## CITY OF LOS ANGELES
### INTER-DEPARTMENTAL MEMORANDUM

Date:         April 4, 2019

To:           Honorable City

              c/o City Clerk, Room 395
              Attention: Honorable Mike Bonin, Chair, Transportation Committee
From:         Seleta J. Reynolds, General Manager
              Department of Transportation

Subject:      **"CODE THE CURB" STATUS UPDATE**

### SUMMARY

This report responds to CF #15-1450-S2 and provides an update on the Code the Curb project. Beginning in Spring 2019, LADOT plans to create an inventory of the City's curb assets, and integrate that inventory into the eWork work orders system to create a Curb Asset Management System.

### RECOMMENDATION

RECEIVE and FILE this report.

### BACKGROUND

On December 9, 2015, the Los Angeles City Council (Council) passed a motion directing LADOT to electronically inventory the City of Los Angeles (City) parking assets in the public right-of-way. This project, Council File (CF) 15-1450-S2, is known as "Code the Curb." Council funded this effort in Fiscal Year (FY) 2016-2017 with $1.1MM from the Special Parking Revenue Fund (SPRF), and in November 2016, LADOT entered into an agreement with Flow, Inc. (a Google company) to execute a test of Google's mapping visualization technology applied to inventorying a specific, bounded area of curbs in Los Angeles. The test ran from November 2016 until December 2017, but information sources such as Google Street View images or pictures collected via an app proved unfeasible for a city-wide effort. In May 2018, LADOT partnered with OSSI for a demonstration test of their Sudden Data tool in Downtown Los Angeles. This results of this test demonstrated an improvement from the previous demonstration, but still necessitated manual data collection in addition to the automated cataloging process.

In May 2018, LADOT hired the firm Ellis & Associates (E&A) as its Transportation 2.0 Product Manager. E&A developed LADOT's Strategic Implementation Plan (SIP), released in June 2018, which outlines the Department's near-term strategies and priorities for preparing the City for connected, autonomous mobility. Recognizing the Code the Curb project as foundational to many projects proposed in the SIP, LADOT delayed further work on the project so E&A could advise on a new project scope of work to align with future transportation technology projects and to enable LADOT to move to a digital curb asset management system.

E&A advised LADOT that using video recognition and machine learning software to process video of the streets might be sufficient to achieve close to 100 percent accuracy, and limit the number of hours and

funds needed to manually inventory streets in person or through images. The Public Works Bureau of Sanitation (LASAN) has shared samples of video recordings collected from cameras mounted on its collection vehicles, which LADOT may leverage as a video source to develop a curb inventory. LASAN vehicles traverse much of the City's right of way, and use video to identify bulky items for pickup. LADOT plans to test the video feeds, potential video processing tools, and their accuracy in 2019.

E&A also reviewed the LADOT eWork system to understand what changes the system needs so that moving forward, the system permanently and correctly captures curb assets digitally. Additionally, as part of LAX modernization, Los Angeles World Airports (LAWA) is pursuing a code the curb effort for curbs within LAWA jurisdiction. LADOT is engaged in initial discussions with LAWA related to combining the projects to streamline the process and create a standardized inventory.

## DISCUSSION

### Importance of Curb Management

While LADOT and other Departments maintain information on parking meters, street furniture, preferential parking districts, bicycle parking infrastructure, and others, these data sets are not consistent in format, level of detail, or currency. The City does not possess a city-wide database containing an up-to-date list of the locations of parking restrictions, curb markings, or other LADOT assets that may comprise an inventory of how the City allocates the curb and right of way.

The high demand for use of curb space in Los Angeles and its impacts on traffic flow and LADOT operations are often easily apparent. Especially on busy, congested corridors, the curb is used by drivers parking on the street, trucks making deliveries, taxis and rideshare vehicles picking up passengers, bicyclists parking in a bike corral, as well as other demands.

As LADOT works to reduce traffic congestion while encouraging shared modes of transportation, developing an inventory of how the City allocates our curb assets will be key in measuring use and piloting strategies to increase efficiency in the public right of way. Subsequently, creating a system to update and manage these assets will streamline work flows to implement changes and will inform the development of a city-wide, real-time digital mobility management platform.

### Role of eWork in Curbside Management

In October 2014, LADOT launched eWork, an online system that streamlines the LADOT curb sign work order processes and automates the workflow. These work orders include adding or changing curb zone markings, marking maintenance, sign installation, sign maintenance, and sign removal. LADOT uses this work order process for signs and curb markings including loading zones, designated disabled parking spaces, and parking limitations and restrictions. Notably, the system does not cover parking meter installation, maintenance, and removal workflows. This system is not a management system, but is a digital version of the LADOT sign Work Order processes.

### Next Steps

LADOT will implement the Code the Curb project through two concurrent efforts. The first is to create an electronic inventory of the City's parking assets in the public right-of-way including paint color, signs, and

any other markings linearly and correctly represented. This requires a test of post-processed LASAN collection vehicle video footage and collaborating with LASAN to capture additional video. LADOT will process the video collected to identify curb assets including street signs, curb paint, and meters. Following initial assessment, LADOT will work with LASAN to expand video collection and build out the inventory.

At the same time, LADOT will update the existing eWork workflow tool to a modern curb asset management system. Moving forward, LADOT will permanently store all curb assets and parking regulations in an online, spatial inventory database. By integrating curb asset management into eWork, the inventory will automatically reflect new work orders and changes to signage and curb restrictions. Many current and upcoming LADOT projects will depend on up-to-date information provided in this inventory, including a loading zone pilot for Transportation Network Companies, ExpressPark expansion, and installation of curbside electric vehicle charging stations.

LADOT will implement the asset management project through five phases:

1. Analysis of existing eWork Workflows
2. Design of Asset Management System (providing access via Application Programming Interfaces [APIs], web-based user interface)
3. Build and Deploy Asset Management System (including testing and validating)
4. Ongoing Curb Management (management and maintenance of system software, as well as incident resolution and customer support)
5. Audit and Evaluation (assess accuracy of curb inventory and updates, responses to incidents)

LADOT will pursue implementation of both the curb asset inventory and asset management through task orders and contracts with firms and providers on LADOT's Transportation Technology Consultant Bench.

**FINANCIAL IMPACT**

There is no fiscal impact as this report is informational.

SJR:MP:jte