

**DRAFT ANTICIPATED IMPACT REPORT**  
**Mobile Parking Payment Systems for**  
**Parking Management and Enforcement**

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City of Oakland  
*April 4-May 6, 2021*

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

The City of Oakland Department of Transportation (DOT) intends to enter into an agreement [BH1][WQ2] with either a single or multiple [BH3][WQ4] mobile parking payment providers (Providers), whose services permit individuals to pay for parking sessions through their mobile phones in Oakland. Parkers may be able to initiate a parking session through a mobile phone application (app), website, text message, or phone call, depending on the Providers' services. To initiate a parking session, parkers are required to enter their payment information (such as a credit card or Google Pay), "zones" corresponding to parking location, and license plate number with the Provider. Zones may match meter ID numbers or may be created by staff for each block, and customers must enter the zone number when paying for parking through a Provider.

DOT requires parking data from mobile parking payment Providers in order to enforce parking restrictions, such as time limits and meter payments, and to analyze parking revenues and demand. License plate and zone information are pushed to DOT's automated license plate readers (ALPR)<sup>1</sup> through an application programming interface (API) between other vendors who support the City's parking enforcement system. Parking Control Technicians use ALPR to scan vehicles' license plates and check for an active ParkMobile session associated with the license plate and location (numbered zone). In addition to pushing data to enforcement technologies, the Providers also collect data from parking sessions and "publishes" these datasets to an online platform that authorized staff can access through a unique username and password. The data published to the online platform ~~includes [BH5] will be provided from parker transactions and include~~ parking date and start and stop times, ~~customer information like a phone number or email address [BH6], credit card type such as Visa or Mastercard,~~ payment amounts, transaction fees for the Providers, and "zones" corresponding to parking location. ~~This data will include no personally identifiable information or license plate information, and A subset [BH7] of this data is then aggregated and shared with~~ DOT ~~staff will use this data~~ for financial and parking analyses. ~~Outside the portal, DOT staff's p~~Parking data ~~analyses~~ may ~~be~~ summarize ~~this data~~ by zone, date, hour, transaction type, device type, parking duration, or amount. ~~.~~

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<sup>1</sup> See the Privacy Advisory Commission's approved use policy and anticipated impact report for automated license plate readers. Available online at: <https://www.oaklandca.gov/documents/automated-license-plate-reader>

This agreement would allow Providers to share parking data<sup>[BH8][WQ9]</sup>, including location-based information corresponding to numbered block zones and payment information, with DOT. In providing DOT with parking data, DOT can ensure that parking rates are accurate to parkers and that the City receives accurate parking payments, particularly from numbered block zones in demand-responsive parking program areas. In these areas, meter rates change by time of day and block; without seeing the zones in transaction data, DOT would not be able to program these specific areas' rates or confirm the accuracy of Providers' rates or revenues in reconciliations and audits. ~~—Ensure Providers and DOT abide with CCPA laws<sup>[BH10][WQ11]</sup>~~

## 2. Proposed Purpose

Data from mobile parking payment services shapes parking policies, plans, and practices in Oakland. Analyses of this data guide staff's active management of the parking system and access to finite, valuable curb space. Mobile parking payment services also expand the available payment options for parkers, in turn increasing the convenience and ease of parking. Making parking easy and more actively managing the parking system are two of the City's Parking Principles (Resolution No. 84664 CMS) and shape a more equitable mobility system.

Under the current mobile parking payment system, a single Provider is permitted to operate in Oakland. From 2015 to 2019, parking payments made through this Provider comprised 10% to 15% of the City's total on-street parking revenue, generating a total of approximately \$6.5 million in parking revenues. Signage promoting this Provider's brand is posted in the public right-of-way (PROW) but given maintenance challenges, is not always readable. The City's current Provider, ParkMobile, is also supporting an ongoing pilot at the LaSalle Garage in the Montclair District to promote an operational shift to integrate the City's off-street facilities into the on-street system and thus, eliminate costly one-time expenses such as traditional parking access and revenue control systems (PARCS), and ongoing expenses, such as administrative and accounting overhead, maintenance of equipment, and back-office labor. From the pilot's launch in early November 2020 through March 2021, approximately \$7,500 of transient parking payments were made through ParkMobile, representing approximately 8% of the total garage revenues of \$99,615.

DOT is pursuing a new multi-vendor mobile parking payment system in order to increase the convenience of this service to parkers, promote the use of this contactless payment method through a City-branded system, and more holistically support the active management of the parking system. A key improvement will be City of Oakland-branded signs in the PROW that will direct parkers to a webpage with all available Providers and promotions, as well as supporting future pilots and innovations like the LaSalle Garage. In addition to meeting rising demand for contactless payment options during the pandemic and supporting positive parker experiences,<sup>2</sup> contactless payment options support the health and safety of both consumers and frontline workers working in the parking system, such as the Meter Collection Unit and Meter Repair

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<sup>2</sup> Retail Leader. "Will Consumers Stick With Contactless Payments?" August 6, 2020. Available online here: <https://retailleader.com/will-consumers-stick-contactless-payments>

Team. It is anticipated that positive consumer experiences with contactless payments, such as pay-by-phone parking services, will make more individuals interested in using this payment type, even after the pandemic eases.

By allowing multiple vendors to operate in Oakland, visitors will likely not need to download any additional applications (apps) and share their information with another vendor; rather, they are more likely to be able to use an existing app on their phone and conveniently pay for their parking session. This may also minimize the number of Providers with whom users, especially visitors to Oakland, must share their information to access this payment option. Residents will also benefit from having multiple vendor options, as vendors may compete for long-term customers with lower user fees and promotions. Under the new system, DOT staff will also seek financial support for the installation and maintenance of City-branded signs. As this is a unique “ask” within the industry, staff do not yet know if this will be met.

Specific applications of mobile parking payment data that supports this effort ~~may will~~ include only the following, but are not limited to:

- a) Estimating parking demand, occupancy, and revenues
- b) Evaluating parking payment options
- c) Monitoring demand-responsive parking areas and compliance
- d) Reconciling payment transactions with total parking revenues received
- e) Promoting compliance and enforcing parking restrictions, permits, and payment

### **3. Locations of Deployment**

The data shared under this proposed agreement is user-generated within the City’s parking system and therefore collected for any and all neighborhoods with parking meters or public parking facilities. Parking meters and public parking facilities are typically found in commercial zones, near public transit stations, or in other areas with high demand for parking.

### **4. Potential Impact on Civil Liberties & Privacy**

DOT acknowledges the private and sensitive nature of personally identifiable information and block-level location data included in mobile parking payment data. Mobile parking payment data may be vulnerable to privacy risks such as re-identification, as users’ names are collected within these datasets. In order to minimize privacy and surveillance risk, DOT has developed a set of guidelines for how mobile parking payment data will be handled and obfuscated, using mitigations outlined below. ~~—Must follow CCPA laws with appropriate “opt-in/out” policies~~<sup>[BH12]</sup>

### **5. Mitigations**

DOT recognizes the sensitive nature of parking data generated through mobile parking payment Providers and has developed the following guidelines for the responsible handling of this data:

1. DOT will not release parking data with personally identifiable information included to any staff outside of those who have access. The public may access anonymized data through public records requests, subpoenas, warrants, and other court orders. Requests for this data may come internally from other City departments or through Public Records Requests.<sup>[BH13]</sup>
  - a. In seeking proposals from potential Providers, DOT will ask-require that all personally identifiable information, such as phone number and email address, and license plate information be removed from the portal. If Providers are able to do this, this<sup>[BH14]</sup>This mitigation would effectively eliminate privacy risk by anonymizing parking data.<sup>[WQ15]</sup> Staff will not have access to any user account information.
2. DOT will seek and select Providers whose data security, storage, and encryption practices meet or exceed industry standards. DOT expects that these best practices will primarily address user payment methods to protect credit card information. In the procurement process, DOT ~~intends to identify any existing~~will only select Providers ~~who extend privacy practices to personally identifiable information and may be able to obfuscate this information before or within their portal~~that will not include any personally identifiable information or license plate information in their online portal.<sup>[BH16]</sup><sup>[WQ17]</sup>
3. Login credentials to each Provider's online portal will be unique to each authorized staff who has been granted access to this data. Login credentials will not be shared outside of authorized staff. ~~There needs to be some mention of CCPA law~~<sup>[BH18]</sup>

## 6. Data Types and Sources

In this proposed agreement, mobile parking payment Providers will “publish” parking data on their respective online platforms. While these platforms vary by Provider, parking data available within the platform ~~would will~~ include the following ~~at minimum~~:

- Numbered zone indicating approximate parking location
- Parking date and start and end times
- Parking transaction amount
- Transaction fee (to be paid to the Provider)

In the procurement process, DOT will require that dData in the platform may also will not include any personally identifiable information—such as a customer ID, name, phone number, and email address, depending on Providers’ services and capabilities<sup>[BH19]</sup>. This personally identifiable information may shall be removed from the dataset by the Provider before being pushed to the portal. Though not personally identifiable information and publicly visible, license plate numbers are necessary for enforcement purposes because license plate numbers are scanned or entered by Parking Control Technicians only to check if the vehicle has an active parking session. In the procurement process, DOT staff will require that Providers<sup>[BH20]</sup><sup>[WQ21]</sup>but may also be also removed license plate numbers<sup>[BH22]</sup><sup>[WQ23]</sup>from the portal’s parking dataset by the Provider to ensure that vehicle owners cannot be identified from this dataset. Staff will not have access to any user account information.

Only authorized staff in DOT and the Finance Department with unique usernames and passwords may log in and access this data, unless requested through a public records request.

When shared through a public records request, all personally identifiable information (if Providers are unable to remove from their portals) will be removed. [BH24][WQ25]

## 7. Data Security

DOT will require mobile parking payment Provider(s) to securely store, publish, and audit the data according to industry standards and best practices. DOT will require each Provider to provide a fully auditable mobile parking payment service, which was also a requirement of the 2016 agreement between the City of Oakland and ParkMobile. DOT or Finance staff will audit [BH26][WQ27] Providers through their respective back-end online data portals, in addition to Providers going through PCI DSS audits. Audits by DOT staff will occur on as-needed basis, such as audits of a sub-set of zones where meter rates were recently changed.

~~DOT has not yet procured this a multi-vendor mobile parking payment system and therefore, does not know the official data protection protocol that each potential Provider will use~~ [BH28][WQ29]. ~~The City's current mobile parking payment Provider, ParkMobile, has published information regarding account and payment security on its website:~~

~~<https://support.parkmobile.io/hc/en-us/articles/203299650-Is-my-account-and-credit-card-information-safe->~~

Additionally, Providers' credit card data transmission will be required to provide a current certification through the Payment Card Industry Data Security Standards (PCI DSS). Major Providers such as ParkMobile, Passport, and PayByPhone maintain PCI DSS Level 1 certification. This was the primary security requirement that the City sought when procuring mobile parking payment services in 2015. ~~Is this the only foundational security requirement that DOT asks?~~

## 8. Fiscal Cost

Mobile parking payment Providers operate at no cost to the City of Oakland [BH30][WQ31]. Individuals who use the Providers' services pay a fixed fee to the Provider per parking session. Currently, the user fee is \$0.30 per transaction, with an average total parking transaction of \$2.57 in 2019. To adhere to generally accepted accounting principles (GAAP), the agreement will require to remit all collected revenues, including ParkMobile's transaction fee, to the City and to invoice the City for reimbursement of the transaction fee. Thus, the Providers' user fees temporarily pass through the City. ~~S;~~ staff have allocated up to \$600,000 of user fees that will be reimbursed to the Providers.

Additionally, DOT staff are considering asking [BH32] will ask that mobile parking payment interested Providers contribute to the City's expenses to operate and maintain signage

and marketing efforts supporting this service; as this is a unique “ask” to Providers in the industry, DOT staff are not certain Providers will meet this.

## 9. Third Party Dependence

Raw (unaggregated) parking payment transaction data will be received and stored by the mobile parking payment Providers on an ongoing basis to reduce privacy risk. DOT staff will not have access to any user account information or raw parking payment transaction data, such as data including full credit card numbers or personally identifiable information. Staff ~~and~~ will instead be able to access Providers’ online portals with processed parking data<sup>[BH33][WQ34]</sup> that excludes personally identifiable information, and license plate numbers. Staff will not have access to any user account information. DOT does not have the staff capacity or technological resources to run a mobile parking payment system itself. Providers may also depend on other companies for certain functions, such as for cloud data storage services; these given the recent ParkMobile data breach, staff will require that selected Providers disclose all additional companies may in the procurement process become known after staff procure the mobile parking payment system.<sup>[BH35][WQ36]</sup> ~~—Must know how all data is stored/managed with the provider and with their 3<sup>rd</sup> party storage service.~~<sup>[BH37]</sup>

## 10. Alternatives

The primary alternative to the proposed data sharing agreement is removing location-based zones from the mobile parking payment system. This would reduce privacy and surveillance risk but result in several key trade-offs.

First, this may limit which mobile parking payment Providers can operate in Oakland and result in user difficulties, as zones are how users indicate where they are parking to a Provider that operates across multiple cities.

Secondly, removing zones would halt the development and implementation of the City’s federally funded Demand-Responsive Parking and Mobility Management Initiative, in which parking prices flex by time of day and location to reflect demand. Thus, this alternative is not a feasible option because it would eliminate the possibility of implementing a federally-funded, Council-approved DOT program. ~~—CCPA for opt in/out policies.~~<sup>[BH38]</sup>

## 11. Track Record

Mobile parking payment services are available in cities throughout California, the United States, and the world. However, the City’s 10 years of experience with mobile parking payment services is most pertinent to the purpose of this report. ParkMobile has been the City’s mobile parking payment Provider since 2011. Approximately 10 to 15% (\$1.4 to \$1.9 million) of annual on-street parking payment transactions were made through ParkMobile between 2015 and 2019. Key challenges with this technology have related to the maintenance of signage showing the zone number.

In March 2021, ParkMobile experienced a data breach of over 20 million users' information. In an email sent by ParkMobile on April 13, DOT staff were notified of the following: "[Parkmobile's] investigation has confirmed that basic account information – license plate numbers and, if provided by the user, email addresses and/or phone numbers, and vehicle nicknames – was accessed. In a small percentage of cases, mailing addresses were affected. No credit cards or parking transaction history were accessed, and [Parkmobile does] not collect Social Security numbers, driver's license numbers, or dates of birth." In response to community members' concerns regarding the breach, DOT provided more information and resources about the breach on the City's website (<https://www.oaklandca.gov/topics/parkmobile-march-2021-data-breach>).

Staff will not ask ParkMobile to migrate user information or data to any new Provider(s) operating under the new mobile parking payment system in order to avoid any compromise of the company's marketing and customer retention efforts. Any new users in Oakland will be required to sign up with the Provider(s) of their choice, and they may hold multiple accounts with multiple providers if they choose to do so. If users have an existing account with a Provider that is newly operating in the City of Oakland, users will continue to be able to use their account in Oakland and simply enter the zone corresponding to a parking space in Oakland in a parking session. The planned multi-vendor system may also minimize the number of Providers with whom users must share their information to access this payment option.

A key improvement of the new mobile parking payment system will be City of Oakland-branded signs in the PROW that will direct parkers to a webpage with all available Providers and promotions, as well as supporting future pilots and innovations like the LaSalle Garage. Under the new system, DOT staff will also seek financial support for the installation and maintenance of City-branded signs. As this is a unique "ask" within the industry, staff do not yet know if potential Providers can meet this.

What would be the desire or expectation to the provider to maintain the placards and signage? How is/should signage issues be reported to DOT or the provider to help ensure response? [BH39] No data breaches or other adverse privacy impacts have become known in the last 10 years of providing this service to the public. [BH40] Can user info and data from Park Mobile be migrated to the new provider? [BH41]

This service supports the City's Parking Principles (Resolution No. 84664 CMS) by making parking easier. Data sharing is in line with DOT's Strategic Plan goal to be a responsive and trustworthy government agency. Through data sharing, DOT can adjust on-street parking rates to be demand-responsive, reconcile parking revenues, and support data-driven decisions on DOT parking policies, programs, and practices. Additionally, data sharing will contribute to DOT's open data efforts, making ~~aggregated and~~ anonymized parking data more accessible and transparent to the public. ~~CCPA laws notwithstanding~~ [BH42]

Questions or comments concerning this draft Use Policy should be directed to Michael Ford, Division Manager, Parking and Mobility Division, via email at [mford@oaklandca.gov](mailto:mford@oaklandca.gov) or phone at (510) 238-7670.