DEPARTMENT OF TRANSPORTATION

QUESTIONNAIRE

REGARDING TRANSITIONING FROM THE CURRENT TITLE-21 PROTOCOL TO A NEW PROTOCOL

The California Department of Transportation (Caltrans) is currently considering the development of regulations regarding new technologies and new technical specifications to replace the current automated vehicle identification protocol currently set out in the California Code of Regulations (commonly referred to as the "Title-21 protocol"). Caltrans is very interested in hearing from stakeholders as to their views on the transitioning from Title-21 protocol to a new protocol, most likely the 6C protocol.

Caltrans will be holding two public workshops (July 8, 2015 in Oakland and July 22, 2015 in Fontana) to solicit initial comments on the transition from the current Title-21 protocol.

However, in anticipation and in connection with those workshops and other activities to facilitate public participation in the regulatory process, Caltrans invites you to complete the following questionnaire. This information will greatly assist Caltrans as it begins the process of considering new regulations.

Please provide your responses following each question. Please feel free to forward this questionnaire to any other interested parties.

Please e-mail your responses to: Title.21.Changes@dot.ca.gov.

Please list the name of the person completing the questionnaire and the name of the agency or company you represent.

NAME _____**Kelly Gravelle**_____

AGENCY _____**TransCore**_____

1. Are there any alternatives to the transition to 6C, including comparable Federal regulations or regulations/protocols in other states? Yes, two other technologies are in much wider usage than 6c technology for tolling in the United States. These are the SeGo protocol used in eight states in the South and Southeast, with over 20 million tags increasing annually by 2 million tags; and the PS-111 (E-ZPass) protocol used in the Midwest and Northeast, with about 25 million active tags issued and in use. This compares

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with less than 3 million tags in use with 6c technology. A third alternative is to stay with the existing T21 technology which currently has served the state for over 20 years and does not require any new infrastructure or tag swaps.

2. What are the benefits of the transition to 6C? What are the drawbacks? The primary perceived advantage of 6C technology is that it is inexpensive. In reality the actual cost of 6c implementation is unknown due to multi-faceted disputes over the intellectual property pertaining to the technology which threaten to effectively consolidate supply. Furthermore, 6C technology is a commodity product, and supply does not include the level of support that will be required over the long term to ensure the integrity of the toll system, as well as management of technology and product obsolescence. These costs are currently included when a system is procured and with 6c these services will need to be procured separately and at additional cost. Further removed from source, these services may be much less effective.

A significant drawback of 6c is that tags can be easily duplicated and counterfeited. While this security flaw is being addressed in the latest versions of the 6c specification, those specifications are not complete for tolling and performance in a tolling environment remains unproven. Further, the entire installed base of 6c tags do not support the new security features, so any system supporting these tags from an interoperability perspective is at risk from the counterfeiting of legacy tags.

3. Please discuss the factors involved, including projected timetables, for transitioning to a new protocol, with respect to the following: The technical specifications for the regulation are currently incomplete as they are missing critical RF specifications which we understand are still in development. After development these specifications they will need to be vetted and tested to ensure viability. The length of this evaluation period cannot be known at this time, but may be significant.

Further, the transition plan contemplated at this time is heavily dependent on Multi-Protocol Reader (MPR) technology. Until these key specification are nailed down the viability and testing of MPR technology cannot be investigated, nor can the costs or time frame for implementation, which also can be significant.

a. Transponder procurements/existing inventories

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b. Toll-system modifications
c. Agency administrative changes
d. Public education, outreach, and marketing
e. Issues regarding certification
f. Issues regarding three-position transponders.

4. Please describe how the transition:

a. Impacts business and/or employees
b. Impacts small businesses
c. Impacts jobs or occupations
d. Imposes reporting requirements
e. Impacts individuals. 6C technology is used in many industries and is well known and documented to hackers. The risk of tag cloning presents a security risk of fraudulent toll transactions going to the wrong patron. Any new technology implementation should address this risk with a detailed security plan.

5. Will the regulation affect the ability of California businesses to compete with other states by making it more costly to produce goods or services here? 6c technology is a commodity product which is likely to be manufactured overseas. Commodity products generally are weak in terms of customer support, and result in stifled R&D and technology innovation, especially in light of the IP risks discussed below.

6. What are the costs that businesses and individuals may incur to comply with this regulation over its lifetime?

7. What are the fiscal impacts on state and local government? Fiscal impact is potentially very significant. See IP risks below

8. Are there any issues regarding fairness of competition? Intellectual Property (IP) litigation is ongoing with at least two separate entities enforcing their IP claims to the 6c technology in Federal Court. At least 19 other entities have declared, via the International Standards Organization (ISO) process, claims to IP coverage of the 6c specifications. Given this situation, it is entirely possible that a dozen or more entities will require settlement in order to allow California and its contractors to legally practice the 6C technology. Entities

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who are judged to be willfully infringing the IP of others are potentially subject to triple damages. This creates a significant risk to contractor and/or state agencies. In fact, litigation has already resulted in reduced competition with the consolidation of supply between two 6c vendors (see the attached press release). The impact on fairness of competition cannot be known without rigorous and detailed study of the IP issues related to 6C technology.

9. Are there any issues regarding individual privacy?

10. Please provide comments on any other relevant issues not addressed above. The 6c technology proposed would simply be a different way of accomplishing what is already implemented in California with Title 21 technology with no new or enhanced capabilities. Other novel technical approaches such as smart phone technology could likely provide additional capabilities to support other emerging transportation policies such as Mileage Based User Fees (MBUF). To avoid the requirement for members of the public to use multiple systems and multiple in-vehicle devices to access the California road transportation network, all new technology options should be considered.

Current Title 21 technology has been in place for over twenty years. While Caltrans should be commended for looking at an update, it does not seem necessary to rush to a conclusion, especially given the significant risks and technical issues raised in our comments above. We therefore suggest that before moving forward with proposed regulatory changes, Caltrans should consider:

a) A complete legal study on the IP issues related to 6C technology and its impact on fairness of competition (including the risk of triple damages);

b) A formal technical and business solicitation to industry with the goal of evaluating a range of both deployed and emerging technologies to determine which best meet current and potential future requirements

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THANK YOU FOR COMPLETING THIS QUESTIONNAIRE