

MODERN-DAY FLOW MANAGEMENT

MIAMI BEACH



APRIL 14, 2020



TODAY'S AGENDA

1. Miami Beach context
2. curbFlow's Solutions
3. Next Steps



An aerial photograph of a crowded beach, likely Miami Beach, with a city skyline in the background. The beach is filled with people, umbrellas, and a lifeguard stand. The ocean is visible on the right side. The image has a light blue overlay with a white geometric pattern of lines and polygons.

For discussion:

What are the greatest challenges the City of Miami Beach is facing today? The Parking Department specifically?

If you had a magic wand, what would you fix?



Some of the challenges curbFlow is solving: SUPER

Safety

1

Illegal and double parking result in unsafe behavior

Utilization & Productivity

2

Curbs and other city assets are underutilized or used for unproductive purposes (e.g., private vehicle storage), and cities lack the data to make informed changes

Emissions

3

Curb shortages and congestion are causing unnecessary emissions from vehicles circling looking for space

Revenue

4

Cities are mispricing the curb and other city assets



curbFlow's solution: Digital Flow Management

Optimized Vehicle Flow Management



Optimized Pedestrian and Micromobility Flow Management



Reduced reliance on physical infrastructure
(e.g. meter-less payment, gate-less enforcement, digital permitting)



Informed planning and decision making using data & insights



Our approach to Digital Flow Management

*curbFlow's
'Secret Sauce'*

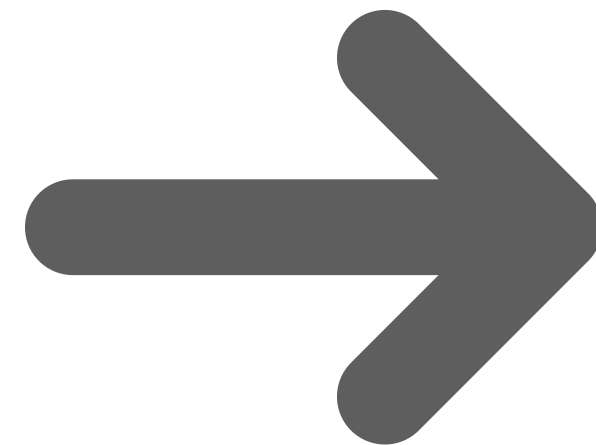
curbVision

+

**PUDO
Activity Index**

+

Relationships



*curbFlow's Digital Flow
Management*

1

Digitized Loading Zones

2

Enforcement

3

Automated Analytics



curbFlow has relationships with >1,000 operators, from small businesses to the nation's largest freight, parcel, and delivery companies

A sample of key partners:

Operator Relationships



Uber Eats



Extensive local / mom & pop relationships



We collect millions of proprietary data points from operator partners to create our Pickup/Drop-off (PUDO) Activity Index

PUDO Activity Index

Recent Operator Historical Data in City



Parcel



Freight



ODD



Data Provided

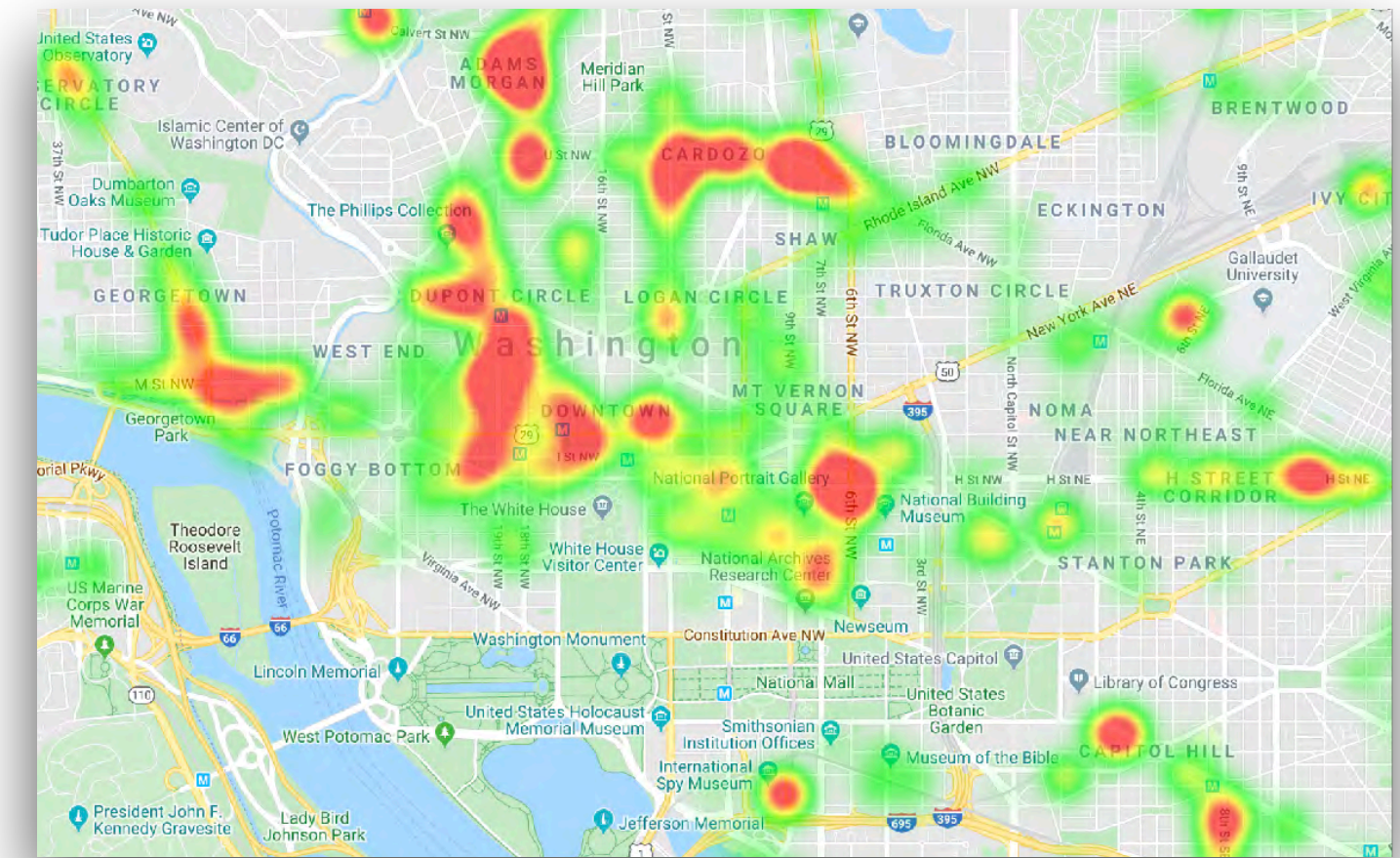
1. Location
2. Frequency / Day
3. Day of Week / Time of Day
4. Avg. Dwell Time at Curb



Proprietary Technology

1. Collect
2. Secure
3. Aggregate
4. Anonymize

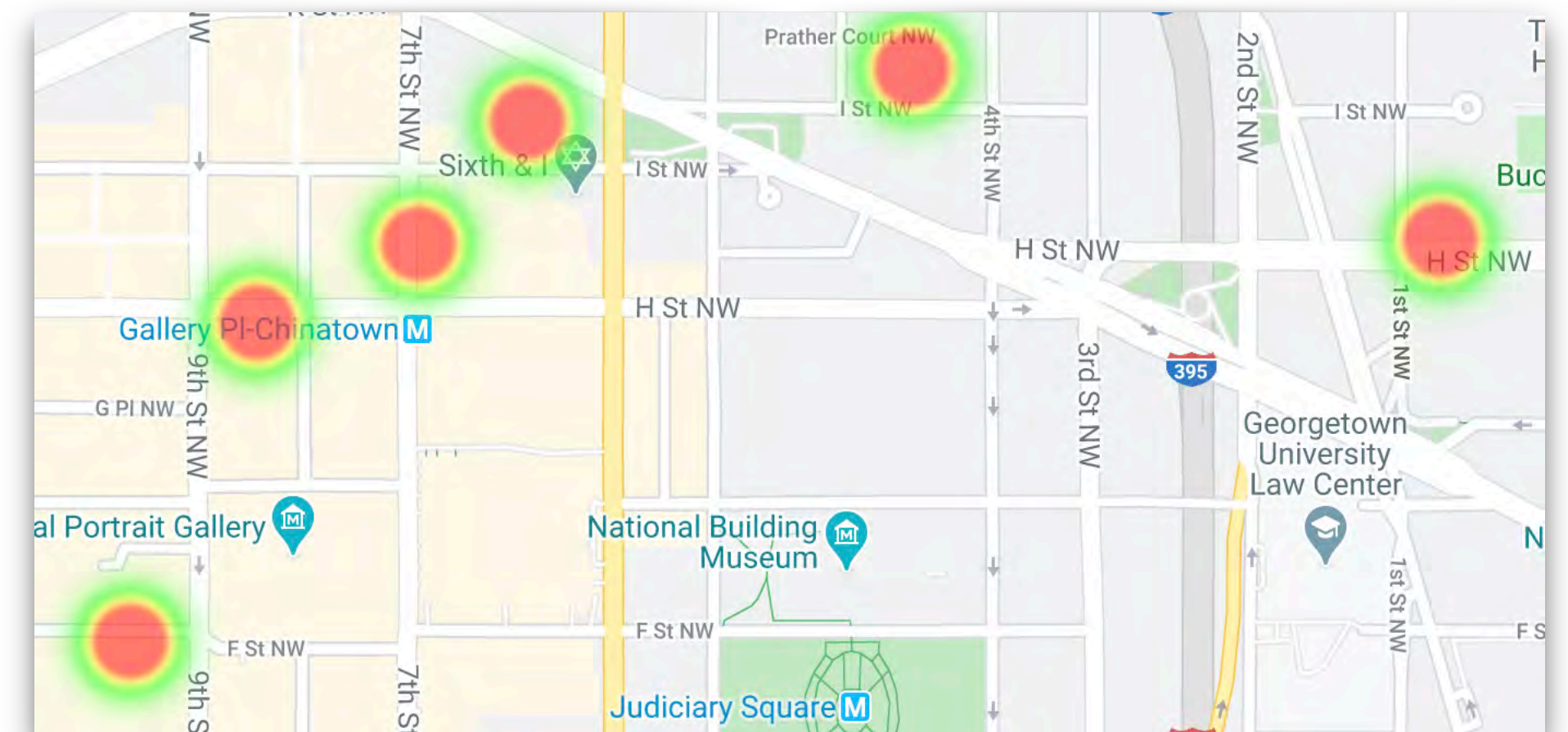
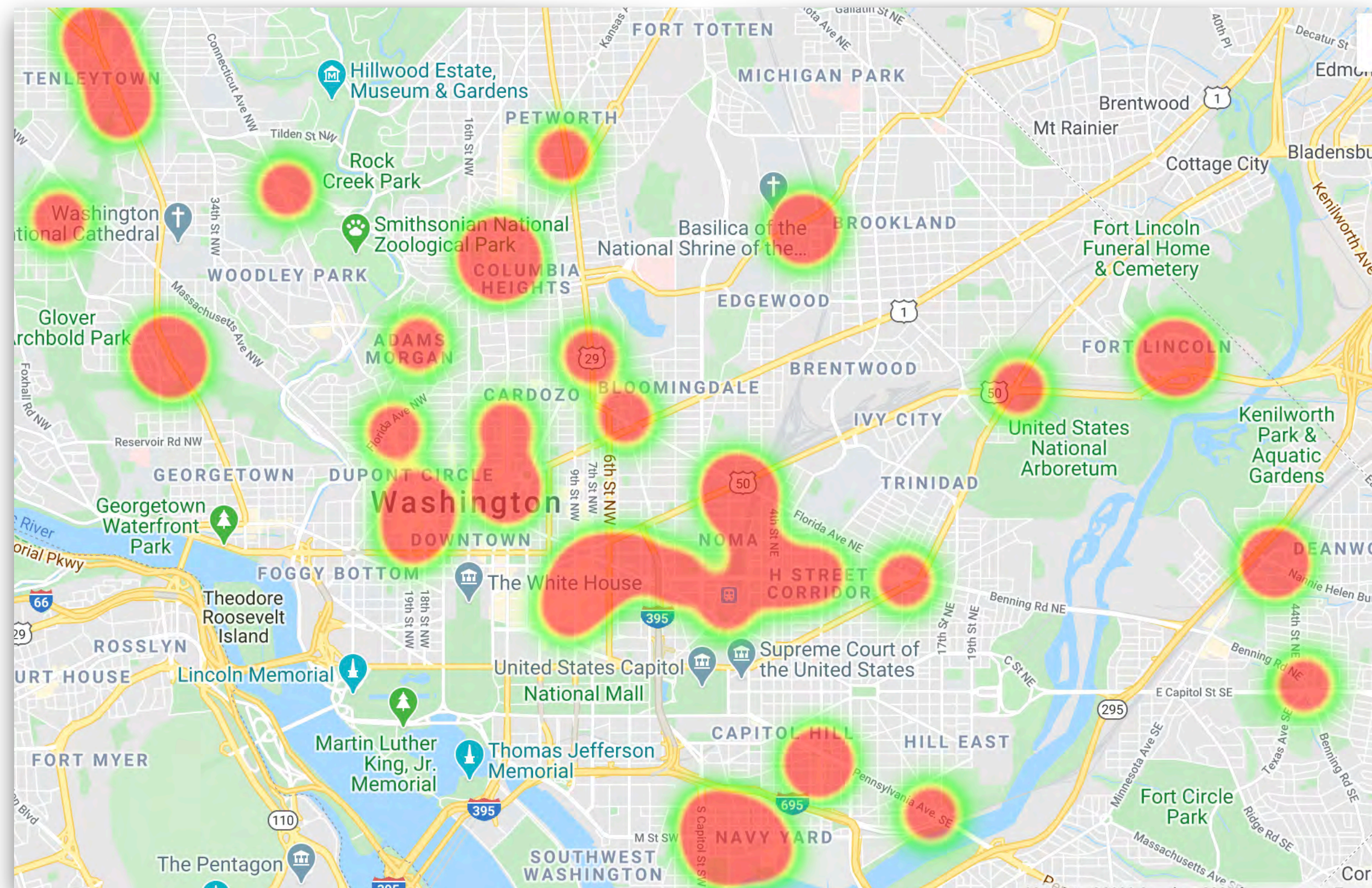
"PUDO Activity Index"



Example application: in the first week of the COVID-19 pandemic, 65 addresses in Washington DC accounted for >16,000 restaurant orders

Restaurant Orders During Covid-19 Outbreak
Mar 11 - Mar 18 (one platform only)

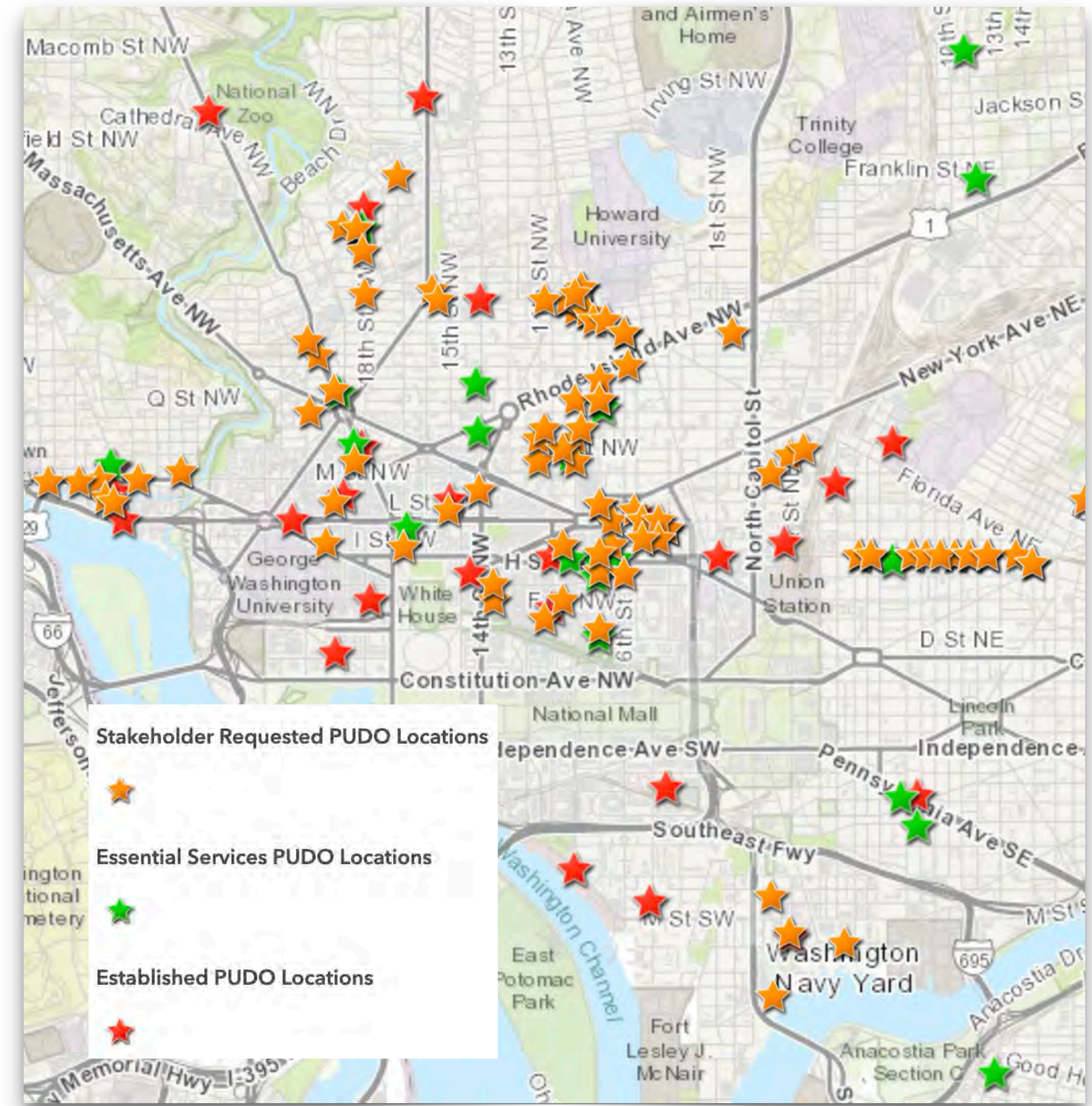
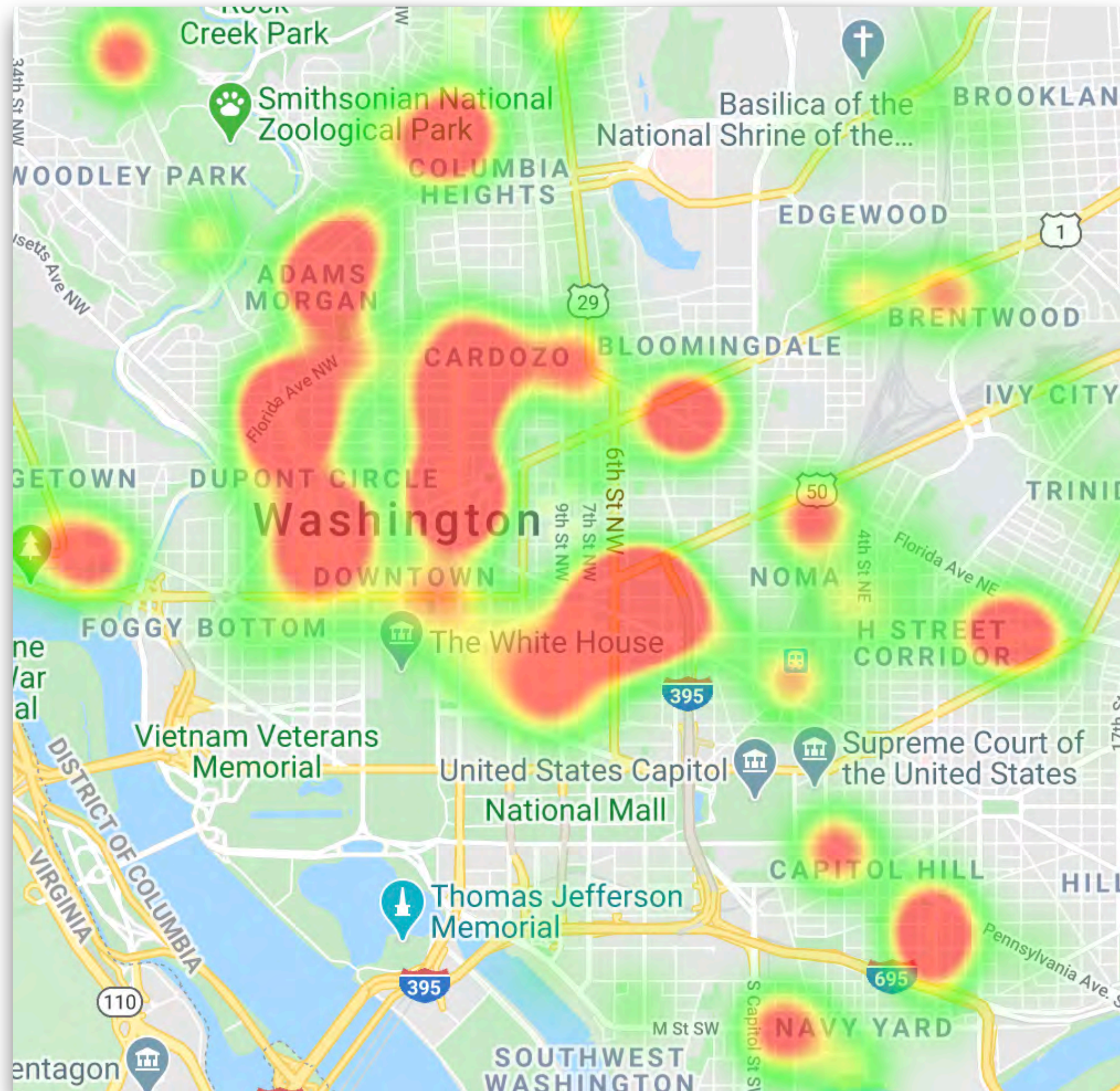
Zoomed-in View:
Delivery & Pickup High-Volume Curbs



Leveraging curbFlow-provided data, DDOT acted fast in establishing Grab & Go zones in DC where they are most needed

Restaurant Orders During Covid-19 Outbreak
Mar 11 - April 3

DDOT PUDO Zone Locations



PUDO Activity Index

curbVision by curbFlow is a first-of-its-kind insights and alert notification platform



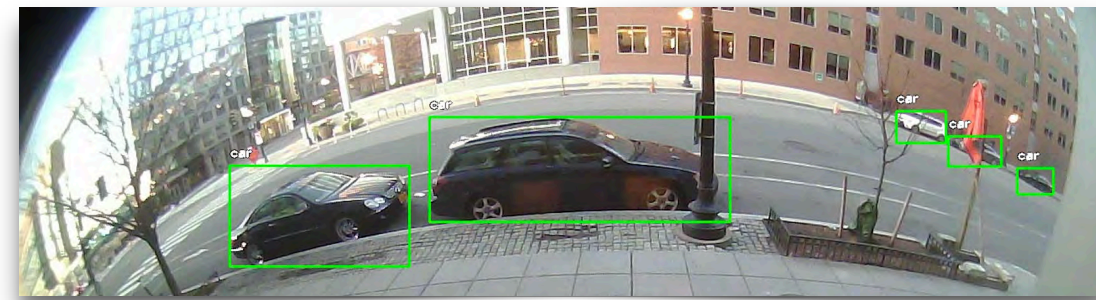
Customized machine learning library (non-PII)

2

Optional sleek and discrete computer vision devices



Best-in-class computer vision capabilities



1

3

4

Digital tracking and recording of usage

Plate: OH-J879445 3:39:00pm
Size: small
Color: Red
Make: Chevrolet
Model: Cruze
2165 North High St, Columbus, OH, 43201



curbVision ties into existing city cameras or can be enabled by curbFlow's sleek curb safety devices

OPTION A

- ▶ Install curbFlow's stand-alone hardware



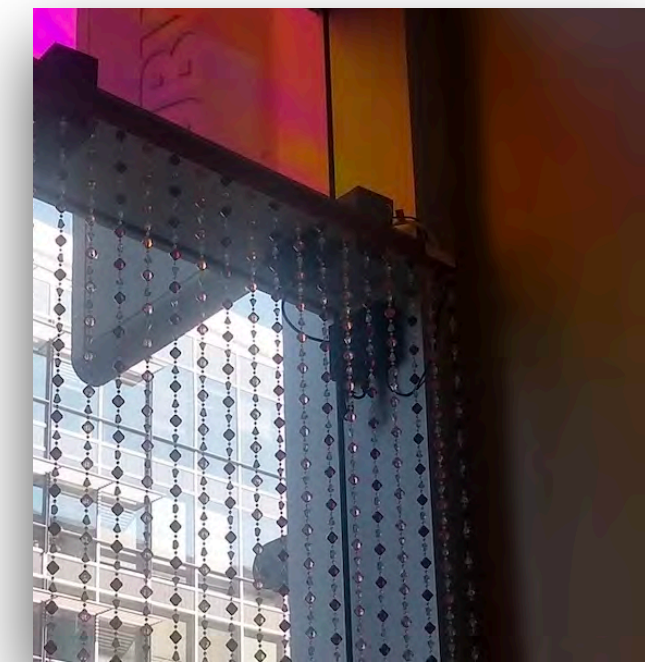
OPTION B

- ▶ Share video feed from city's cameras



OPTION C

- ▶ Combination of both options



Our approach to Digital Flow Management

curbFlow's
'Secret Sauce'

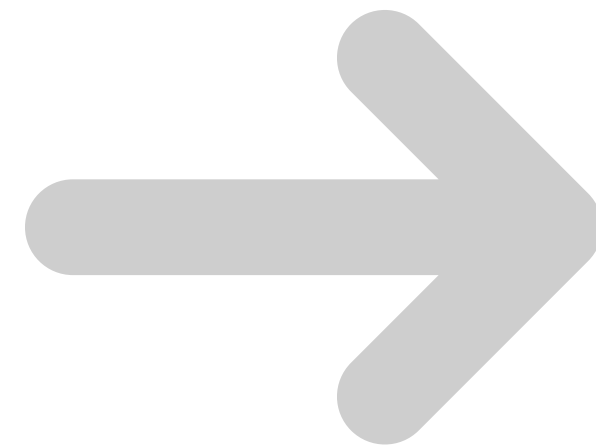
curbVision

+

PUDO
Activity Index

+

Relationships



curbFlow's Digital Flow
Management

1

Digitized Loading Zones

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curbFlow modernizes commercial loading zones (“CLZs”)

Challenges with CLZs today

- ✘ No driver visibility of CLZ locations and availability
- ✘ No city data or insights on CLZ usage or productivity
- ✘ Inefficient enforcement of CLZs
- ✘ Suboptimal revenue generation
- ✘ CLZ planning not based on operator demand data
- ✘ No flexibility for dynamic curb uses



curbFlow's Digitized Loading Zone vs. existing CLZ programs

	WITH CURBFLOW	WITHOUT CURBFLOW
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Real-time visibility of location and availability of all CLZs



Data on usage and productivity



Effective tracking and enforcement with optional Enforcement App and alert system



Optimized revenue generated from program



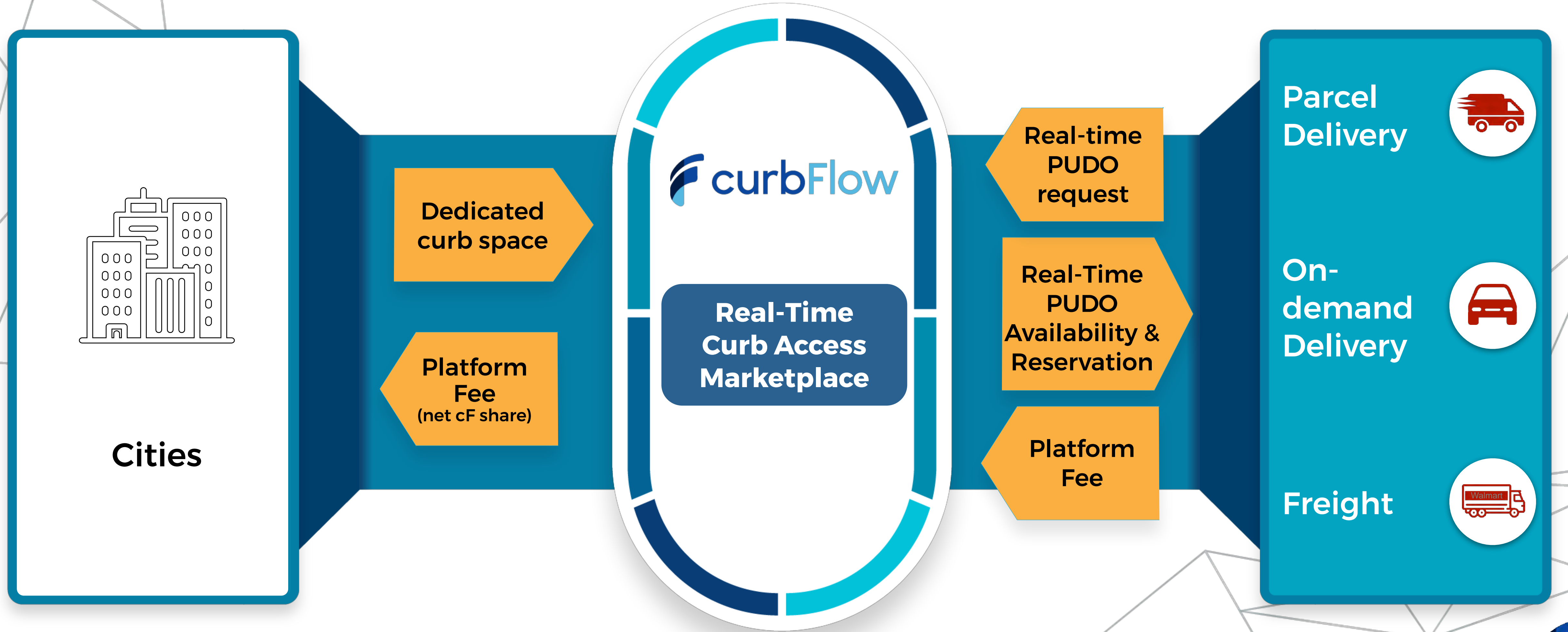
Improved long-term planning using synthesized insights



Curb rules and usage is flexible and dynamic



curbFlow's approach to Digitized Loading Zones

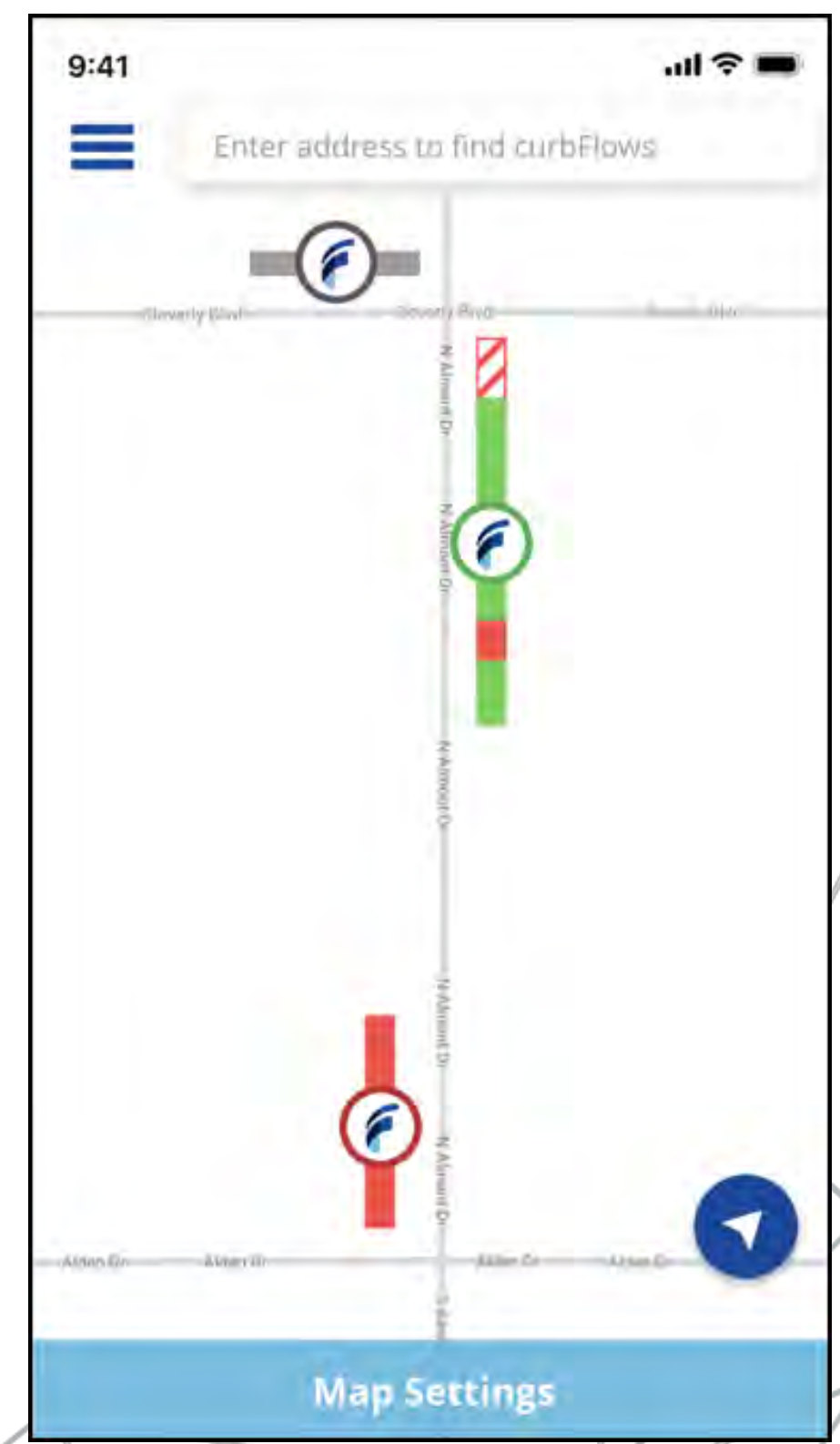


With curbVision and the curbFlow App, drivers know real-time curb availability

Monitor Curb Availability



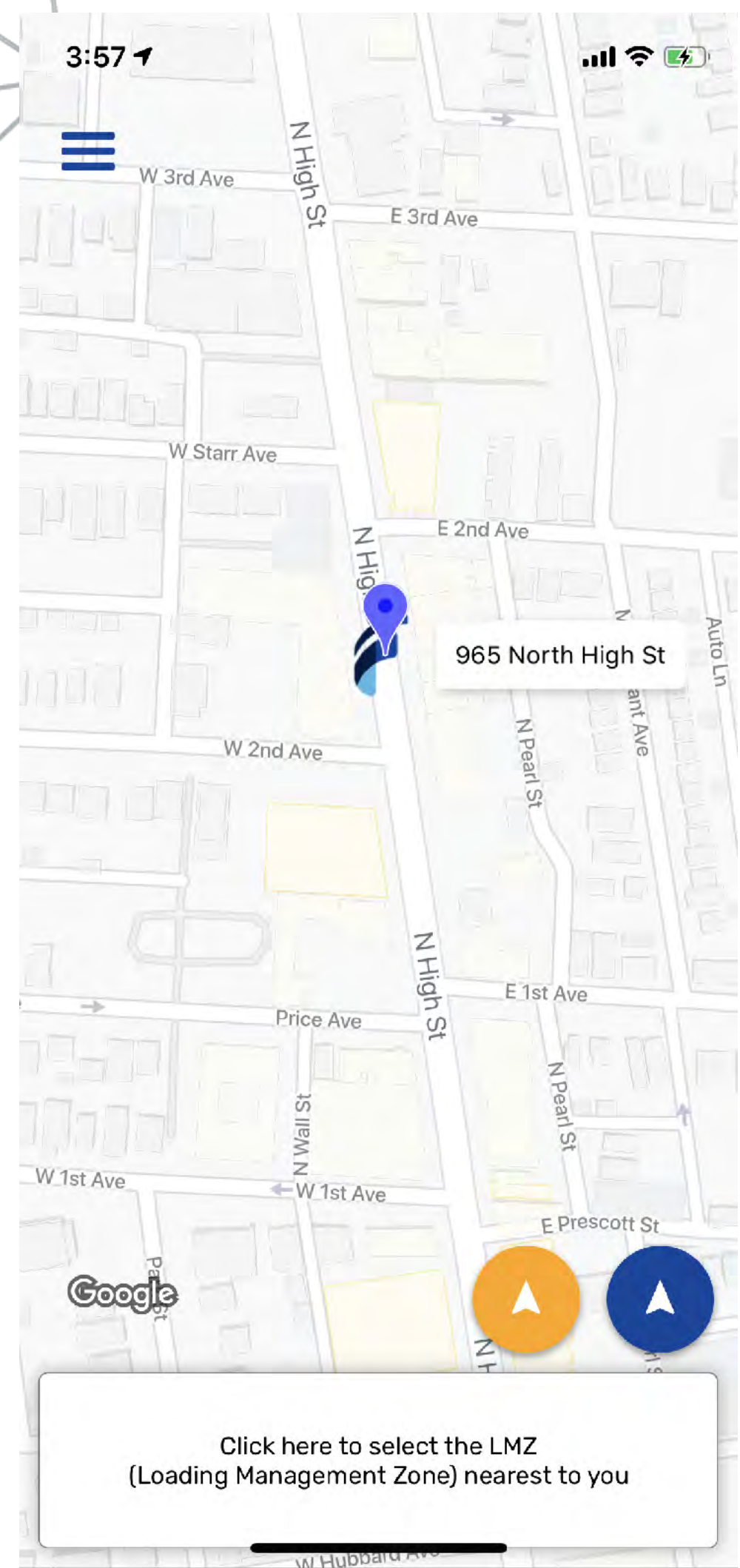
Availability Provided to Drivers



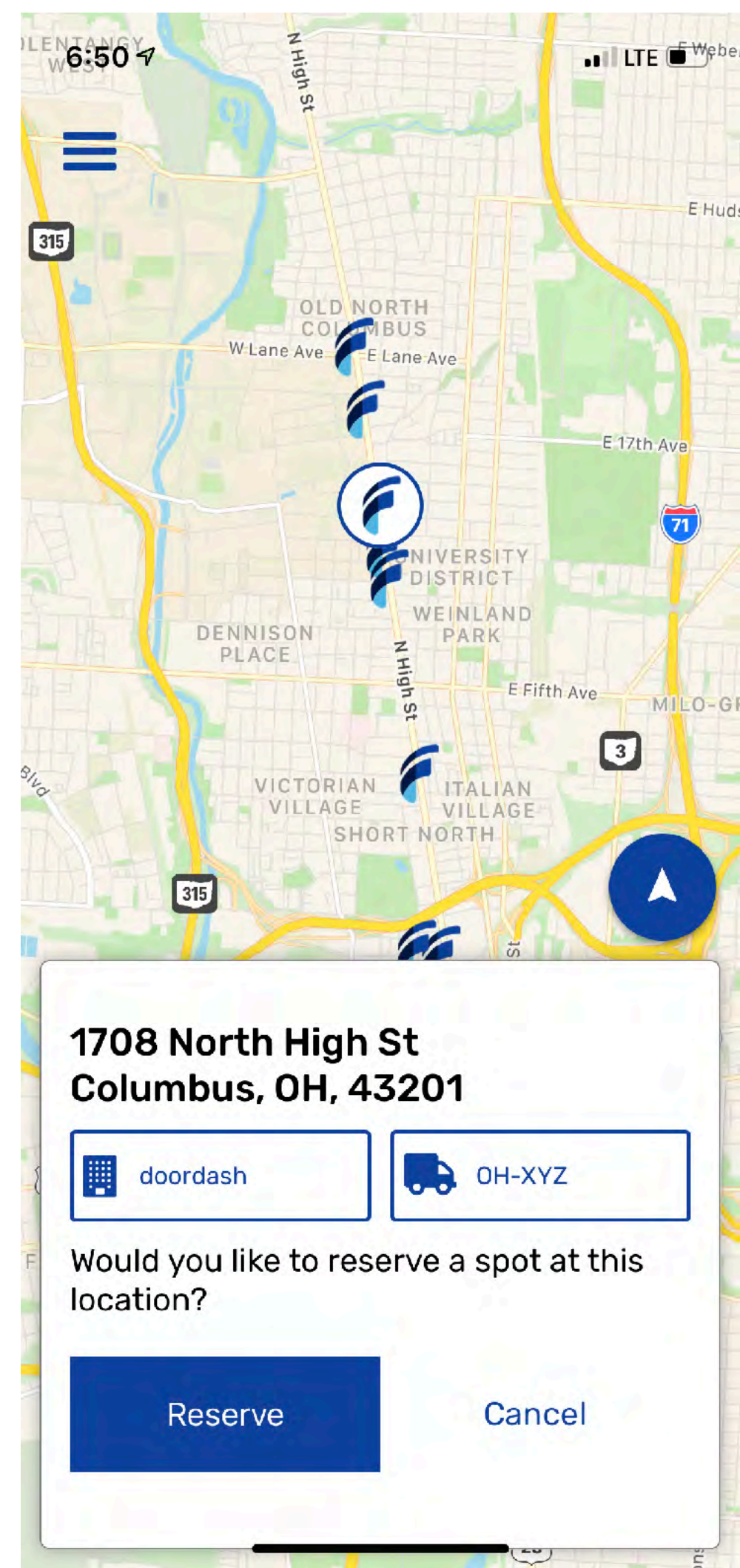
1 Digitized Loading Zones

Drivers use curbFlow's app to reserve space

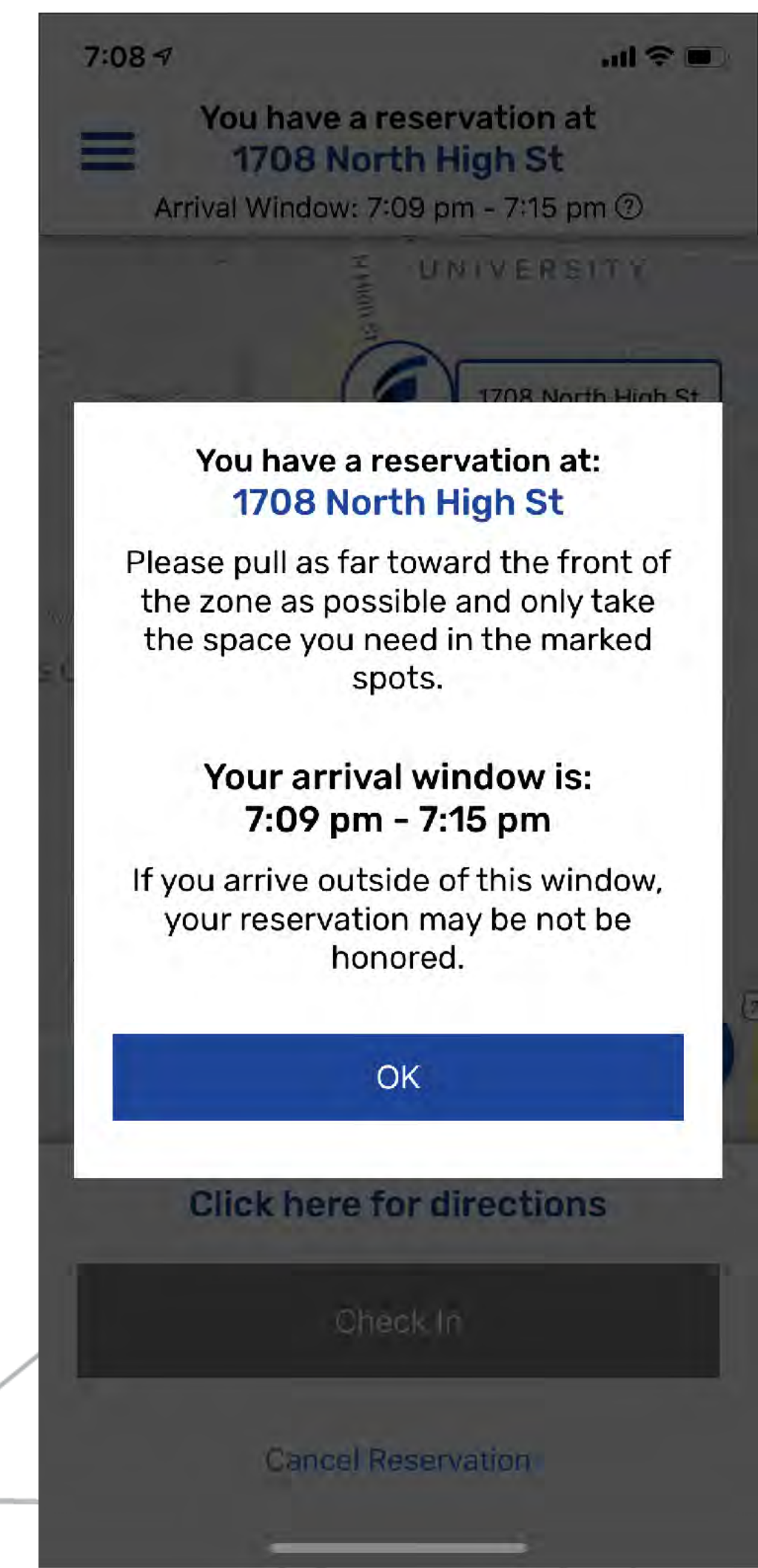
Select Location



Reserve Space



Manage Reservation



1 Digitized Loading Zones

EXAMPLE: How it Works for UPS

1 UPS requests a drop-off space from curbFlow



Request

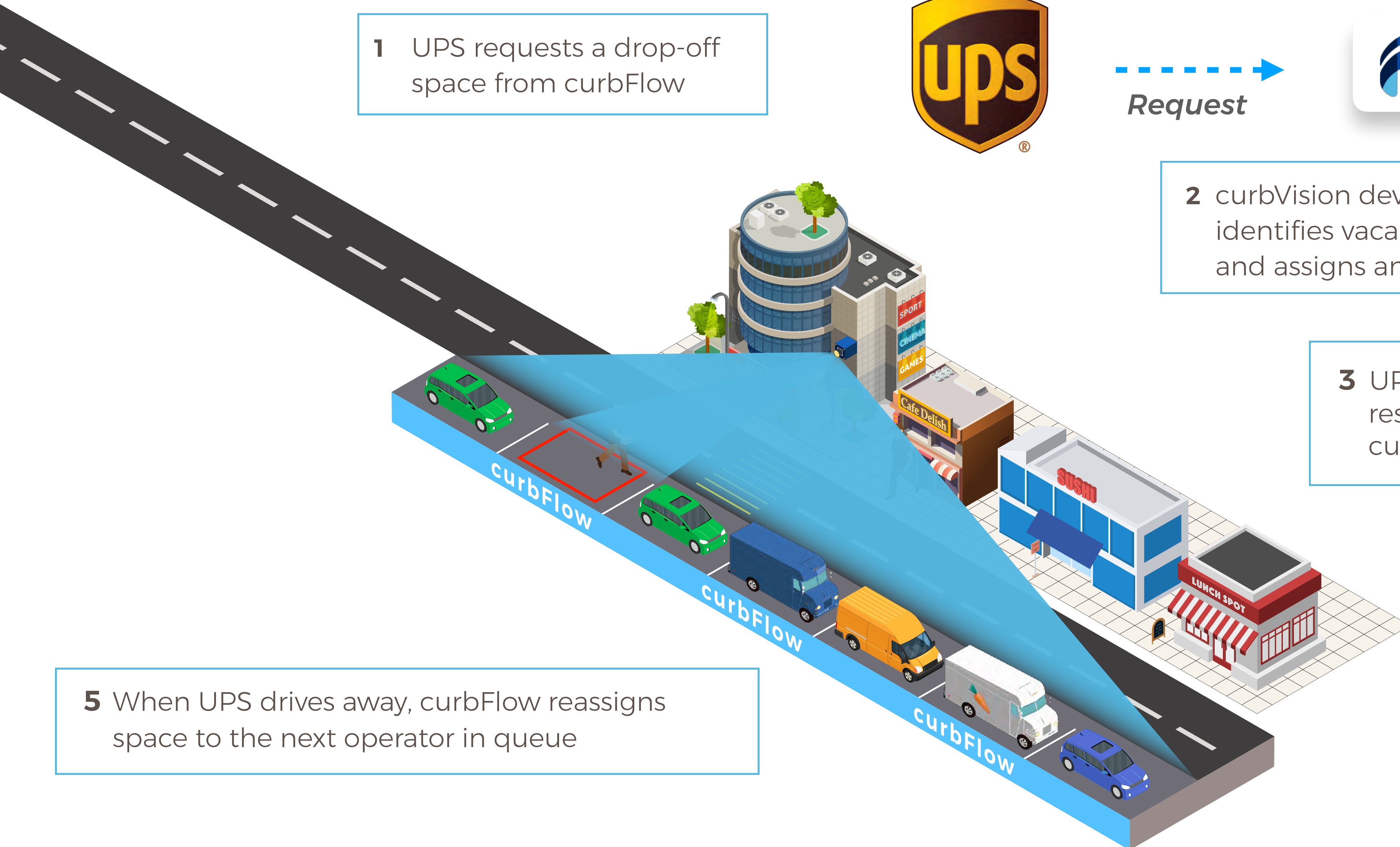


2 curbVision device on private property identifies vacancy at Managed curbFlow and assigns and reserves it for UPS

3 UPS directs the driver to the reserved curb through the curbFlow mobile app

4 When UPS enters, driver will have 15 minutes to drop-off

5 When UPS drives away, curbFlow reassigns space to the next operator in queue





“..With curbFlow, I love removing risk of parking tickets and the time saved finding parking..”

— Freight Driver, Washington, DC, October 2019





“...I love curbFlow because I can park on busy streets with spots reserved for easy deliveries. ...”

*— Freight Driver, Washington, DC
October, 2019*



“...One word. Convenience!”

*— Freight Driver, Washington, DC
October 2019*



“...curbFlow makes me feel safe, secure and confident with peace of mind doing my job...”

*– Uber Eats Driver, Washington, DC
October 2019*

Uber Eats





“...Our drivers are no longer worried about being ticketed and given that we depend on these pickup drivers it's been an important service...”

— Rahul Vinod, Co-Founder and CEO, RASA, October 2019

RASA





“...The curbFlow program was so successful, it will serve as an example for future programs...it also gave us a finer look at utilization to improve our own management...”

*— Dena Iverson, Chief External Affairs Officer, DDOT
November 2019*

d.

curbFlow's Enforcement Companion App provides the city with the real-time intelligence to effectively enforce Digital Flow Management

Eligible and Ineligible Vehicles by Location

Search	Loading Management Zo...		
0	1708 N HIGH ST	477.51 mi	
0	14 E GAY ST	477.51 mi	
1	2165 N HIGH ST	477.52 mi	
1	1988 N HIGH ST	477.52 mi	
0	965 N HIGH ST	477.53 mi	
0	1607 N HIGH ST	477.53 mi	
1	0	1510 N HIGH ST	477.53 mi

Violations Recorded

Back	OH-1510NHIGH
1510 N HIGH ST	477.53 mi
Violations	
Vehicle: Car (Black) Size: small License plate: unknown Description: none	
Registered Vehicles	

Alerts sent to nearest parking enforcement officers

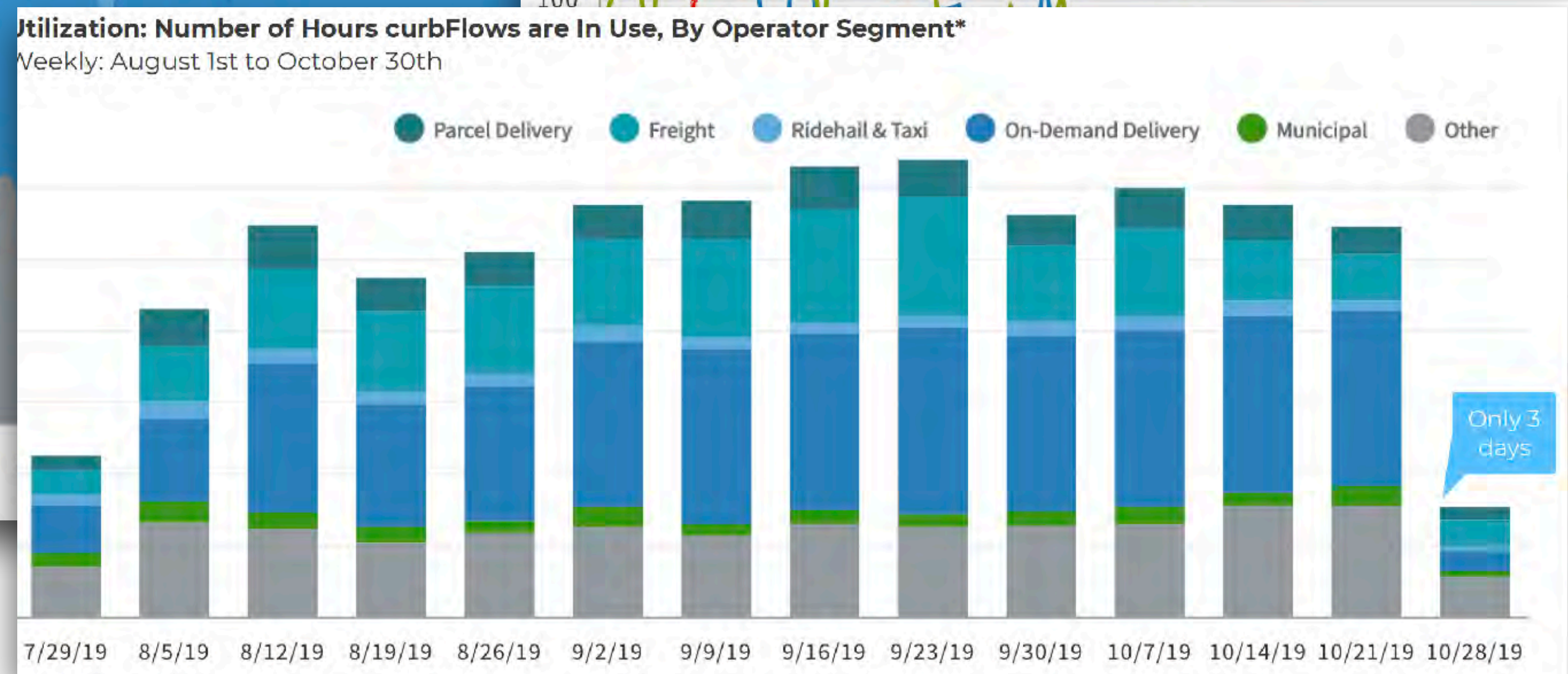
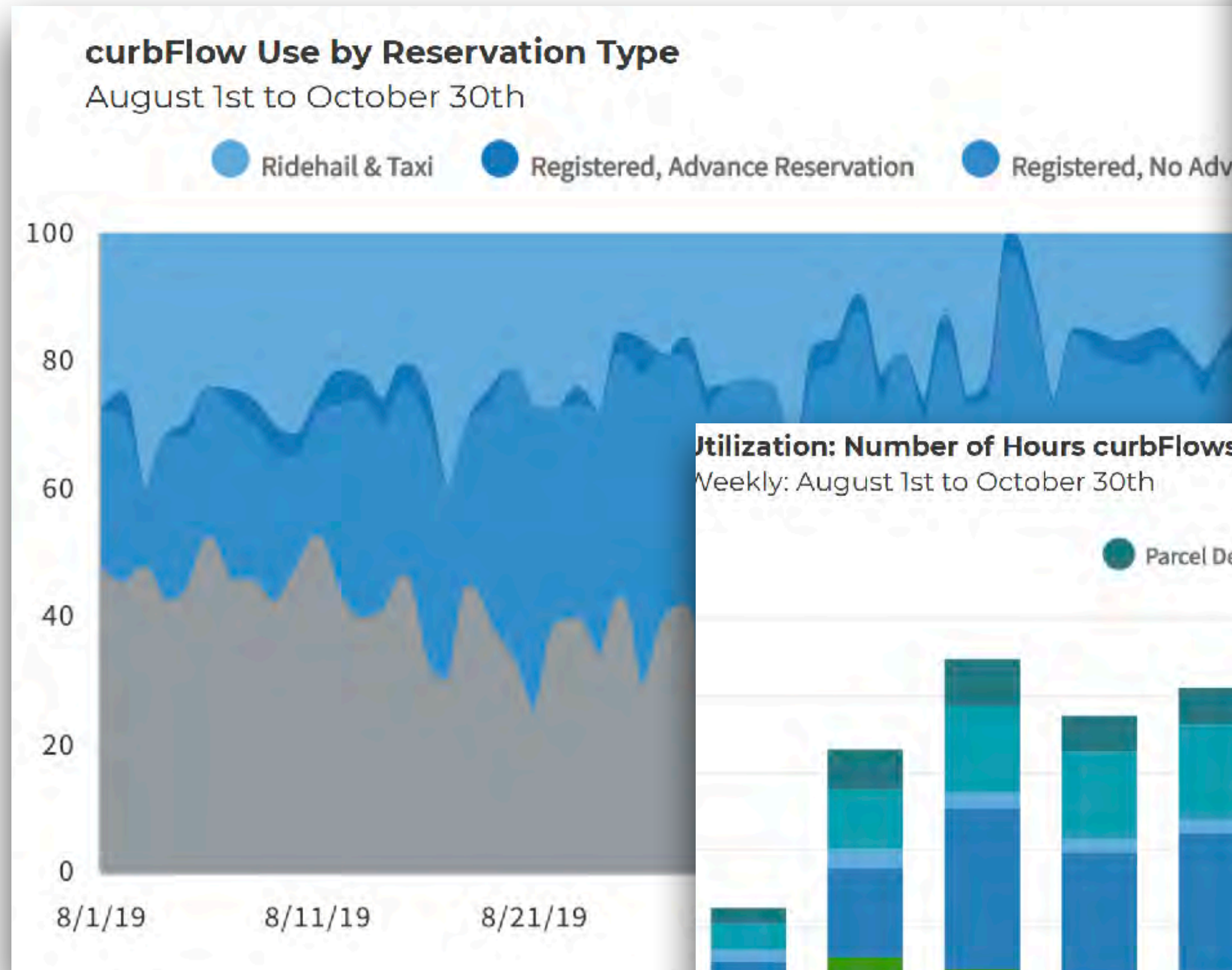
Violators Cleared



Officers assist in clearing curb space or write citation for improper use



With curbVision, curbFlow provides to our city partners unique and comprehensive vehicle data & insights...



...As well as new and unique data to solve for current city challenges

1

Pedestrian counting, direction, dwell time

2

Social distancing measurement

3

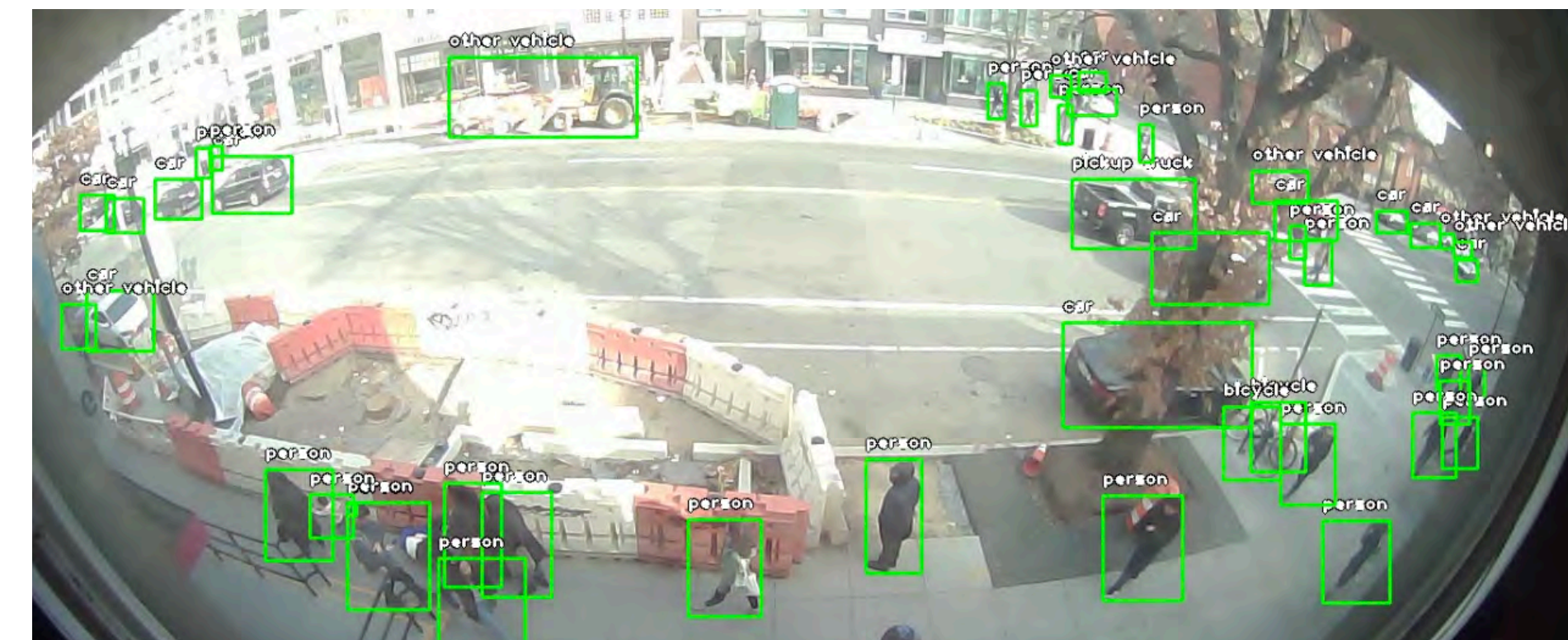
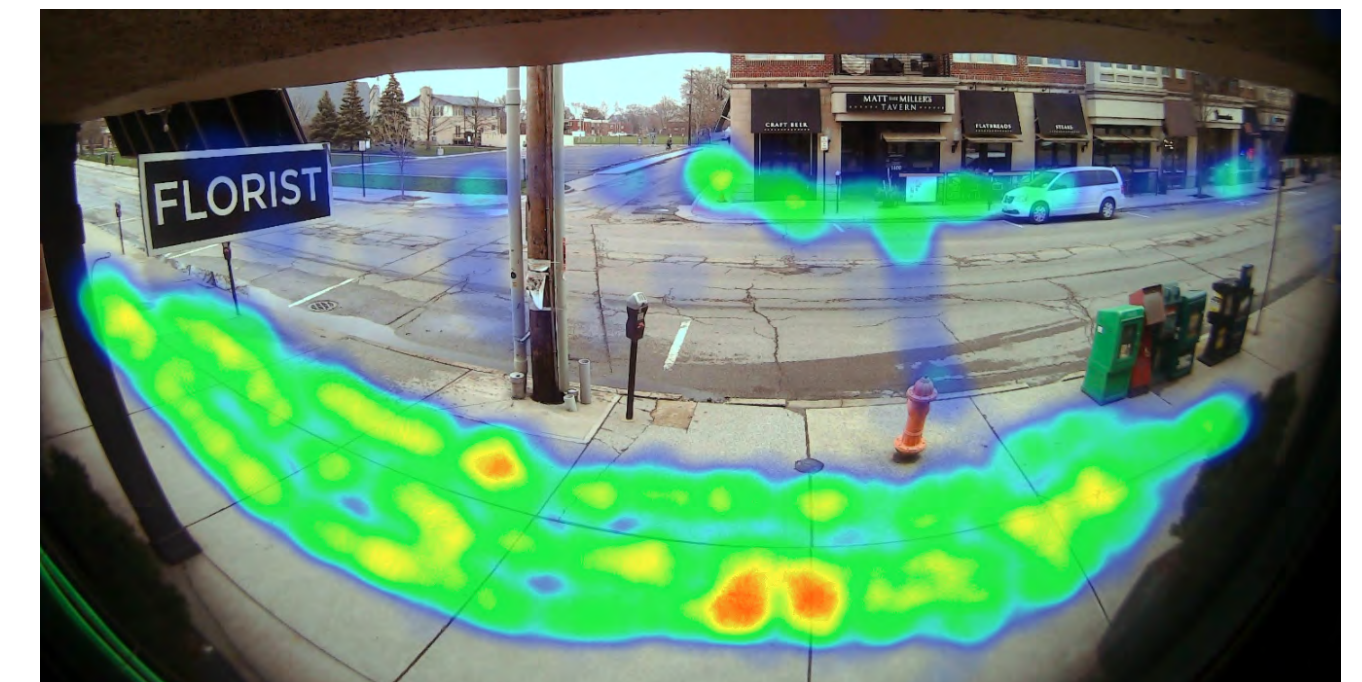
Sidewalk usage heat map

4

Cyclist counting and evolution

5

Violence or fight detection



An aerial photograph of a crowded Miami Beach. The beach is filled with people, many with blue umbrellas. The ocean is a vibrant turquoise color with white waves breaking. In the background, a city skyline with various high-rise buildings is visible under a clear blue sky. The image has a light blue overlay with a white geometric pattern of lines and polygons.

For discussion:

How can we best tailor Digital Flow Management for Miami Beach?



With curbFlow, Miami Beach has a number of revenue opportunities

1

Dynamic pricing of curbs and other assets

2

Citation revenue from more effective enforcement

3

A data-based approach to permitting (e.g., micromobility)

4

Incremental tax revenue from value-added initiatives to local businesses



Thank You

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