THIS PRINT COVERS CALENDAR ITEM NO. : 13

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SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY

</div>

DIVISION: Taxis and Accessible Services

BRIEF DESCRIPTION:

Requesting the Board to authorize the Director of Transportation to execute a software license and services agreement with Frias Transportation Infrastructure to license RideIntegrity and related software to collect, manage and analyze taxi-related data for regulatory and planning purposes, and to support the Electronic Taxi Access System (ETA), and to lease on-board devices to collect such data where necessary, for an amount not to exceed $6,000,000 and a contract term of five years.

SUMMARY:
- The SFMTA has been attempting to implement the Electronic Taxi Access ("ETA") System, intended to provide passengers with the ability to electronically hail any licensed San Francisco taxi. To date the initiative has been unsuccessful due to the unavailability of necessary third party data in real time.
- Staff identified a software product called RideIntegrity as an alternative means of collecting ETA System data that is designed for transportation regulators, and that includes an on-board device that could be installed on all San Francisco taxis to provide an alternative means of collecting the data required to implement the ETA System.
- The RideIntegrity software would also support the SFMTA role as regulator of the San Francisco taxi industry and to encourage investment in safety and service quality by permit holders by providing adequate enforcement of regulations and a 'level playing field' among taxi companies.
- Policy and planning initiatives being developed by Taxi Services staff are inhibited by the lack of accurate and comprehensive information about taxi activities. The RideIntegrity software can provide a large amount of real-time and historical data that would be useful for transportation planning purposes.
- A large amount of staff time is spent on sending and receiving faxes, manual data entry, filing and maintaining multiple databases to manage permit holder information. The RideIntegrity software offers the opportunity to eliminate paper filing and manual data entry, as well as the capacity to integrate all permit holder databases.

ENCLOSURES:
1. SFMTA Board Resolution
2. Agreement with Frias Transportation Infrastructure

APPROVALS:	DATE
DIRECTOR _____	__11/15/13__
SECRETARY _____	__11/15/13__

ASSIGNED SFMTAB CALENDAR DATE: November 19, 2013

PURPOSE

Requesting the Board to authorize the Director of Transportation to execute a software license and services agreement with Frias Transportation Infrastructure to license RideIntegrity and related software to collect, manage and analyze taxi-related data for regulatory and planning purposes, and to support the Electronic Taxi Access System (ETA), and to lease on-board devices to collect such data where necessary, for an amount not to exceed $6,000,000 and a contract term of five years.

GOAL

Goal 1 Create a safer transportation experience for everyone.

> Objective 1.1: Improve security for transportation system users.
> Objective 1.2: Improve workplace safety and security.
> Objective 1.3: Improve the safety of the transportation system.

Goal 2 Make transit, walking, bicycling, taxi, ridesharing, and carsharing the preferred means of travel.

> Objective 2.1: Improve customer service and communications.
> Objective 2.2: Improve transit performance.
> Objective 2.3: Increase use of all non-private auto modes.

Goal 3 Improve the environment and quality of life in San Francisco.

> Objective 3.3: Allocate capital resources effectively.
> Objective 3.4: Deliver services efficiently.

Goal 4 Create a workplace that delivers outstanding service.

> Objective 4.1: Improve internal communications.
> Objective 4.3: Improve employee accountability.
> Objective 4.4: Improve relationships and partnerships with our stakeholders.

DESCRIPTION

The SFMTA has been attempting to implement the Electronic Taxi Access (ETA) System, an initiative to collect taxi availability data in real time and make it available to smartphone app providers so that all San Francisco taxis can be 'e-hailed' from a smartphone. To date the initiative has been unsuccessful due to the inability to access taxi availability data in real time. As originally envisioned, the ETA System would have collected data on taxi availability in real time from the taxi companies' dispatch or payment systems, uploaded it into a 'cloud' and sent it back out to be used by consumer 'apps' for taxi hailing, such as Flywheel, TaxiMagic or Hailo or similar apps developed in the future.

The proposed contract to acquire the RideIntegrity system would provide the SFMTA with a solution for implementing the ETA System. RideIntegrity is a software product that was created

for use by transportation regulators. It collects data from each vehicle through a proprietary "on-board device" (OBD) that connects to a vehicle's diagnostics port and communicates with the vehicle's engine as well as with the in-taxi dispatch and payment processing equipment. Data collected from the vehicle is uploaded in real time to a cloud-based network where it can be processed. In addition to providing a solution for ETA System data collection, the resulting analytical information can be used for multiple purposes, as described in greater detail below.

Section 21.30 of the San Francisco Administrative Code authorizes the SFMTA to purchase software licenses and related support services without competitive procurement. Accordingly, staff proposes to license the RideIntegrity software from FTI, and to implement the ETA System using data collected directly from each vehicle using RideIntegrity's OBDs.

The SFMTA would prefer to receive all real-time vehicle location, availability status, and driver information to support the ETA system through interfaces to existing dispatch and/or on-board payment systems so that e-hails are communicated to drivers through existing on-board data terminals. This would avoid the need to pay for OBDs and driver data terminals and their airtime costs under the contract. Currently, Transportation Code Section 1105 requires color scheme and medallion permit holders to install OBDs in the taxi vehicles if the SFMTA deems such installation necessary to implement the ETA System. If, by February 1, 2014, dispatch service permit holders and their vendors are able to provide real-time vehicle location, availability status, and current driver information for all active taxis at a frequency of 15 seconds or less to the ETA as described in the contract specifications through existing dispatch or on-board payment systems, then the OBD devices will not be required.

Regulations and Enforcement

The enforcement of regulations accomplishes multiple objectives. It is important to enforce safety-related rules to protect public safety. But it is equally important to enforce those rules efficiently, effectively and fairly with respect to all participants in the industry. To encourage industry investment in service quality and safety, all permit holders must perceive that there is adequate enforcement of regulations to ensure a 'level playing field' among private competitors in the taxi industry. To date, SFMTA has lacked data for adequate regulatory enforcement.

Many regulatory requirements are difficult to enforce because all regulated activity occurs in the field and involves over 2,000 private vehicles, more than 5,000 active drivers, and an estimated 13,000,000 individual taxi trips per year.

RideIntegrity offers the capacity to effectively and efficiently utilize comprehensive, fleet-wide information in support of regulatory enforcement. Following are a few examples of key areas in which RideIntegrity would revolutionize staff's capacity to enforce regulations that are protective of public safety and the integrity of the taxi industry:

1. State law limits a for-hire driver of passengers to driving no more than ten hours per shift. It has been reported that taxi vehicles are sometimes leased to a driver for a period of 24 hours or even several days, and that in order to maximize the income the driver may drive continuously for one or several days. RideIntegrity would provide the ability to instantly identify any driver who is driving an excessive number of hours or days without rest.

2. It is always important to know who is driving a taxi at any particular time. First, the public requires assurance that the person behind the wheel is in fact licensed to operate a taxi. In addition, when processing complaints or lost and found inquiries, it is often necessary to contact the driver. Further, San Francisco taxi medallions are distributed based upon a person's driving history and it is important to ensure that only people who actually drive are eligible for that benefit.

   Currently, staff relies upon the records of taxi companies to identify the driver of a particular taxi. RideIntegrity would provide staff with instant access to information about the driver of any taxi vehicle, as well as aggregate information about a particular driver or the roster of drivers at a particular company. RideIntegrity can easily generate reports of any incident in which a driver fails to log into the system. It also has the capacity to perform functions such as disabling the vehicle's ignition if a driver whose permit has been suspended attempts to log in.

3. The SFMTA Board of Directors recently approved restrictions on the operation of medallions. Those medallions that are operated as 'affiliates' will have to register with Taxi Services and those medallion holders will be subject to special rules that will not apply to medallion holders who operate their medallions as 'gas and gates'. Staff's challenge will be to identify which of nearly 2,000 medallions are being operated as affiliates and which are being operated as 'gas and gates.' Using RideIntegrity it will be a simple matter to separate affiliate and gas and gates medallions by identifying which vehicles are changing shift twice a day at the taxi company lot, and which are not.

4. SFMTA has provided a valuable benefit to certain companies based on performance measures in the form of the '8000 series' permits. These operating permits are conditionally leased to companies, and the failure to abide by permit conditions results in revocation of the lease. For example, the 8000 series taxicabs may only be operated 'gas and gates' and may not be leased out. Staff has received reports that some of the 8000 series vehicles have been illegally leased. Currently the only way to verify the 'gas and gates' operation of each vehicles is to send a Taxi Investigator to each company to check off each 8000 series vehicle that is visually spotted changing shifts on the property. This method of investigation has been an inefficient means of verifying compliance. RideIntegrity would provide staff with the ability to instantly analyze the operations of the 8000 series taxis, the single-operator part-time taxis, wheelchair accessible vehicles, a particular company's vehicles, or any other identifiable class of vehicle.

5. The RideIntegrity system includes the capacity to access permit holder and vehicle data and information about an ongoing trip. This information could be used in the field by Taxi Investigators equipped with a tablet. For example, a Taxi Investigator could enter the number of a taxi vehicle and know instantly who is supposed to be driving that vehicle, the driver's disciplinary record, whether all fees and fines have been paid, how long the driver has been driving on that shift, where the driver picked up the passenger, and the vehicle's inspection history. The field equipment also includes the capacity to immediately issue a custom citation.

6. Companies are authorized to maintain a fleet of mechanical 'spare' vehicles that are intended for use only when the primary vehicle is unavailable for mechanical reasons. In

the past, the Taxi Commission viewed the fleet of spares with some suspicion, because spare vehicles are sometimes put out without a medallion, or the medallion holder may drive the primary vehicle exclusively and force the non-medallion holding drivers to work in the inferior spare vehicles. Current regulations limit the number of spare vehicles, but whether there should be a numerical limit and if so what that limit should be is a policy issue that is under consideration for the future. The spare fleet provides a potential source of additional vehicles that has been and can be used to respond to extraordinary transportation needs.

RideIntegrity provides a mechanism not only to monitor the activities of the spare fleet, but also to coordinate that information with real-time on-line reporting from companies about vehicles that are down for repairs, and to identify who is driving the spare vehicles. It also provides the capacity for customized regulatory responses to unique situations. For example, if the SFMTA were to authorize the use of spare vehicles to respond to a particular transportation emergency, it could use desktop geofencing tools to enforce a requirement that the spare vehicles be used only to respond to that particular geographic location during a particular period of time.

7. As described in a separate agenda item, the SFMTA proposes to enter into an MOU with the San Francisco International Airport (SFO) for the cooperative development and funding of a Ground Transportation Management System that will automate many taxi management functions. This project includes a smart card for use by taxi drivers to pay fees at SFO that will be combined with the taxi driver permit issued by the SFMTA. By upgrading the SFMTA's taxi management system with the RideIntegrity software, SFO and the SFMTA will be able to seamlessly integrate the smart card/driver permit, as well as related functions such as the taxi driver database, disciplinary history, fee payment and permit renewal status and vehicle inspection information for both agencies and their field enforcement staff.

<div align="center">Data to Inform Policy Development and Transportation Planning</div>

In addition to any regulatory considerations, the merger of taxi industry regulation into the SFMTA's jurisdiction has created opportunities for transportation policy and planning that depend on the ability to collect accurate and comprehensive data on taxi activity, whether based on geographic parameters, or on a per vehicle, per company, or fleet-wide basis.

Developing a sound regulatory structure depends upon having adequate information including:

- How many trips San Francisco taxis provide
- How much of the time a taxi is occupied and how much of the time it is empty
- The percentage of taxi transactions paid by credit card
- The number of miles driven during each shift
- Which taxis are operated as affiliate leases and which are operated as gas and gates
- How many driver permit holders actually drive a taxi
- How taxi stands are utilized
- How often taxis pick up or drop off in bus stops
- The principal routes used by taxis
- The presence and frequency of taxis in particular neighborhoods or supervisorial districts
- The amount of time taxis spend idle at the airport
- Actual greenhouse gas emissions by type of taxi vehicle, company or fleet

To date, staff has had to guess at these critical elements of information, or try to laboriously piece information together using data in a variety of formats, with varying levels of reliability, that is provided by dozens of regulated permit holders or their business partners who often have an economic stake in the results.

The RideIntegrity software can provide information such as taxi routes and speeds, taxi activity within certain custom-defined geographical zones and along transit routes, the level of usage by taxis of transit-only lanes, accurate greenhouse gas emissions data for each taxi and for the fleet, and other data that would be useful for transportation planning purposes. The proposed agreement provides for both standardized reports to be provided by the contractor, as well as the ability for flexible customized reporting.

Because Taxis and Accessible Services is also part of the larger transportation planning agency, in addition to the traditional function of taxi regulation, staff is also tasked with conceiving and developing transportation policies for the taxi mode in cooperation with other SFMTA divisions that oversee other transportation modes, participating in land use development and transportation planning, and coordinating transportation for special events and emergencies. Both the regulatory and the policy/planning functions of SFMTA staff depend upon accurate and reliable data about the taxi mode of transportation in San Francisco. Following are two examples in which RideIntegrity would provide value to other elements of the SFMTA:

1. Staff from the Transit Effectiveness Project recently requested information from Taxi Services about whether more taxis are using the Church Street corridor as a result of the pilot. This data would be easily available for any custom-defined geographical area over any period of time through RideIntegrity. Without it, no data is available for the purpose of this type of analysis.

2. RideIntegrity's geofencing and flexible communications capacity could be put to use as part of an emergency response strategy in which the SFMTA could directly and immediately communicate with all or a part of the taxi fleet if needed for small or large scale evacuations, to respond to transit failures, or to encourage taxis to avoid a certain area.

<u>Staff Efficiency</u>

The RideIntegrity software offers the opportunity to integrate all permit holder data and provide for online submittal and electronic routing of forms, eliminating the need to spend staff time on paper filing and data entry, as well as the capacity to scan historical paper files into an electronic format that can be easily accessed as part of a permit holder's database record.

Taxi Services expends an inordinate amount of staff time on sending and receiving faxes, entering data from forms faxed to the office, filing paper, and maintaining multiple spreadsheets and databases to manage permit holder information. Taxi company employees spend a great deal of time generating regulatory reports in a variety of formats to satisfy regulatory requirements. In general, a tremendous amount of time is spent generating reports and documenting that reports have been submitted. This level of effort leaves little opportunity to actually review the reports for regulatory or policy purposes. When it is necessary to answer a regulatory or policy question it takes a large amount of staff time to collate available data and produce a meaningful analysis. For example, staff recently tried to evaluate the driving patterns of the single operator permit vehicles in order to assess the success of this new class of permit and decide whether to recommend the issuance of additional single-operator permits. It took 20 hours to develop a limited analysis based on electronic trip data showing the activity of 50

vehicles over a 90-day period. The RideIntegrity platform could have performed this analysis instantly for any number of vehicles over any time period.

The same issue is presented when it comes to calculating emissions data. We are proud to be the cleanest taxi fleet in the world, but we are not able to tell you exactly how many vehicles are hybrid or compressed natural gas, or what the actual emissions of a particular vehicle or company are. This is because when a vehicle is added to or removed from the fleet the taxi company faxes a form to Taxi Services, and that form is printed out and staff enters the data as time permits. Once the data is entered, an analyst periodically performs complicated calculations to determine the actual emissions by company, to ensure that regulatory emissions goals are met. The last such evaluation was performed in August, 2013. Because taxi fleet emissions data is maintained through this labor-intensive process, taxi emissions data and fleet vehicle information are never up to date.

SFMTA Taxi Services inherited a permitting, disciplinary and regulatory system that is historically paper-based. Over time staff has developed databases and spreadsheets of driver, medallion and company permit holders and a database for investigations, but their usefulness is limited because they do not talk to each other. Taxi Services' current regulatory system is maintained by cobbling together voluminous and ancient historical paper files, intricate spreadsheets, ad-hoc databases, faxed reports and binders of paper. RideIntegrity would diametrically increase Taxi Services' staff efficiency by integrating and automating the current processes.

<u>Driver and Passenger Safety</u>

RideIntegrity's proprietary OBD device includes a panic button feature that can be programmed to instantly communicate with one or several contacts in an emergency. For example, a panic signal from a driver because of a crime or medical emergency could be sent to the on-duty Taxi Investigator in the field or to the closest police station.

<u>Contract Scope of Work and Charges</u>

The deliverables under the license agreement include:

- A software license and support services for the RideIntegrity software,

- OBD devices installed in up to 2,500 taxi vehicles at the rate of 250 units per month;

- Full implementation of the ETA System using data collected through the OBD device;

- The airtime, data storage and processing costs required to operate the system;

- A driver app in IOS and Android for drivers to access the ETA System data;

- Assistance with integration of RideIntegrity with San Francisco Airport's Ground Transportation Management System, dispatch and payment system provider systems, and third party apps/consumer interfaces; and

- Installation and customization of the system and training for SFMTA staff.

The Agreement has an initial term of five years. Hardware and airtime costs for the OBD devices would be billed for each OBD device if and when it is installed in a taxi vehicle. All hardware costs would be paid in the first two years, after which the only ongoing equipment cost would be the airtime used by the OBD devices.

Pursuant to the proposed contract's terms, the device, its installation, and its airtime costs to transmit data would be at no cost to taxi companies. Nevertheless taxi companies and their vendors remain concerned about the device. In response to this concern staff is willing to offer that if all of the required data can be provided through other systems and in-taxi equipment, the OBD device would not be necessary. Accordingly, installation of OBD devices by FTI is included in the contract budget as an option. There is an additional option to acquire mobile data devices to be used as a driver interface for the ETA System in the event that the data cannot be displayed on the existing driver terminal.

The payment schedule over five years is estimated as follows:

Year 1	$1,469,050
Year 2	$1,391,850
Year 3	$1,202,600
Year 4	$909,600
Year 5	$909,600

To show the budget for this contract in another way, the contract amounts break down by subject matter area as follows:

1. Software Licensing - $1,585,000 contract total

    a. $20,000 per month upon first use of RideIntegrity

    b. Increase of $7,500 per month, for a total rate of $27,500 per month, for remainder of contract, upon FTI's delivery and SFMTA's acceptance of RideIntegrity additional software options.

2. Software Support - $317,000 contract total

    a. $4,000 per month upon first use of system to collect electronic trip data and other regulatory data from OBD II devices and/or existing Permit Holders' dispatching or payment.

    b. Increase of $1,500 per month, for a total rate of $5,500 per month, for remainder of contract, upon FTI's delivery and SFMTA's acceptance of RideIntegrityadditional software options.

3. Software Customization - $60,000 contract total

    a. $30,000 upon FTI's delivery and SFMTA's acceptance of a working beta model in Android and IOS of the RideIntegrity mobile driver application.

    b. $30,000 remainder of balance due upon final delivery and acceptance of RideIntegrity mobile driver application.

4. Transcore SFO TMS/GTMS Integration - $20,000 contract total

    a. Billed at a one-time flat rate of $5,000 upon start of integration with Transcore, and an additional not-to-exceed rate of $15,000 based on an estimated 100 hours of development time at $150 per hour due upon delivery and acceptance of work.

5. <u>SFMTA Driver Application Support - $57,000 contract total</u>

    a. Billed at a rate of $1,000 per month upon FTI's delivery and SFMTA's acceptance of the mobile driver application, and continuing for the remainder of this Agreement.

6. <u>OBD II Devices- $957,000 equipment only; up to $2,235,200 contract total</u>, including equipment and airtime for up to 2,500 vehicles

    a. OBD II devices, including wireless routers and airtime, at $42 per month per vehicle for the first 24 months after activation of each device, which includes a monthly fee of $20 for the OBD II device with wireless router, and $22 for airtime.

    b. After 24 months there will be no charge for the equipment and the monthly fee will be lowered to $22 per month per vehicle for airtime only.

7. <u>OBD II Device Installation - $66,500 contract total</u>

    a. $35 per vehicle for installation of the OBD II devices by FTI.

8. <u>Cancellation Fee applicable to OBD II device</u>

    a. Within the first twelve months from date of activation a cancellation fee of $550 per installed and active OBD II device;

    b. Between the thirteenth and twenty-fourth month from date of activation a cancellation fee of $275 per installed and active OBD II device;

    c. After the twenty-fourth month no cancellation fees will apply.

9. <u>Mobile Data Devices - $450,000 contract total</u>

    a. This is a placeholder of $450,000 for Mobile Data Devices if the SFMTA elects to implement Phase 2-B, which includes airtime.

10. <u>Project Management - $30,000 contract total</u>

    a. $10,000 per month upon execution of the Agreement for first three months of the Agreement, including a dedicated project manager to be available on site at the SFMTA forty hours per week for a period of three months. This may be extended at the SFMTA's option.

11. <u>On-site Managed Services / Support - $105,000 contract total</u>

    a. $8750 per month for 12 months beginning 90 days after contract execution, including one on-site FTI employee to the SFMTA on a full-time basis to provide ongoing support and training on the system. The SFMTA may choose to extend this service after the first twelve months at the same rate.

<u>Outreach</u>

The draft scope of work and budget for this contract have been shared at the October 8 and November 12 Taxi Town Hall meetings, and have been discussed at weekly company workshops since October 15.

The City Attorney has reviewed this report.

ALTERNATIVES CONSIDERED

If the Board declines to authorize the execution of this software license agreement:

- SFMTA Taxi Services staff will not realize the benefits of the RideIntegrity system such as data analytics for regulatory and transportation planning purposes, online data entry and form processing, integrated data management, and access to the permit holder database from the field.
- The SFMTA may not be able to implement the ETA System because of a lack of access to real-time taxi availability data.
- Taxi drivers will not have access to the emergency communication capacity offered by the OBD devices.

FUNDING IMPACT

The total cost of this contract over the five-year term will be $6,000,000. This contract will be funded through a combination of capital and operating funds.

OTHER APPROVALS RECEIVED OR STILL REQUIRED

None.

RECOMMENDATION

Staff recommends that the SFMTA Board authorize the Director of Transportation to execute a software license and services agreement with Frias Transportation Infrastructure to license RideIntegrity and related software to collect, manage and analyze taxi-related data for regulatory and planning purposes, and to support the Electronic Taxi Access System (ETA), and to lease on-board devices to collect such data where necessary, for an amount not to exceed $6,000,000 and a contract term of five years.

SAN FRANCISCO
MUNICIPAL TRANSPORTATION AGENCY
BOARD OF DIRECTORS

RESOLUTION No. _____

WHEREAS, The SFMTA has been attempting to implement the Electronic Taxi Access
("ETA") System, intended to provide passengers with the ability to electronically hail any
licensed San Francisco taxi but to date has been unsuccessful due to the unavailability of
necessary third party data in real time; and

WHEREAS, Staff has identified a software product, called RideIntegrity that is designed
for transportation regulators, and that includes an on-board device that could be installed on all
San Francisco taxis to provide an alternative means of collecting the data required to implement
the ETA System; and

WHEREAS, Policy and planning initiatives being developed by SFMTA staff are
inhibited by the lack of accurate and comprehensive information about taxi activities; and

WHEREAS, Current office systems of Taxi Services involve a large amount of staff time
spent on handling paper files and re-entering data into multiple spreadsheets and databases to
manage permit holder information; and

WHEREAS, The RideIntegrity product offered by Frias Transportation Infrastructure
provides SFMTA staff with the ability to collect data directly from taxi vehicles and online
reporting systems and a mechanism to extract useful analytical reports for regulatory and
planning purposes; now, therefore, be it

RESOLVED, That the San Francisco Municipal Transportation Agency Board of
Directors authorizes the Director of Transportation to execute a software license and services
agreement with Frias Transportation Infrastructure to license RideIntegrity and related software
to collect, manage and analyze taxi-related data for regulatory and planning purposes, and to
support the Electronic Taxi Access System (ETA), and for on-board devices to collect such data
where necessary, for an amount not to exceed $6,000,000 and a contract term of five years; and
be it

FURTHER RESOLVED, That the Board of Directors authorizes the Director of
Transportation to make or enter into any amendments or modifications to the Agreement
(including without limitation, the exhibits) that the Director of Transportation determines, in
consultation with the City Attorney, are in the best interests of the City, do not increase the
obligations or liabilities of the City, are necessary or advisable to effectuate the purposes of the
Agreement or this Resolution, and are in compliance with all applicable laws, including the
City's Charter.

I certify that the foregoing resolution was adopted by the San Francisco Municipal
Transportation Agency Board of Directors at its meeting of November 19, 2013.

_____
Secretary to the Board of Directors
San Francisco Municipal Transportation Agency