OAKLAND DEPARTMENT OF TRANSPORTATION

DRAFT ANTICIPATED IMPACT REPORT
Data Sharing Agreement with Dockless Mobility Service Providers for Program Management and Enforcement

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1. Information Describing the Proposed Data Sharing Agreement and How It Works

The City of Oakland Department of Transportation (DOT) proposes to enter data sharing agreements with existing and future dockless mobility service providers operating in Oakland, such as, companies offering global positioning system (GPS) enabled "dockless" bikes, scooters and cars for short-term rental within the public right-of-way. Such devices are considered "dockless" if they do not need to be returned to a docking station to be parked. This agreement would allow dockless mobility operators to share real-time, anonymized and aggregated trip and parking data, as defined by the Mobility Data Specification (MDS), with DOT.

- **Mobility Data Specification (MDS)** – The MDS is an application programming interface (API), developed by the Los Angeles Department of Transportation (LA DOT). The goals of MDS are to provide API and data standards for municipalities to help ingest, compare and analyze mobility as a service provider data. The specification is a way to implement real-time data sharing, measurement and regulation for municipalities and mobility as a service providers. It is meant to ensure that governments can enforce, evaluate and manage providers. The MDS documentation can be found here: https://github.com/CityOfLosAngeles/mobility-data-specification

The MDS data specification builds on the General Bike Share Feed Specification (GBFS), which was created to standardize data about dock-based bike share systems. The advent of GPS-enabled "dockless" bike and scooter technology led the LA DOT to create a new data specification to account for the dockless nature of these devices. The MDS specification includes additional information such as data on the route taken during each trip on a dockless device.

Data generated by the mobility service providers using the MDS format does not contain any personally identifiable information (PII). In order to avoid the risk of re-identification, data on individual trips will be aggregated and obfuscated by a third party mobility management vendor

or software before it is received by DOT. See the appendix for a diagram of how data will be shared and processed under this agreement, as well as examples of the third-party mobility management platforms.

DOT proposes to use this data for the regulation and planning of mobility programs, such as enforcing permits, communicating events and informing transportation planning and policy.

Currently, a data sharing agreement of this kind is required as part of the Terms and Conditions of the Scooter Share Operating Permit. The official permitted scooter share program will launch June 2019.

2. Proposed Purpose

Dockless mobility services have the potential to help achieve the goals of DOT's Strategic Plan, which calls for expanding access to shared mobility services, improving transportation choices, and minimizing parking demand, congestion and pollution. However, when used improperly these vehicles can obstruct sidewalks, curb ramps, and other portions of the public right-of-way. Further, these services are required to provide equitable service to all neighborhoods and residents in Oakland.

Data sharing with dockless mobility operators is necessary for DOT to actively monitor these services and ensure they are in compliance with operating permits, are equitably distributed, and contribute towards the department's goals. This includes enforcing permits, communicating events and informing transportation planning and policy.

Specific DOT uses include, but are not limited to:

- Understanding service utilization rates
- Designating dockless mobility-related infrastructure (parking zones, bike lanes, etc.)
- Prioritizing infrastructure improvements
- Monitoring safety and collisions
- Ensuring services are equitably distributed throughout the City
- Calculating and collecting parking and permit fees
- Ensuring operators are responding to all 311 complaints in a timely manner

By requiring operators to be transparent in their operations through the sharing of data, DOT can monitor compliance and ensure operators are meeting demand, equity goals, and responding to complaints.

3. Locations of Deployment

The data shared under this proposed agreement is user-generated and therefore collected for any and all neighborhoods where dockless mobility service vehicles ridden.

4. Potential Impact on Civil Liberties & Privacy

DOT acknowledges the private and sensitive nature of personal mobility data. While this data does not contain any personally identifiable information, it does contain location data associated with individuals. Without proper obfuscation, personal mobility data may be vulnerable to privacy risks such as re-identification. In order to minimize privacy and surveillance risk, DOT has developed a set of guidelines for how trip data will be handled and obfuscated, outlined below.

5. Mitigations

The City of Oakland and DOT recognize the sensitive nature of personal mobility trip data, as defined by the Mobility Data Specification, and has developed the following guidelines for the responsible handling of this data.

1) **The City of Oakland and DOT will not collect, store, or release un-obfuscated mobility trip data**. All data will be obfuscated and aggregated through a third-party vendor, to the point where privacy risk is minimized, before it is received by DOT.
    a) Methodologies for aggregation, de-identification, and obfuscation will follow industry best practices and may evolve over time as new methodologies emerge. Examples of methods to reduce privacy risk include:
        i) Aggregating trip data over time to illustrate volumes at the street- or block-level, rather than individual routes
        ii) Requiring a minimum of 3 trips for sufficient anonymized aggregation
        iii) Rounding origin/destination locations to 3 decimal places (block-level)
        iv) Rounding start/end times to the nearest hour
    b) Trip data will be retained for no more than 2 years and will be secured and audited following industry best practices.
    c) Data will be secured by a third-party vendor following industry best practices for secure storage, transmission, access control, and audit.

2) Access to trip data monitoring is limited to designated officials within OakDOT solely for the purposes of enforcing permits, communicating events and informing transportation planning and policy.
    a) Transportation planning and policy purposes include, but are not limited to:
        i) Understanding utilization rates
        ii) Designating dockless mobility-related infrastructure (parking zones, bike lanes, etc.)
        iii) Prioritizing infrastructure improvements
        iv) Monitoring safety and collisions
        v) Permit Enforcement

3) If OakDOT decides to publicly share trip data, or if the City receives a public records request, it will only release data in a highly aggregated and obfuscated form.

4) Unobfuscated trip data will not be shared with the DOT or other City departments or outside entities, including law enforcement, unless under the order of a warrant or subpoena.

6. Data Types and Sources

Under a data sharing agreement, DOT will ask dockless mobility service providers to provide trip and parking data, as defined by the MDS, to a third-party data aggregator. Specifically, this includes:

- Geographic coordinates of trip origin, destination, and route
- Trip start time, end time and duration
- Geographic coordinates and duration of all vehicle parking events.

This data excludes personally identifiable information, such as:

- Customer name
- Credit card number or associated information
- Driver's license number or associated information

7. Data Security

DOT will depend on its third-party mobility management vendor to securely store, transmit, and audit the data. DOT has not yet undergone the procurement process for the third-party vendor, and therefore does not know the official data protection protocol. However, the third-party vendor will adhere to industry standards for encryption, transmission, logging, and auditing.

As an example of industry best practices, one possible vendor, Remix, outline's their data security protocol on their website here: https://www.remix.com/security. Other vendors follow similar operating procedures.

8. Fiscal Cost

Initial Purchase Cost & Ongoing Cost

Procurement cost of third-party mobility management vendors ranges from $0 (open source software) to $30,000. Depending on the vendor, this may be a recurring payment or subscription.

Cost Savings

Data sharing agreements will provide cost savings in the form of reduced staff time and efficiency gains. Access to mobility data makes monitoring compliance more efficient and using a third-party vendor reduces the need for in house capacity to store, secure, and process the data.

9. Third Party Dependence

The data will be ingested, aggregated and stored by a third party primarily to reduce privacy risk. DOT does not want to ingest, store, or access raw trip data. A third-party aggregator reduces the risks of surveillance and re-identification. Further, because this is real-time data, the

ingestion and management of data this size is time and labor intensive. DOT does not have the staff capacity to do this work in house.

10. Alternatives

The alternatives to the proposed data sharing agreements include requesting high-level data from operators on a quarterly basis or physically monitoring dockless mobility programs in the field.

During the pilot period of e-scooter sharing in Oakland, DOT has requested data directly from operators. Without a formal data sharing agreement, operators are only willing to provide highly aggregated summary-level data. While this provided some insight into the operations of e-scooters, it is not enough to achieve the nuanced understanding necessary for DOT's purposes. Further, allowing operators to report data in this way lacks transparency and denies DOT the ability ensure data quality, accuracy and consistency across providers. As such, a data sharing agreement is necessary in order to access data at the granularity, frequency, and accuracy needed.

Another alternative is for staff to physically monitor dockless mobility programs without any data. This is not a feasible option due to the limitations of staff capacity.

11. Track Record

Dockless mobility services, such as GPS-enabled dockless bikeshare, e-scooters, and shared vehicle, are a new emerging transportation option. Shared cars were the first of these services to come to Oakland in April 2017, followed by shared electric scooters in May 2018.. However, no formal data sharing policy has so far been established. As such, the City of Oakland Department of Transportation does not have a track record to report concerning its use of dockless mobility data sharing agreements.

Data sharing is in line with DOT's Strategic Plan goal to be a responsive and trustworthy department. Through data sharing, DOT can track reported incidents and complaints and ensure operators are responsive in addressing them. Further, data sharing allows DOT to better understand how dockless mobility services impact Oakland and have more responsive communication with the public. Lastly, data sharing will contribute to DOT's open data efforts, making transportation data more accessible and transparent to the public.

Several cities across the country have entered data sharing agreements with dockless mobility service providers as part of their permitting processes. In doing so, they have developed successful mobility programs, conducted analysis to answer key planning questions, and developed useful public facing resources such as maps, reports, and open data for multi-modal trip planning.

Examples of cities requiring data sharing agreements as part of their dockless mobility programs include:

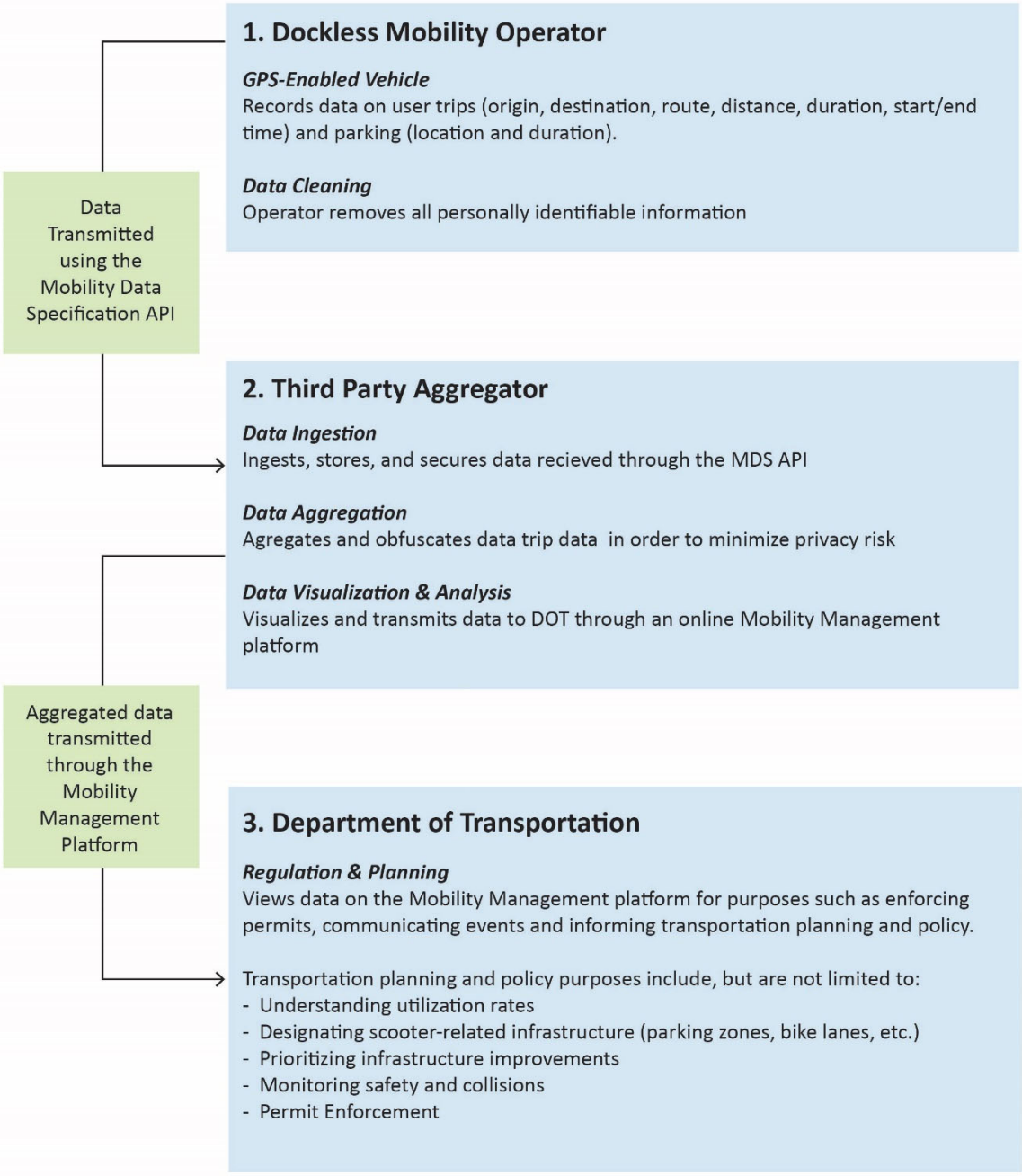
- Louisville, Kentucky: https://data.louisvilleky.gov/dataset/dockless-vehicles
- Washington DC: https://ddot.dc.gov/page/dockless-api
- Los Angeles, California: https://ladot.io/programs/dockless/

DOT has referred to the data sharing agreements and data handling policies developed by these cities, as well as recommendations from privacy groups such as the Center for Democracy and Technology, when developing this Impact Report and Use Policy.

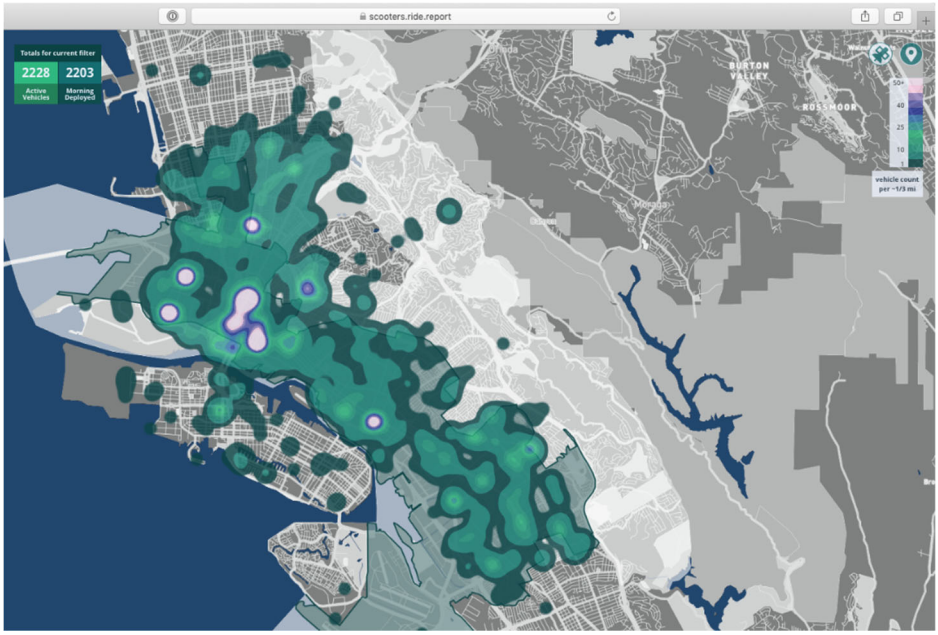
Questions or comments concerning this draft Impact Assessment should be directed to Kerby Olsen, Shared Mobility Coordinator, Parking and Mobility Division, via email at kolsen@oaklandca.gov or phone at (510) 238-2173.

APPENDIX

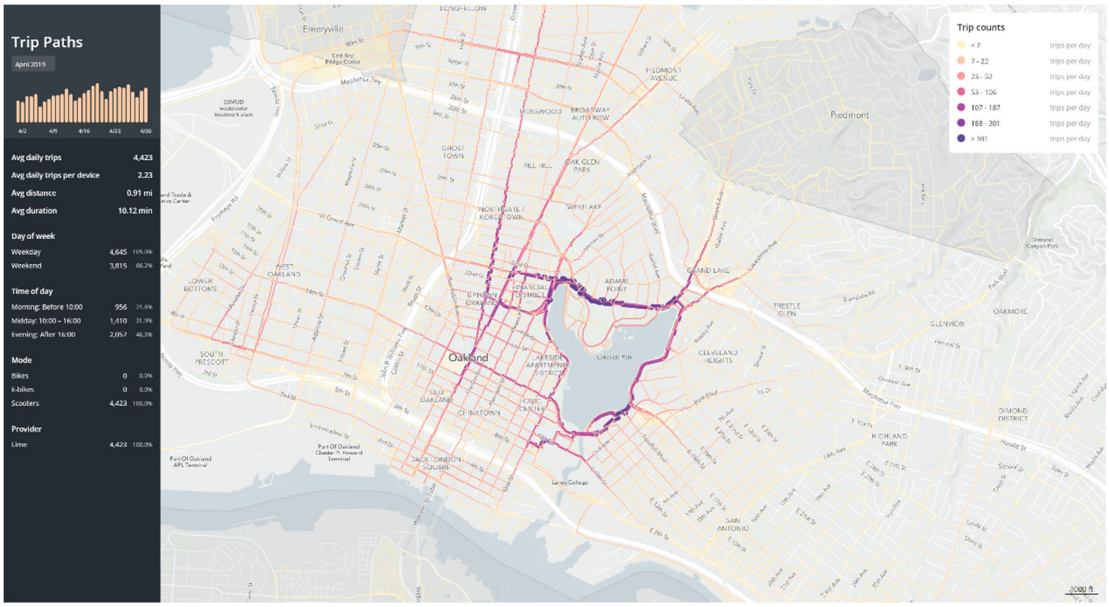
Components of a Data Sharing Agreement with Dockless Mobility Service Providers using GPS-Enabled Vehicles



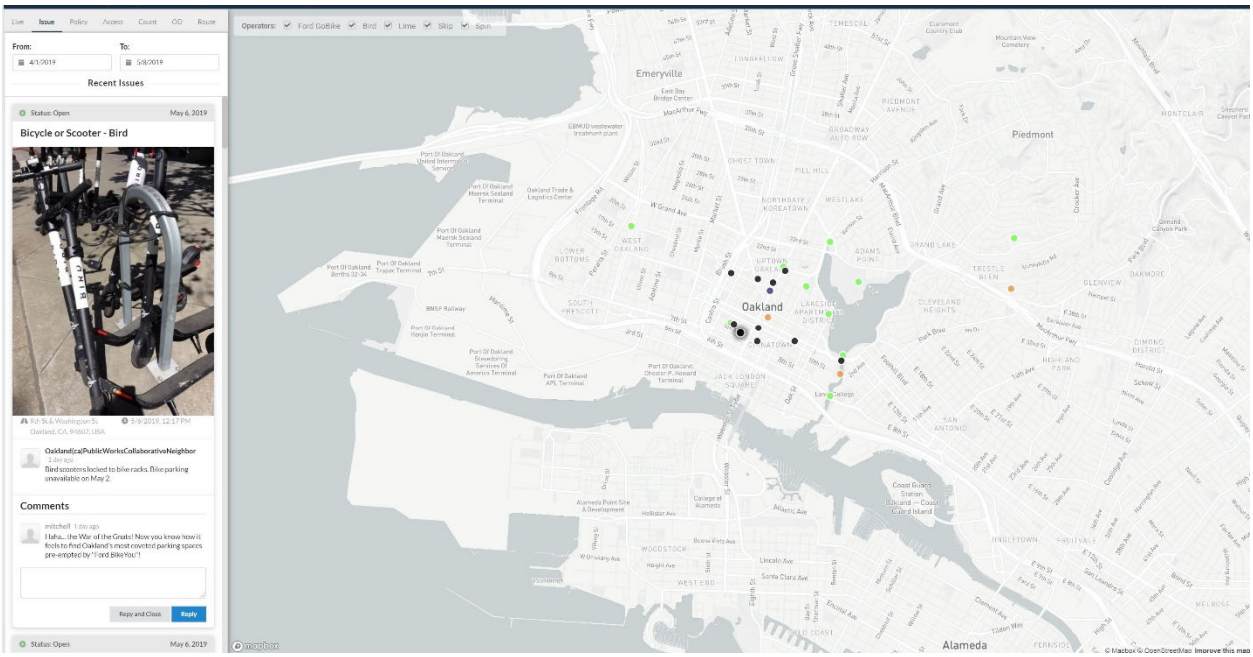
Examples of Third Party Vendor Mobility Management Platforms and Data Aggregation



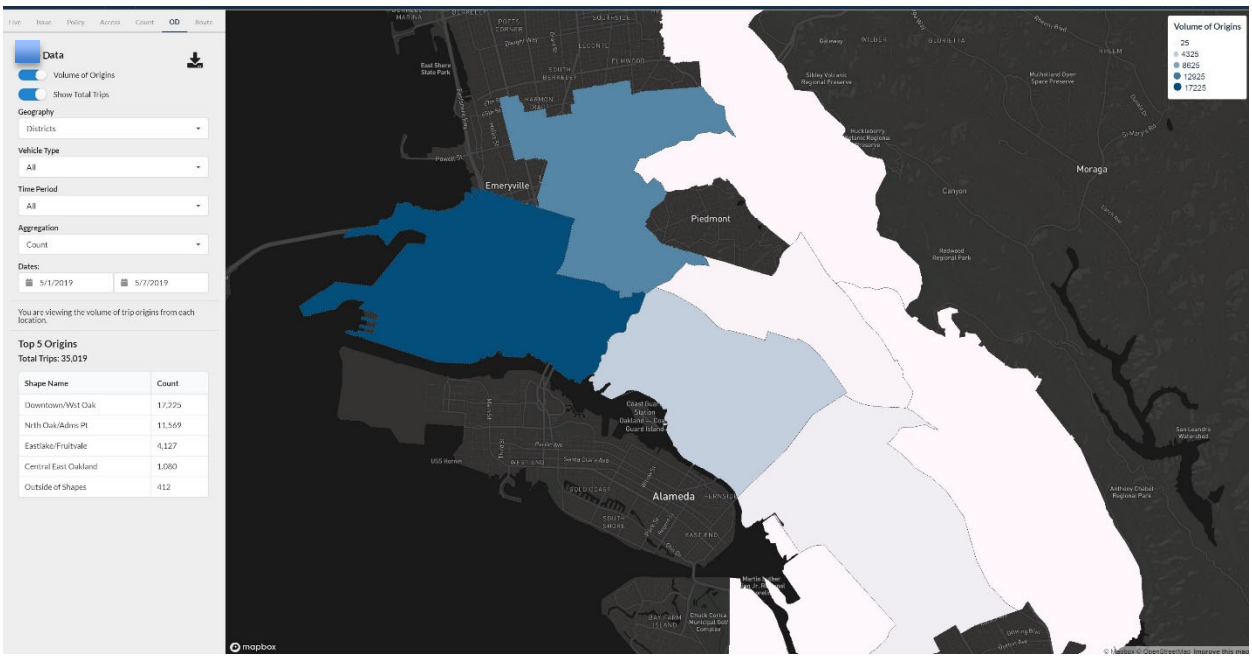
Company A - Parking heat map, showing areas with high concentrations of parking events which can guide the development of scooter parking areas.



Company B - Scooter trips aggregated to the street level, providing insight on common travel patterns while protecting individual privacy.



Company C - Public complaints from 311 SeeClickFix - Operators get notified of the issue and must close the ticket in a timely manner, which can be tracked through this platform.



Company C - Origins and destinations aggregated to large city districts to protect personal privacy.