-156, **Version:** 1

AGENDA CAPTION:
Executive Session in accordance with the following Government Code Section(s):

A. Section §551.074 - Personnel Matters: to discuss the Appointee Review Process
B. Section §551.071 - Consultation with Attorney: to seek legal advice concerning a request for consideration by council of an anti-discrimination ordinance

Meeting date: 4/7/2020

Department: City Clerk's Office on behalf of the City Council

Amount & Source of Funding
Funds Required: Click or tap here to enter text.
Account Number: Click or tap here to enter text.
Funds Available: Click or tap here to enter text.
Account Name: Click or tap here to enter text.

Fiscal Note:

Prior Council Action: Click or tap here to enter text.

City Council Goal: [Please select goal from dropdown menu below]

Choose an item.

Choose an item.

Choose an item.

Comprehensive Plan Element (s): [Please select the Plan element(s) and Goal # from dropdown menu below]

☐ Economic Development - Choose an item.

☐ Environment & Resource Protection - Choose an item.

☐ Land Use - Choose an item.

☐ Neighborhoods & Housing - Choose an item.

☐ Parks, Public Spaces & Facilities - Choose an item.

☐ Transportation - Choose an item.

☐ Not Applicable

Master Plan: *[Please select the corresponding Master Plan from the dropdown menu below (if applicable)]*

Choose an item.

Background Information:

Click or tap here to enter text.

Council Committee, Board/Commission Action:

Click or tap here to enter text.

Alternatives:

Click or tap here to enter text.

Recommendation:

Click or tap here to enter text.