



# Appendix-18.1

## Use of Commercial Account Managers



## MEMORANDUM

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**SUBJECT: Use of Commercial Account Managers**

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### 1.0 INTRODUCTION

In the context of a road charge, a Commercial Account Manager (CAM) is a private company that manages user accounts for one or more mileage reporting methods, including mileage recording, invoicing, and payment processing. The Technical Advisory Committee (TAC) recommended testing a CAM model for the Road Charge Pilot Program. This model is based on Oregon's road usage charge (RUC) program, which itself adapted the notion of CAMs from New Zealand, where electronic service providers compete in an open market to provide RUC collection services to owners of all diesel vehicles.<sup>1</sup>

CAMs in New Zealand and Oregon are certified by the state, and they may be subject to additional market regulations. For example, in New Zealand, market regulations govern the fees that CAMs may charge for RUC transactions (distance purchases), and all CAMs are all subject to periodic audits. In addition, the New Zealand government certifies CAMs' mileage reporting technology before it may be used for RUC purposes. In Oregon, CAMs for light vehicle RUC are subject to the same market rate of compensation, currently 40% of gross RUC collected, along with a range of technical and business requirements in order to be certified.

However, the commercial relationship is between the CAM and end customers: CAMs are agents acting on behalf of vehicle owners. CAMs may also offer their customers a range of value-added services, possibly for a fee. Value-added services are any services other than road charging that CAMs may offer to their users. Such services typically are offered through the CAM's web portal or smartphone application, and may leverage data that the CAM has access to for the purpose of computing road charges. Value-added services are typically opt-in, so that users may choose not to have their data used for any purpose other than road charges.

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<sup>1</sup> Electronic RUC service is mostly used by commercial vehicle fleets. Light diesel vehicles are subject to the New Zealand RUC, and they may choose to use electronic RUC, but most opt for distance licenses offered by the New Zealand Transport Agency.

This memo addresses the following questions:

- ▶ What are the advantages and drawbacks of adopting CAMs for road charges in California?
- ▶ What are the prospects for value-added services as a complement for a road charge in the future?
- ▶ Who are current and potential CAMS?

## **2.0 CAMS: ADVANTAGES AND DRAWBACKS**

CAMs provide a range of potential benefits to a road charge program, as well as offering a few potential drawbacks. This section addresses both aspects.

### **2.1 Advantages**

#### **Keeping Up with Technology**

As private technology companies who profit from offering services to their customers, the firms that become CAMs are motivated to provide up-to-date technologies to their customers. They are likely to keep updating the hardware, software, and services they offer to customers, in order to keep existing customers satisfied, and in order to acquire new customers and improve their own financial performance. Potential CAMs are keeping abreast of connected vehicle trends and enlarging their offerings to include more telematics and mobile phone based options. If a road charge were put into place, potential CAMs would continue innovating to provide better services to their customers.

#### **Competition**

As a general principle, competition among providers improves service and reduces cost, which benefits both the state and motorists. With multiple CAMs seeking the potential to generate business from a given market, each of the CAMs will attempt to offer greater services to their potential customers, and also reduce their own operating costs. As the market evolves, the state can take advantage of lower cost CAM operations by reducing compensation provided to CAMs.

#### **User Choice**

Consumers generally prefer services in which they have a choice among providers. Rarely does a single service provider suit the needs of all consumers. Offering consumers a choice among multiple service providers is more likely to result in higher levels of consumer satisfaction than requiring that all use the same provider.

#### **Private Sector Preference**

Some consumers may have a preference for purchasing services from the private sector over government agencies or agency-procured providers. Such individuals may feel that their personal data is safer with the private sector, who may experience lawsuits or other repercussions if their data is misused.

## **Value-added Services**

CAMs may offer value-added services, a range of services that take advantage of the data available to the CAM, including usage-based insurance, trip logging, geo-fencing and a range of other services discussed later in this memo. Some drivers will appreciate the convenience of the value-added services. To take advantage of value-added services, participants will need to be registered with a CAM and have a functional mileage reporting method, thus making them compliant with a road charge. Value added services could help to make a road charge more acceptable to the driving population, since drivers may appreciate them more than road charge.

## **Potential to Reduce Costs**

The above benefits collectively – choice, competition, value-added services, faster evolution in technology – allow for the potential to reduce the administrative cost of a road charge. As CAMs evolve their business models to reduce operating costs and increase services from which they can generate ancillary revenues, the cost borne by the state to collect road charges declines. In fact, road charge collection may itself be considered a value-added service: from the perspective of a pre-existing commercial relationship (e.g., between insurance companies and vehicle owners), road charge is the “add-on,” not the other way around, potentially leading to drastically reduced costs if there are high adoption rates of other in-vehicle services.

## **2.2 Potential Drawbacks of CAMs**

### **Choice May Cause Confusion**

Having a large number of choices of road charge options—account managers and mileage reporting methods—may cause confusion among vehicle owners. Mitigation measures could reduce such confusion such as having a strict certification process (which ensures a minimum of guarantees and features for all options); having clear rules for communicating with the public (which ensures that CAMs will communicate their offerings clearly and honestly); and having a central repository of choices (including an internet page and a customer service line) where consumers can access to get help comparing road charge options.

### **State Oversight May Be Challenging**

Overseeing a number of CAMs providing services to road charge payers may be more complicated for the state than administering a single contract with a single account services provider. CAMs will inevitably offer a variety of services and service levels, which is not typical for state-run operations. As a mitigation to this difficulty, the state could set up the CAM oversight body early, and institute continuous improvement processes and strict quality control measures to ensure that the state is ready to deal with the challenges of overseeing multiple entities.

### **Risks of Having Private Entities Perform Revenue Collection**

With CAMs, the state is putting at least a part of the revenue collection activities in the hands of private industry—and private entities can go out of business, choose to leave the market, get acquired, or

experience other changes that could impact their ability to provide revenue collection services. The mitigation to this risk is to: (1) have strict financial stability requirements—ensuring CAMs always have enough capital to operate (through bonding, escrow, and/or other measures); (2) having strict, binding rules for exiting the CAM market (requiring a minimum lead time of, say, one year); and (3) have multiple CAMs in the market, so other CAMs can accept the customers of CAMs who leave the market.

### **Implications of Mitigation Measures**

The mitigation measures for all of these drawbacks may increase the efforts that potential CAMs must take to be active in the open market for CAMs. Such additional efforts may potentially limit the number of CAMs interested in entering the market. However, such mitigation measures should also increase the quality of service offered by the CAMs that do enter the market.

## **3.0 VALUE-ADDED SERVICES**

### **3.1 Currently Offered Value-added Services**

The following value-added services are available now from one or more providers, either from the firms acting as CAMs in the Road Charge Pilot Program, or from other programs.

#### **Usage-based Insurance**

Usage-based insurance, a type of car insurance, in which insurance premiums are based on actual driving behavior measured by a device in the vehicle, is perhaps the original and most important value-added service. The on-board diagnostic (OBD-II) plug-in devices used in the Road Charge Pilot Program were originally developed as tools to collect data for usage-based insurance. The market for usage-based insurance in the United States is already maturing, and continues to grow. In a future road charge program, a CAM could be a broker of usage-based insurance, if a user opted in. The CAM could provide insurance premium offers from various insurance companies based on driving data, and then continue sending the data to the insurance company itself. Alternatively, a CAM could be an insurance company. In either case the insurance company could subsidize the cost of the device and associated communications.

- ▶ Pros: Drivers have additional options for their choice of car insurance. Insurers may help defray costs of plug-in devices and services.
- ▶ Cons: None. Usage-based insurance will always be an optional, additional feature that drivers will have to pay to get.

#### **Driver Education**

Data from an OBD-II device or vehicle telematics can be used to assist in driver education. This can either be informal assistance for young drivers or formal recording of driver vehicle time for the purposes of commercial driver licensing. In either case, the OBD-II device uses the data from the vehicle to observe instances of potentially unsafe behavior – sudden braking, sudden acceleration, or airbag deployment, combined with GPS location data, and provide guidance to the driver to avoid such

situations in the future. CAMs can also provide a service to generate trip logs that can be submitted for driver's license preparation hours.

- ▶ Pros: Drivers have the additional benefit of getting feedback on the quality of their driving as an enhancement to traditional training.
- ▶ Cons: Driver education applications will never be perfect, and do not replace the need for live driving instructors and classroom training for beginning drivers.

### **Trip Logs**

A primary service offered by CAMs is to store logs of trips for future reference by vehicle owners. Vehicle owners can see where a vehicle was driven at any given time. Such references can be used for creating expense reports, for allocating costs among multiple drivers, or simply as a reference to help jog a driver's memory about where he/she drove in a given day.

- ▶ Pros: Drivers have the additional benefit of knowing all of their stored trips.
- ▶ Cons: Currently, the GPS signal from under-dashboard plug-in devices is not of sufficient quality to create perfect trip logs. Trip logs created from signals from such devices may contain extra loops or other deviations from the actual trip taken. Note that the trip logs of the more robust commercial vehicle mileage meters, such as those provided by EROAD in the RCPP, have much higher accuracy.

### **Geo-fencing**

Geo-fencing means setting a boundary, which, when a vehicle crosses, causes another action to occur, typically setting off a notification or alarm. A person might set a geo-fence at a given location to provide an automatic reminder that the vehicle is 20 minutes from home, to give notice of the vehicle's impending arrival. Or a person might set a geo-fence much further away, to indicate a vehicle is being driven out of close proximity. Any mileage reporting method that uses GPS can provide a geo-fencing functionality that a CAM can in turn provide to a driver.

- ▶ Pros: Drivers have the additional benefit of being able to set notifications based on vehicle location.
- ▶ Cons: None. Geo-fencing is an optional service that drivers will only use if they choose.

### **Fuel Monitoring**

Vehicles that are shared can benefit from having records of where and when fuel was utilized. Such reports can help vehicle owners appropriately divide costs of fuel, and also to ensure that vehicles are using fuel consistently. They also show how driving habits affect fuel usage.

- ▶ Pros: Drivers have the additional benefit of being able to monitor their fuel usage.
- ▶ Cons: Currently, availability of fuel monitoring varies by vehicle type and device provider. Fuel monitoring will not be available on all vehicle models prior to Model year 2019, at which time the OBD-II standards will include fuel usage as a mandatory signal.

### Maintenance Scheduling

CAMs can offer a maintenance scheduling application that reminds vehicle owners when a vehicle is in need of service, based on mileage, driving conditions, and vehicle Diagnostic Trouble Codes (DTCs, or indications of vehicle malfunctions) set.

- ▶ Pros: Drivers have the additional benefit of getting reminders to perform vehicle maintenance.
- ▶ Cons: None. Maintenance scheduling is an optional service that drivers will only use if they choose.

### Gamification

Gamification means turning the process of driving into a game. Participants can earn scores or rewards for performing certain actions (and potential earn negative scores or demerits for performing other actions). Such games are usually designed to encourage safer and more environmentally friendly behavior. Most importantly, such games are designed to provide feedback once a trip is completed, not while driving is in progress—they are specifically not designed to distract the driver.

- ▶ Pros: Drivers have the additional benefit of getting a sense of enjoyment out of driving in a safer or more environmentally friendly way.
- ▶ Cons: Such games are complicated to program and may be more subject having bugs.

### Car Location

Car Location is a functionality that helps drivers locate their vehicles when they may have forgotten where they were parked. It can also help if a vehicle is towed or stolen.

- ▶ Pros: Drivers have the additional benefit of easily being able to look up their car's location.
- ▶ Cons: Car location will not work in locations where GPS signal strength is low, such as some large parking garages. If drivers become fully reliant on the car location service to find their vehicle, they may be disappointed when they have parked in a place with poor GPS signal strength and cannot find their cars.

### Check Engine Light Decoding

This feature allows vehicle owners to see the reason or reasons that a check engine light is illuminated. This information can allow the vehicle owner to determine whether he/she can potentially fix the problem him/herself, or whether it would be better to bring the vehicle to a mechanic or dealer for professional repair.

- ▶ Pros: Drivers have the additional benefit of easily look up the reason why their check engine light is illuminated.

- ▶ Cons: Every car make and model has a different set of diagnostic trouble codes (DTCs), the codes which contain information about why the check engine light is illuminated. While CAMs may be able to include DTCs for many vehicle makes and models, they cannot include all DTCs for all makes and models.

### **Environmental Impact Feedback**

Environmental impact feedback is a feature that allows users to see the carbon footprint that the vehicle is generating, as well as other potential environmental impacts. This feedback may allow drivers to reduce the environmental impact of their driving style.

- ▶ Pros: Drivers have the additional benefit of seeing and getting feedback on the environmental impact of their driving.
- ▶ Cons: None. Environmental Impact Feedback is an optional service that drivers will only use if they choose.

### **Theft Alert**

Theft alert would provide the user a notification if there were indications that a vehicle is stolen. It could also provide the real-time knowledge of the location of the vehicle that could easily be provided to authorities to allow them to track a vehicle.

- ▶ Pros: Drivers have the additional benefit of being alerted when a vehicle is stolen.
- ▶ Cons: Such systems are seldom foolproof—they may not be triggered in all theft situations. Moreover, such systems may be triggered by non-theft events, such as when a vehicle is towed.

## **3.2 Potential Future Value-added Services**

The following value-added services are not generally available now, because they would require integration with a variety of government agencies. In a mandatory road charging program, such value-added services would be likely to emerge.

### **Mobile Emissions Testing**

Mobile emissions testing means performing an official state emissions test, such as a California smog inspection, using the data provided by the CAM from the vehicle. This would allow vehicle owners to avoid making a potentially cumbersome and/or time consuming trip to a smog inspection location every few years, while still allowing the state to be certain that non-compliant vehicles are not being permitted on the streets.

- ▶ Pros: Drivers have the additional benefit of not having to go to a smog check.
- ▶ Cons: None. Mobile Emissions Testing is an optional service that drivers will only use if they choose.

### Tolling Payment

CAMs could offer toll payments with agencies who agreed to integrate with their services. This service would be ideal for drivers who do not have a toll transponder, such as FasTrak, but want to avoid the wait to use a manual toll booth, and want to avoid potential penalties associated with driving through an electronic toll lane without a transponder. It would also provide drivers the convenience of paying tolls, road charges, and other fees from a single account.

- ▶ Pros: Drivers have the additional benefit of being able to pay tolls with their plug-in device for road charge
- ▶ Cons: None. Tolling payment is an optional service that drivers will only use if they choose.

### Parking Payment

Parking payment would allow users to automatically pay for parking on streets of participating cities. Many cities offer street parking by smartphone app now (one such app is Parkmobile). Such apps require that users manually declare that they are parked in a given zone using the app each time they want to pay for parking. When integrated with a mileage reporting method that uses GPS, parking payment could be automatically initiated by the CAM when the vehicle parks in a given zone, an even greater convenience to the driver.

- ▶ Pros: Drivers have the additional benefit of being able to pay for parking with their plug-in device for road charging
- ▶ Cons: None. Parking payment is an optional service that drivers will only use if they choose.

### Vehicle Registration and Licensing

Vehicle registration and license renewals could be incorporated into a CAM's interface. This would be a simple notification that a vehicle or a driver license renewal is coming up or needed now. If a given transaction were supported by the Department of Motor Vehicles (DMV) over the internet, the CAM could immediately redirect to the DMV interface.

- ▶ Pros: Drivers have the additional benefit of being notified of licensing and registration activities
- ▶ Cons: None. Vehicle registration and licensing is an optional service that drivers will only use if they choose.

## 4.0 CURRENT AND POTENTIAL CAMS

This section is meant to illustrate companies that are currently in the market or showing interest in CAM market. This market can and should evolve to include other types of companies.

While this market is still emerging, it has a wide range of companies interested in participation. Below is a list of active CAMs, inactive CAMs, and others. This is not a comprehensive list, but is indicative of the types of firms that could be involved in a future road charge program. Should the State mandate a road charge program in the future, it may be desirable to promote entry into this market by these types of firms, which span many sectors, including automakers, automotive telematics, insurers, telecommunications companies, and utilities.

- ▶ **Active CAMs** are companies active as road charge CAMs now, in an operational program or pilot that includes user choice.
- ▶ **Inactive CAMs** are companies that have served as CAMs in previous road charge pilots, but are currently not active as CAMs.
- ▶ **Others** include industries that are well-situated to be CAMs. Of the ones listed here, only the electronic toll collection companies have bid on any of the road charge procurements, but the others may well become interested as the market grows and matures.

1. Active CAMs
  - a. California
    - i. Azuga
    - ii. IMS
    - iii. EROAD (commercial vehicles only)
  - b. Oregon
    - i. Azuga
    - ii. emovis / IMS
2. Inactive CAMs
  - a. Brisa
  - b. Verizon
3. Others
  - a. Aftermarket telematics providers
    - i. Automatic
    - ii. Zubie
  - b. Insurance companies
    - i. Metromile
    - ii. Nationwide
    - iii. State Farm
    - iv. Progressive
  - c. Electronic toll collection companies
    - i. Conduent (spinoff of Xerox)

- ii. Kapsch
  - iii. TransCore
- d. Heavy vehicle telematics providers
  - i. Coretex
  - ii. Omnitrac
- e. Mobile network operators
  - i. AT&T
  - ii. Verizon
- f. Utility providers
  - i. Pacific Gas and Electric
  - ii. San Diego Gas and Electric
  - iii. Southern California Edison
- g. Automakers (especially those with telematics platforms)
  - i. General Motors
  - ii. Ford
  - iii. Toyota
  - iv. Tesla

## 5.0 CONCLUSION

The use of CAMs in a potential future road charge program offers a wide range of benefits both to government agencies and to the driving public. CAMs provide the possibility to reduce the administrative cost of collection of road charges to the state. The range of additional services provided to customers could improve the perception of the program by many members of the public. Other advantages include keeping the road charge system supplied with up-to-date technology, providing user choices, allowing competition to improve services, and catering to user preference for private sector services.

The use of CAMs has a few drawbacks, including the potential to cause confusion through the number of choices, the relative complexity and unfamiliarity required of state oversight, and the risk of having the private sector collect revenue. However, there are a range of measures that can be taken to reduce the impact of these risks.

Should policy makers desire to incorporate the benefits of CAMs into a future road charge program, legislation creating such a program should ensure that CAM services are provided in an open market, with competition. Legislation could be developed that any company wishing to be a CAM will be subject to certification and oversight by the state. The development of certification and regulation of CAMs could be left to state agencies or regulating bodies. However, statute could define the rules of the market in a framework that allows agencies to effectively execute a road charge program that provides for a high likelihood of healthy participation by CAMs.