No. 21-55285

IN THE UNITED STATES COURT OF APPEALS

FOR THE NINTH CIRCUIT

JUSTIN SANCHEZ,

Plaintiff – Appellant,

v.

LOS ANGELES DEPARTMENT OF TRANSPORTATION AND CITY OF LOS ANGELES

Defendants – Appellees.

On appeal from the United States District Court
for the Central District of California, No. 2:20-cv-05044-DMG-AFM
Honorable Dolly M. Gee

OPEN MOBILITY FOUNDATION'S AMICUS BRIEF IN SUPPORT OF APPELLEES LOS ANGELES DEPARTMENT OF TRANSPORTATION AND CITY OF LOS ANGELES

GREINES, MARTIN, STEIN & RICHLAND LLP
Alana H. Rotter (SBN 236666)
arotter@gmsr.com
*Nadia A. Sarkis (SBN 227778)
nsarkis@gmsr.com
5900 Wilshire Boulevard, 12th Floor
Los Angeles, California 90036
(310) 859-7811 / Fax: (310) 276-5261

Attorneys for Amicus Curiae OPEN MOBILITY FOUNDATION

CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure, amicus curiae Open Mobility Foundation hereby states as follows: Open Mobility Foundation is a nonprofit 501(c)(6) foundation organized as a series of Oasis Open Development Foundation, LLC. No publicly held corporation owns 10% or more of its stock.

Dated: November 11, 2021

GREINES, MARTIN, STEIN & RICHLAND LLP
Alana H. Rotter
Nadia A. Sarkis

By: s/ Nadia A. Sarkis
Nadia A. Sarkis
Attorneys for Amicus Curiae
OPEN MOBILITY FOUNDATION

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INTEREST OF *AMICUS CURIAE*[1]

The Open Mobility Foundation ("OMF") is a non-profit foundation whose members include cities and transportation authorities, mobility operators, and software vendors. OMF's mission is to use open-source data standards and software to transform the ways that cities manage transportation infrastructure, making it safer, sustainable, and more equitable.

In collaboration with public agencies and private sector stakeholders, OMF stewards the Mobility Data Specification ("MDS"), software that facilitates the exchange of anonymized data between private mobility operators and municipalities. OMF has deep knowledge and experience with MDS. It also has a comprehensive, evidence-based understanding of why cities, including Los Angeles, have a legitimate and substantial interest in using MDS data to fulfill their duty to regulate the public right-of-way, decide their infrastructure needs, and make other public policy decisions. OMF's interest in helping its public and private members achieve these goals gives it a significant interest in this litigation.

[1] Both parties have consented to the filing of this brief. No counsel for any party authored this brief, in whole or part. Apart from *amicus curiae*, no person contributed money intended to fund this brief's preparation and submission.

INTRODUCTION AND SUMMARY OF ARGUMENT

New transportation technologies give cities opportunities to foster sustainable growth, address climate change, promote equity, and serve their constituents. But these new technologies also present serious challenges, including safety hazards, increased traffic congestion, and unequal access. City governments can only carry out their responsibility to protect public safety and regulate the public right-of-way if they have the data that they need to make informed decisions. MDS provides the infrastructure for obtaining that data, giving cities essential insight into how their residents navigate the public realm, and the tools to improve that experience for all. Cities around the world have successfully used MDS to incorporate electric scooters, bicycles, and other micromobility devices into infrastructure planning, ensure the equitable distribution of vehicles, promote safety, and support public transit.

Appellant and his supporting amici paint a very different picture, based upon the misconception that cities are using MDS to engage in mass surveillance; they argue cities should be confined to using historic, aggregated mobility data to manage micromobility devices. Their misconception relies upon a limited understanding of MDS, and an unfounded extrapolation of academic studies regarding other data formats to predict misuse that neither Appellant nor his amici can show has ever occurred.

OMF submits this brief to demonstrate that MDS is an effective, tailored administrative tool that is designed to protect micromobility users' privacy; to

explain why cities need granular, real-time MDS data to achieve certain policy objectives; and to provide specific examples of how cities have successfully used such data to effectively regulate micromobility devices.

ARGUMENT

I. MDS Is The Digital Infrastructure That Allows Cities And Mobility Companies To Exchange Essential Information Regarding Micromobility Vehicles In The Public Right-Of-Way.

A. MDS's Development.

The Los Angeles Department of Transportation (LADOT) developed MDS in 2018. The goal was two-fold: (1) to provide an open-source, standardized way for municipalities to ingest, compare, and analyze data from mobility service providers; and (2) to allow municipalities to communicate with mobility providers and ensure their adherence to governing regulations. *Mobility Data Specification*, GitHub (last visited Nov. 10, 2021).[2]

A year later, as more cities adopted MDS and its potential to transform and modernize transportation infrastructure became apparent, LADOT decided that MDS could not reach its full potential unless all stakeholders—municipal, commercial, academic, and advocacy—could provide input and participate in its development.

[2] https://github.com/openmobilityfoundation/mobility-data-specification.

To facilitate that collective effort, OMF was formed and became MDS's steward. *Global Coalition of Cities Launches the 'Open Mobility Foundation,'* Open Mobility Found. (June 25, 2019).[3] OMF's MDS Working Group is governed by a steering committee that is evenly split between municipalities and private members, including mobility operators and software companies. *MDS Working Group*, GitHub (last visited Nov. 10, 2021).[4]

The Working Group has collaborated with OMF's public and private members to refine MDS's three core application programming interfaces. Those interfaces enable municipalities to express their regulations in machine-readable format and facilitate data exchange between providers and cities regarding vehicle status, trip origin, route, and destination. *Mobility Data Specification*, *supra* note 2. OMF also has developed four new MDS interfaces that allow cities to (1) better define geographic areas, such as equity zones or parks; (2) coordinate communication between different levels of government; (3) share their interpretation of MDS data with mobility operators, including where it appears that mobility operators are not complying with local regulations; and (4) tailor their

[3] https://www.openmobilityfoundation.org/wp-content/uploads/2019/10/OpenMobilityFoundationLaunch_NewsRelease_25June2019_final2-1.pdf.

[4] https://github.com/openmobilityfoundation/mobility-data-specification/wiki/MDS-Working-Group.

data feeds to collect the data needed to accomplish their particular policy objectives. *Id.*; *Announcing MDS 1.2.0*, Open Mobility Found. (Nov. 4, 2021).[5]

B. MDS Is Designed To Protect The Privacy Of Micromobility Users.

MDS collects only a few, limited types of data from mobility operators, all focused on *vehicles,* not riders. The collected data is designed to determine where devices are being used and parked. That data is:

- Vehicle or Device ID
- Vehicle Trip Origin/Destination
- Vehicle Trip Route
- Vehicle Parking Photographs
- Vehicle Trip Duration/Distance
- Vehicle Status/Properties[6]

MDS does not require real-time location for a scooter *while* it's on a trip. While real time MDS data is available regarding where micromobility vehicles are *parked* in the public right-of-way, trip route data is not. LADOT's compliance guidelines

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[5] https://www.openmobilityfoundation.org/mds-version-1-2-0/.

[6] This includes information such as battery levels, whether a vehicle is operational, or available for rent. *MDS: Vehicle States*, GitHub, https://github.com/openmobilityfoundation/mobility-data-specification/blob/main/general-information.md#vehicle-states (last visited Nov. 10, 2021); *MDS: Status Changes*, GitHub, https://github.com/openmobilityfoundation/mobility-data-specification/tree/main/provider#status-changes (last visited Nov. 10, 2021).

are typical: Mobility operators have up to 24 hours to provide trip route data after the completion of the trip. *LADOT Dockless Shared Mobility Program*, LADOT (Mar. 4, 2020).[7]

Because MDS is focused on vehicle location, not riders, it does not collect *any* information directly from or about riders. MDS has no mechanism to transmit rider data separately from vehicle data. *MDS: Devices*, GitHub (last visited Nov. 10, 2021)[8] ("MDS defines the *device* as the unit that transmits GPS or GNSS signals for a particular vehicle."); *see also MDS: Telemetry Data*, GitHub (last visited Nov. 10, 2021)[9] (defining vehicle telemetry data). Data regarding each ride is also disassociated from any other rides the user may have purchased. *Introducing the MDS Privacy Guide for Cities*, Open Mobility Found. (Oct. 27, 2020).[10]

The interfaces that comprise MDS do not—and *cannot*—collect any user identification information. For example, they do *not* collect:

- First or Last Name
- Home or Work Address

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[7] https://www.ladot.lacity.org/sites/default/files/documents/ladot-mds-api-compliance-mobility-provider-guidelines.pdf.

[8] https://github.com/openmobilityfoundation/mobility-data-specification/blob/main/general-information.md#devices.

[9] https://github.com/openmobilityfoundation/mobility-data-specification/tree/main/agency#telemetry-data.

[10] https://www.openmobilityfoundation.org/introducing-the-mds-privacy-guide-for-cities/.

- Email Address
- Cell Phone Number
- Social Security or Tax ID Number
- Bank Account or Credit Card Information
- Biometric Data
- Driver's License Information
- Mobile Phone GPS
- Rider Trip History
- Video or Audio[11]

These limits reflect that MDS is an administrative tool, not an investigatory one. By contrast, every mobility company offers law enforcement officers mechanisms to access *far* more detailed data than MDS can provide.[12] As a result, if law enforcement officers are interested in obtaining micromobility data, their obvious recourse is to mobility operators, *not* to MDS or the data cities access using MDS. Neither Appellant nor any of his supporting amici have identified any law enforcement use of MDS, and OMF is not aware of any either.[13]

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[11] *Data Not in MDS*, GitHub, https://github.com/openmobilityfoundation/mobility-data-specification/wiki/Understanding-the-Data-in-MDS#data-not-in-mds (last visited Nov. 10, 2021).

[12] *See, e.g., Privacy Notice*, Lime (Mar. 1, 2021), https://www.li.me/en-us/legal/privacy-policy/ ("We may share your information if we believe in good faith that it is reasonably necessary to do so for legal reasons, including to meet federal, state, regulatory or local law requirements or as part of a judicial process or to detect, investigate, prevent, and address fraud and other illegal activity . . . .").

[13] The Brief for Seven Data Privacy and Urban Planning Experts as Amici Curiae Supporting Appellant cites to a news article involving an Austin Police Department subpoena to Uber to identify a bank robber who used a scooter as a getaway vehicle and claims "MDS data" enabled law enforcement's actions. *Id.* at 11-12. That misrepresents the article, which makes *no mention* of the use of MDS data

That MDS is designed to be an administrative tool is further reflected in how much MDS data comes *from* cities: Cities communicate *to* mobility operators rules and regulations, including vehicle caps, distribution requirements, restricted areas, and no-parking zones; they set vehicle deployment fees; share information with operators; and digitally validate operator compliance with their policies. *Mobility Data Specification*, *supra* note 2; *MDS Use Case Gallery*, Airtable (last visited Nov. 10, 2021).[14] While such data is essential to the effective operation of a city's micromobility program, none of it implicates riders' privacy in any way.

C. Appellant's Privacy Concerns Rest On Misapprehensions Of Fact And Unfounded Speculation.

Appellant and his supporting amici's portrayals of MDS as an Orwellian tool for mass surveillance rest upon errors of fact and far-fetched speculation. Among other things:

MDS is not easily susceptible to re-identification. Appellant's supporting amici claim that "de-anonymization can be accomplished by almost anyone with access to MDS data." *E.g.*, Brief for Seven Experts, *supra*, 14. While it is

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and confirms that when law enforcement needs micromobility data, they go to mobility operators, not transportation authorities. *See* Matthew Prendergast, *APD Identifies Bank Robbery Suspect Who Used E-Scooter for Getaway*, KXAN (Jan. 25, 2019), https://www.kxan.com/news/local/austin/apd-identifies-bank-robbery-suspect-who-used-e-scooter-for-getaway/.

[14] https://airtable.com/shrPf4QvORkjZmHIs/tblzFfU6fxQm5Sdhm.

theoretically possible to identify an individual using geospatial trip data, OMF is not aware of anyone successfully using an MDS data set to do so, let alone using that data to identify where the individual lives, works, travels, or associates with others. None of the studies cited by Appellant and supporting amici—analyzing distinctly different data from mobile phones, security cameras and smart doorbells, fitness trackers, and toll-road transponders—have so found.[15]

The only study identified by amici involving individuals re-identified from an anonymized dataset is *Twelve Million Phones, One Dataset, Zero Privacy*—which involved a complete history of an individual's movements, using mobile phone data over an extended period.[16] MDS data is different. First and foremost, mobile phone data is persistently tied to a particular individual and phones

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[15] *See* Stuart A. Thompson & Charlie Warzel, *Twelve Million Phones, One Dataset, Zero Privacy*, N.Y. Times (Dec. 19, 2019), https://www.nytimes.com/interactive/2019/12/19/opinion/location-tracking-cell-phone.html; *How Many Times are Americans on Camera Every Week?*, Safety.com (Feb. 17, 2021), https://perma.cc/G3AJ-WP98/; Jeremy Hsu, *The Strava Heat Map and the End of Secrets*, Wired (Jan. 29, 2018), https://www.wired.com/story/strava-heat-map-military-bases-fitness-trackers-privacy/; Matt Burgess, *Strava's Data Lets Anyone See the Names (and Heart Rates) of People Exercising on Military Bases*, Wired (Jan. 30, 2018), https://www.wired.co.uk/article/strava-military-bases-area-51-map-afghanistan-gchq-military; Tony Arnold, *How Your Private Illinois Tollway Data is Shared with Cops and Divorce Lawyers*, WBEZ Chicago (Sept. 19, 2019), https://www.wbez.org/stories/how-your-private-illinois-tollway-data-is-shared-with-cops-and-divorce-lawyers/cea68ea0-4b13-481a-80a1-50bf0e9db738.

[16] Stuart A. Thompson & Charlie Warzel, *Twelve Million Phones, One Dataset, Zero Privacy*, N.Y. Times (Dec. 19, 2019), https://www.nytimes.com/interactive/2019/12/19/opinion/location-tracking-cell-phone.html.

accompany their users everywhere. By contrast, a rental scooter only travels with a rider over the course of a single point-to-point trip in the public right of way. These differences, among others, decisively undercut any attempt to extrapolate the use of mobile phone data to argue that re-identification is possible, let alone straightforward, using MDS data.

An individual user's rides cannot be easily associated with each other. Because MDS does not collect any identifying information about riders, MDS data regarding each ride is disassociated from any other rides a user may have purchased. *Understanding the Data in MDS*, Github (last visited Nov. 10, 2021).[17] Appellant's amici nonetheless assert that it is easy to associate rides because human mobility patterns are regular and predictable. Brief for Seven Experts, *supra*, 15. None of their sources back up the assertion, or even discuss MDS data. *Id.* at 15-16 (citing Adrian Colyer, *Trajectory Recovery from Ash: User Privacy is Not Preserved in Aggregated Mobility Data*, The Morning Paper (May 15, 2017)[18]). To date, OMF is not aware of anyone successfully linking an

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[17] https://github.com/openmobilityfoundation/mobility-data-specification/wiki/Understanding-the-Data-in-MDS.

[18] https://blog.acolyer.org/2017/05/15/trajectory-recovery-from-ash-user-privacy-is-not-preserved-in-aggregated-mobility-data/. Abstracts for studies available at: Laura Alessandretti et al., *The Scales of Human Mobility*, Nature (Nov. 18, 2020), https://www.nature.com/articles/s41586-020-2909-1; Markus Schläpfer et al., *The Universal Visitation Law of Human Mobility*, Nature (May 26, 2021), https://www.nature.com/articles/s41586-021-03480-9; Jie Bao et al., *Exploring Bikesharing Travel Patterns and Trip Purposes Using Smart Card Data and Online Point of Interests*, EconPapers (2017),

individual's rides by analyzing an MDS data set, including by cross-referencing other external data. The predictability of human mobility patterns also does not prove the assertion: Identifying a pattern or grouping of similar trips is *not* the same as re-identification of the individual person who took those trips. Even if MDS data contained a unique mobility trace, that would not identify the individual whose movement produced that trace.[19]

https://econpapers.repec.org/article/kapnetspa/v_3a17_3ay_3a2017_3ai_3a4_3ad_3a10.1007_5fs11067-017-9366-x.htm.

[19] For instance, the Brief for Seven Experts, *supra*, claims that Morgan Herlocker "demonstrated the severity of GIS-based de-anonymization," combining MDS data with other public datasets to "identify sensitive scooter trips." *Id.* at 14. The use of the term "identify" is misleading. Herlocker used MDS data to locate the record of a trip that began in an area within a one-block radius of a high school and ended within a similar distance from a clinic. No information about the identity of the rider was obtained, nor was Herlocker able to confirm whether the person travelled to or from the school or clinic, or if the trip was between other nearby businesses or addresses. Morgan Herlocker, *Citizen Privacy and City Oversight Needs Are Compatible*, Medium (Feb. 26, 2020), https://medium.com/sharedstreets/citizen-privacy-and-city-oversight-needs-are-compatible-26fb262cc7a.

II. Cities Effectively Use MDS To Regulate The Public Right-Of-Way And Benefit The Public.

A. MDS—And The Precise, Comprehensive, And Flexible Data It Provides—Is At The Core Of Regulatory Models Developed For Micromobility.

More than 115 cities and public agencies use MDS. *The Future of Mobility*, Open Mobility Found. (last visited Nov. 10, 2021).[20] It is at the core of regulatory models developed for micromobility and is instrumental to maintaining dockless scooters and electronic bicycles as sustainable modes of transportation. One only need compare Los Angeles's current transportation landscape with the pre-MDS era, where there were frequent news reports of users parking vehicles in unwanted and inappropriate places; driving devices on city sidewalks at high speeds; and Los Angeles city leaders responding to the havoc on public streets by advocating for an outright ban of micromobility devices. Craig Clough, *LA City Council Committee to Electric Scooter Riders: Slow Down!*, Daily News (Aug. 9, 2018);[21] Joe Linton, *Councilmember Koretz Calls E-Scooters "Anti-Vision Zero," Pushes to "Get Rid of These,"* StreetsBlog LA (Jun. 12, 2019);[22] *see also* Luz Lazo, *Hey, You Can't*

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[20] https://www.openmobilityfoundation.org/.

[21] https://www.dailynews.com/2018/08/09/la-city-council-committee-to-electric-scooter-ers-slow-down/.

[22] https://la.streetsblog.org/2019/06/12/councilmember-koretz-calls-e-scooters-anti-vision-zero-pushes-to-get-rid-of-these/.

Park There! Dockless Bike-Share Bikes Ending up in Inappropriate Places, Wash. Post (Oct. 5, 2017).[23] Some cities *did* in fact ban electric scooters due to public safety concerns, while others drastically limited the number of vehicles allowed. Andrew J. Hawkins, *Nashville is Banning Electric Scooters after a Man Was Killed*, The Verge (June 21, 2019);[24] Paul Flahive, *Jump is First E-Scooter Company to Leave San Antonio* (June 12, 2019)[25] (in response to city's 50% reduction of dockless vehicle permits).

High quality MDS data has vastly improved micromobility programs. Cities can work toward their regulatory goals with a small staff that can monitor thousands of well-regulated vehicles, rather than needing a much larger staff employing manual methods to communicate and enforce rules and measure usage. Scalable regulatory solutions are not just more efficient: They are *necessary* given the exponential growth of micromobility. In 2019, the National Association of City Transportation Officials reported 136 million micromobility trips taken in the U.S., and a third of a billion trips over the last decade. *136 Million Trips Taken on*

[23] https://www.washingtonpost.com/news/dr-gridlock/wp/2017/10/05/abandoned-vandalized-and-illegally-parked-bike-share-bikes-now-a-d-c-problem/.

[24] https://www.theverge.com/2019/6/21/18701299/nashville-electric-scooter-ban-man-killed.

[25] https://www.tpr.org/technology-entrepreneurship/2019-06-12/jump-is-first-e-scooter-company-to-leave-san-antonio.

Shared Bikes and Scooters Across the U.S. in 2019, NACTO (Aug. 27, 2020);[26] *see also Case Study: Austin, Texas*, Ride Report, 2 (last visited Nov. 10, 2021)[27] (reporting 377,064 scooter trips over just 10 days during the SXSW festival).

Mobility operators can also scale their businesses by leveraging MDS to share data with cities more efficiently, and automatically adjust their services or apps in response to cities' dynamic policies. That ultimately inures to the public good, because it creates an environment where mobility operators can meet the public demand for transportation options, while working with cities to meet their regulatory needs.

MDS data has three key properties that are essential to its utility:

- ***MDS data is precise.*** MDS provides cities with precise information about vehicle locations, presenting a clear picture regarding the state of their streets. As discussed in more detail below (Section II.B), this precision is indispensable to fulfilling policy objectives, including keeping vehicles out of specific areas, measuring which streets vehicles are most used on, and implementing vehicle caps that appropriately balance constituent demand. Precise information also can be verified and audited, which is essential for

[26] https://nacto.org/2020/08/27/136-million-trips-taken-on-shared-bikes-and-scooters-across-the-u-s-in-2019/.

[27] https://f.hubspotusercontent40.net/hubfs/5891093/2020-austin.pdf?__hstc=137334191.16475b8d0bcf9292b1cf30ac51d3a3a2.1635444688922.1635444688922.1635444688922.1&__hssc=137334191.3.1635444688922&__hsfp=4034898497.

cities to hold micromobility operators accountable and enforce their regulatory program vis-à-vis operators.[28]

- ***MDS data is comprehensive.*** MDS allows cities to see the totality of micromobility vehicle movement. Comprehensive analyses enable cities to understand the role that new mobility services play in the overall transportation landscape, assess infrastructure usage, and make appropriate regulatory and infrastructural accommodations.

- ***MDS data is flexible.*** MDS allows cities to access dynamic data that is adaptable to their needs, enabling them to quickly and proactively respond to new issues with tailored analyses and agile policies. This is crucial to urban planning and effective management of public rights-of-way: Certain needs are impossible to anticipate in advance, such as responding to a constituent complaint or observed safety hazard. That reality makes flexibility in the

[28] Amici supporting Appellant argue that because geospatial data may only be accurate within a few hundred feet in some areas (due to interference from buildings), MDS is too imprecise to accomplish LADOT's goals. *See, e.g.*, Brief for Seven Experts, *supra*, 31. That is inaccurate. Many cities, including Los Angeles, have effectively used MDS data in myriad ways despite data imperfections, as the case studies described below demonstrate. There are also effective tools that reduce the "noise" in GPS data to produce a more accurate dataset, such as Microsoft's Snap to Road API which takes GPS point data and returns a list of objects that form a route snapped to the roads on a map. *See Snap to Road API*, Microsoft, https://www.microsoft.com/en-us/maps/snap-to-road (last visited, Nov. 10, 2021).

data set a practical necessity. If cities had to negotiate with resource-constrained mobility operators or third-party intermediaries every time they had an unanticipated data need, the exchange of data would be inefficient at best and, in many cases, nonexistent.[29]

B. Cities Successfully Use Granular MDS Data To Promote Equity, Plan Infrastructure, Ensure Public Safety, And Support Public Transit.

Appellant and his supporting amici argue that MDS is not a reasonable administrative search because granular data is unnecessary or ineffective in achieving Los Angeles's policy goals. That argument relies on an overly narrow view of MDS as an infrastructure planning tool, ignoring that cities use MDS in dozens of other ways. *See MDS Use Cases*, GitHub (last visited Nov. 10, 2021)[30] (listing 44 different ways that cities use MDS data). Among other things, cities

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[29] The Brief for Democracy & Technology and Electronic Privacy Information Center as Amici Curiae Supporting Appellant posits that cities do not need disaggregated data, noting that 80% of cities use a third-party intermediary to manage their data. *Id.* at 26. That misrepresents these parties' role. Many cities use third-party aggregators *and* ingest data themselves, often to perform different analyses. Even where a city exclusively uses a third-party aggregator, the city is typically *not* relinquishing its rights to access disaggregated data; they are simply delegating data processing work. *See, e.g., Administrative Rule TRN-15.01*, Portland Bureau of Transportation, 14, § 7, https://www.portlandoregon.gov/citycode/article/690212 (last visited Nov. 10, 2021).

[30] https://github.com/openmobilityfoundation/governance/wiki/MDS-Use-Cases.

successfully use MDS data to (1) ensure the equitable distribution of micromobility vehicles; (2) plan infrastructure in an informed manner; (3) impose digital fences that signal e-scooters to slow and/or stop if they enter a restricted area to protect public safety ("geofencing"); and (4) analyze how micromobility is used to support public transit access. As we demonstrate in several case studies below, cities could not have achieved these policy successes without the high-quality data that MDS provides, and flexibility in accessing it through MDS's interfaces.

1. Increasing access and equity.

Cities use MDS data to establish equity programs that promote vehicle availability to all residents, especially those in historically marginalized neighborhoods. Comprehensive and precise data allows cities to measure compliance with equity policies, evaluate vehicle availability in specific locations that serve low-income populations, and compare service quality between high and low-income neighborhoods. MDS may also help reduce negative encounters with law enforcement because it is used to reduce the illegal use of micromobility devices, thereby decreasing traffic stops. *See* Brett Simpson, *Why Cars Don't Deserve the Right of Way*, The Atlantic (Oct. 15, 2021).[31] Instances of cities using MDS data to promote equality include:

[31] https://www.theatlantic.com/ideas/archive/2021/10/end-police-violence-get-rid-traffic-cop/620378/.

- ***Baltimore.*** The City of Baltimore conducted an equity zone "deep dive analysis" that used precise MDS data to measure mobility operators' compliance with vehicle deployment requirements at specific locations, analyze the key destinations being accessed via vehicles in equity zones, and evaluate the program's effectiveness in serving target populations. *Dockless Vehicle Program Annual Evaluation Report: Equity Zone Deep Dive Analysis*, BCDOT (May 2020).[32] As the City's annual report stated, "Looking at the data around deployment, or where vehicles are placed each morning . . . is one of the best proxies for increasing equity of access." *Dockless Vehicle Program Annual Evaluation Report*, BCDOT, 12 (May 2020).[33]

- ***Chicago.*** In a 2019 pilot evaluation, the City of Chicago used MDS data to measure e-scooter availability throughout the day in different census block groups. Using precise MDS geolocation and time information, the City determined that, in the afternoon, Black residents had access to micromobility vehicles 13% of the time while white residents had access 57% of the time. *E-Scooter Pilot Evaluation*, CDOT, 50-52 (Jan. 2020).[34]

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[32] https://transportation.baltimorecity.gov/sites/default/files/Year%202%20evaluation%20Report%20APPENDIX%201%20FINAL.pdf.

[33] https://transportation.baltimorecity.gov/sites/default/files/Year%202%20evaluation%20Report%20FINAL.pdf.

[34] https://www.chicago.gov/content/dam/city/depts/cdot/Misc/EScooters/E-Scooter_Pilot_Evaluation_2.17.20.pdf.

That MDS-data-based finding led the City to change the equity program to improve equitable access.

2. Ensuring safety and compliance.

To protect public safety, cities limit micromobility vehicles' speed and where they may operate or park, especially in pedestrian-heavy areas. MDS allows cities to measure compliance with these rules and take action when operators do not comply. Restricted areas are often quite small (e.g., a park, trail, or block), and thus require precise location data to measure compliance. While amici suggest that the imprecision of GPS-location data makes it untenable to use MDS to enforce traffic safety, these case studies prove the opposite:

- ***Chicago.*** The City of Chicago established geofences (i.e., virtual perimeters) to keep e-scooters out of certain restricted areas. *E-Scooter Pilot Evaluation*, CDOT, 25 (May 2021).[35] By using MDS location data, the City was able to measure mobility operator compliance with geofence rules along the narrow Lakefront Trail, which resulted in the average non-compliance rate dropping to 0.2%. *Id.*

- ***Los Angeles.*** After complaints that there were too many scooters along the Venice Boardwalk, Los Angeles imposed rules intended to reduce excess scooters and bikes, require parking in designated areas, and limit riding in

[35] https://www.chicago.gov/content/dam/city/depts/cdot/Misc/EScooters/2021/2020%20Chicago%20E-scooter%20Evaluation%20-%20Final.pdf.

pedestrian-heavy areas. *A Review of the 2019-2020 Dockless Vehicle Pilot Program*, LADOT, 15 (July 2020).[36] The City used MDS data to verify that micromobility companies were complying with the rules and used in-field enforcement and penalties against non-compliant companies. *Id.* This innovation preserved mobility options for the public while reducing clutter and neighborhood complaints: Scooters and bike deployment decreased from an average of 270 vehicles per day to 15 per day, and MyLA311 service requests fell by nearly 30% even while overall ridership climbed. *Id.*

- ***Portland.*** During large-scale protests in summer 2020, the City of Portland, Oregon decided to remove micromobility devices from downtown streets because of concerns that those devices could be used to cause property damage or otherwise compromise public safety. *How Portland, Oregon Used Micromobility Data to Remove Scooters during Protests*, The Atlas (last visited Nov. 10, 2021).[37] MDS data served as real-time "air traffic control" to identify the location of parked micromobility devices and ensure that they were promptly found and removed. *Id.*

[36] https://ladot.lacity.org/sites/default/files/documents/ladot-dockless-year-one-report.pdf.

[37] https://the-atlas.com/projects/how-portland--oregon-used-micromobility-data-to-remove-scooters-during-protests-3.

3. Infrastructure planning.

Precise and comprehensive route data also allows cities to improve safety through better infrastructure planning. Cities rely on MDS data to determine where they need to construct safe riding infrastructure, where to place parking for shared mobility vehicles, and to measure how infrastructure and policy changes alter where and how people ride. Contrary to claims by Appellant and his supporting amici, aggregate data, specified in advance and mediated by third parties, is *not* sufficient for the task. Effective infrastructure planning is an iterative process that depends upon flexible data, which the following case studies demonstrate:

- ***Portland.*** The City of Portland used precise MDS data to decide where to invest in bike lanes along key corridors. Having precise information allowed the City to measure shifts in usage away from a park path when a new safe lane was built on an adjacent roadway, and to measure ridership before and after other upgrades to demonstrate how safe infrastructure increased ridership. *2019 E-Scooter Findings Report*, PBOT, 23-25 (Sept. 2020).[38]

- ***Baltimore.*** By analyzing precise routes along adjacent corridors, the City of Baltimore was able to measure how rider behavior changes with the

[38] https://www.portland.gov/sites/default/files/2020/pbot_e-scooter_report_final.pdf.

installation of safe infrastructure for riding. *Dockless Vehicle Program Annual Evaluation Report*, BCDOT, *supra* note 32, at 17. The City's 2020 evaluation report demonstrates the utility of precise data: "For example, in the case of Covington Street, the data show a shift in patterns when a bicycle facility was installed to give riders a safe option parallel to Key Highway . . . This indicates that riders prefer to use safe and comfortable infrastructure when it is available and will even slightly divert their intended route to do so." *Id.*

- ***Sacramento.*** The City of Sacramento analyzed precise MDS trip data alongside maps of 311 reports and existing bike parking to identify where it needed to provide additional parking for bikes and scooters, to accommodate riders while preventing sidewalk obstruction. *Maps and Data for Shared Bikes and Scooters in Sacramento*, ArcGIS Story Map (Oct. 2021).[39]

4. Supporting public transit.

Cities employ MDS to understand how micromobility supports public transit access, and to encourage that synergy to further their climate and equity goals. Precise location data is necessary to understand if a trip originated or ended at a transit station, and to make appropriate provisions for micromobility vehicles at those stations. For example:

[39] https://storymaps.arcgis.com/stories/bc51f7b0500f4dd195d1eb0594ace24a.

- ***Baltimore.*** The City of Baltimore analyzed routes and trip origin/destination to identify key transit stations where e-scooters were being used as first/last mile connectors to transit. *Dockless Vehicle Program Annual Evaluation Report*, BCDOT, *supra* note 32, at 16.

- ***Alexandria.*** By evaluating the percentage of trips that begin or end near transit, alongside feedback about vehicle availability, the City of Alexandria, Virginia identified a dearth of vehicles at particular transit stations as a challenge for its e-scooter program. *Ad Hoc Scooter Task Force Meeting*, City of Alexandria (May 27, 2021).[40] The City is evaluating incentive programs that would better connect e-scooters with transit. *Id.*

- ***Los Angeles.*** MDS data gave the City of Los Angeles a window into when and where micromobility was used to connect to transit. *A Review of the 2019-2020 Dockless Vehicle Pilot Program*, LADOT, *supra* note 36, at 50-51. Precise data allowed the City to understand where people most commonly pick up or leave micromobility vehicles near transit stations. These insights are being used to plan multimodal trip incentives and other interventions to encourage transit connections with micromobility.

[40] https://www.alexandriava.gov/uploadedFiles/tes/info/AdHocScooterTFPresentation05272021.pdf.

CONCLUSION

MDS is designed for, and being used to serve, the public good. By collecting information about vehicle locations and providing flexible interfaces for cities to access that data, it facilitates infrastructure planning, public safety, equity programs, and more. The district court got it exactly right when it determined that Los Angeles's use of MDS is fully justified to further legitimate and substantial government interests. This Court should affirm the dismissal of Appellant's complaint with prejudice.

Dated: November 11, 2021

GREINES, MARTIN, STEIN & RICHLAND LLP
Alana H. Rotter
Nadia A. Sarkis

By: s/ Nadia A. Sarkis
Nadia A. Sarkis
Attorneys for Amicus Curiae
OPEN MOBILITY FOUNDATION

FORM 8. CERTIFICATE OF COMPLIANCE FOR BRIEFS

9th Cir. Case Number(s) 21-55285

I am the attorney or self-represented party.

This brief contains 4,647 words, excluding the items exempted by Fed. R. App. P. 32(f). The brief's type size and typeface comply with Fed. R. App. P. 32(a)(5) and (6).

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Dated: November 11, 2021 By: s/ Nadia A. Sarkis
Nadia A. Sarkis

STATEMENT OF RELATED CASES

Amicus Curiae Open Mobility Foundation represents that it is not aware of any related cases pending in this Court.

Dated: November 11, 2021

GREINES, MARTIN, STEIN & RICHLAND LLP
Alana H. Rotter
Nadia A. Sarkis

By: s/ Nadia A. Sarkis
Nadia A. Sarkis

Attorneys for Amicus Curiae
OPEN MOBILITY FOUNDATION