RUC Pilot Programs in the United States: the Customer Experience

Compiled by: A-to-Be® | Mobility-Beyond

Executive Summary

Through the Road Usage Charge (RUC) **pilot programs in Washington state, California, and Oregon**, participants drove over 37 million miles, logging over 4,026 emails and phone calls with about 12,000 participants across the three states. Finally, by the end of 2019, these RUC pilot programs **were all complete, and each state DOT learned unique information about their programs and capabilities to scale statewide.**

California learned that it may be difficult to scale a program statewide, due to concerns of citizens across the state related to privacy, ease of use, and consistent results; Oregon learned that citizens were very concerned about equity, especially for drivers that frequently cross state lines; while Washington state learned that calculating payments and coordinating with individual state taxes would pose challenges. **Ultimately, each state, from 2015 on, learned a lot about RUC and it is obvious that states are looking into RUC programs nationwide, which seem on the surface to be more equitable than the current fuel tax as a pay for infrastructure.** Particularly in red states, that tend to be averse to additional taxes, the concept or RUC is easier to introduce.

In Europe particularly, RUC has been in existence in various forms for almost a decade, with over 1.2 million enrolled in these types of programs across multiple nation-states (1). As Europeans have been accustomed to paying for their own infrastructure maintenance since the end of the World War II, they are more amenable to the concept of RUC, versus Americans that experienced government run infrastructure creation and maintenance for the past 60 years — which is now crumbling as our country falls deeper into national debt and the gas tax withers away. **In this white paper, A-to-Be will explore specifically the user experiences through pilots in Washington state, California, and Oregon, making recommendations on the best practices for RUC programs moving forward in the United States.** It is imperative that states continue to explore and implement RUC programs in order to pay from crumbling infrastructure in an equitable manner for citizens and the environment.
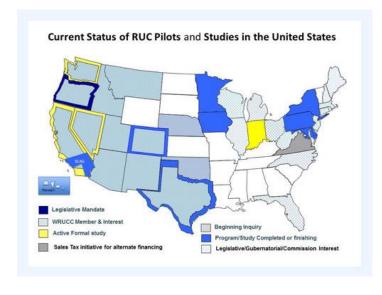
Introduction

Since 2006, economists have studied the concept of Road Usage Charging (RUC), also referred to as vehicle miles traveled (VMT) fees or mileage-based user fees (MBUF), which has been explored in the United States as an option for funding infrastructure through equitable means as the gas tax revenues subside (2).

Currently, **almost every state in the country is either legislating, showing interest in, studying, mandating or legislating some form of RUC.** With the first actors in pilot programs being Oregon, California, and Washington State (3) to administer Pilot Programs in the USA other states like Utah, Hawaii, Minnesota, Iowa, New York State, and Pennsylvania have also engaged in programs. **A-to-Be evaluated and developed a roadmap for optimal systems based on consistencies identifies across each Pilot Program** (click to read White Paper).

> " Almost every state in the country is either legislating, showing interest in, studying, mandating or legislating some form of RUC. "

Current Status of RUC Pilots and Studies in the United States

Because RUC is a direct user fee that supports the "user pays" principle of transportation funding, it is important to understand the user experience in such models, beyond the basic revenue generated. **Afterall, user experience will likely determine state commitment to such programs, particularly during election cycles.**

Today, **we can analyze the customer experience of thousands of drivers who have participated in RUC.** Through analyzing the observations of 2,000 drivers in Washington state, 5,000 in California, and 5,000 in Oregon, it can be obtained a glimpse into these systems and the potential for RUC to catch fire across the United States.

Analysis of User Experience: Washington State, California, and Oregon

All three states created extensive pilot programs to test the impact and opinions of RUC statewide by using small populations. **All three states were challenged as they tried to find diverse populations to participate in the tests.** For example, Washington state's pilot was represented by 85% Caucasians, and all other percentages of other races were 5% or below (4). In Oregon, 87% of respondents were Caucasian,5 while in California, 72% of participants were as well (5). **In all three states, the majority of participants had a median household income of $100,000 to $150,000. It is highly likely that these members of the population were the most informed about the potential to participate in the program**, due to the fact that citizens with this level of income are able to afford to keep up with current news and are more likely to vote (6).

> " Afterall, user experience will likely determine state commitment to such programs, particularly during election cycles. "

The lack of diversity amongst respondents throughout all three state trials **created concern among states** that the pilot groups did not accurately represent the user experience of all citizens. For example, people with lower incomes are likely to be unbanked, meaning that they would not have a credit card or bank account to put on file for a RUC type of system. Moreover, not all citizens may have the technology in their cars to attach RUC tracking devices that plug into vehicles, or to even access a smart phone. However, **middle class Caucasians do dominate the economy and overall profile of the citizens of these states, so they ultimately reflected enough of the state citizens feedback that all three states approved and released their RUC studies by the end of 2019.**

Ultimately, in all three states, the user experience was dominated by the feedback and concerns related to the following areas: program transparency, user choice, privacy and cyber security, ease of use and anticipation of technological advances.

Program Transparency

Given the smaller text groups (2,000-5,000 people) compared to the rest of the population, **the benefit of these pilots was that participants were able to directly review their own driving data and work with smart phone apps created by state service providers.** For example, in Oregon, drivers had their own dashboards that allowed them to track their locations, driving scores, engine health, charges within the billing cycle, and amount of fuel left for their vehicles. Drivers liked this because they were always able to see diagnostics (7). In Washington State, drivers were also able to see exactly how far they had traveled and could automatically deduct out-of-state miles from their devices. Drivers felt a strong level of transparency being able to see exactly what the government was also tracking on their behalf (8). In California, participants were given the choice of whether or not to use a dashboard, and 62% of users chose to do so (9). However, beyond the dashboard to provide transparency, the state of California provided account managers available by phone for all participants, which enhanced the user experience by providing a personal interface for questions related to billing, technology, mileage, and payments (10).

> " (...) participants were able to directly review their own driving data and work with smart phone apps created by state service providers. "

User Choice

User choice was a very important factor for RUC because it ties into equitable practices. **By allowing users to choose reasonably their means of participation in each program, citizens are not socially excluded and do not face economic hardships if they cannot meet the terms of the program requirements.** User choice creates equitability by allowing choice and freedom to participate in RUC at each citizen's own pace and according to their own personal beliefs about privacy, technology, banking, and taxes. **Without some form of user choice, it would be impossible to implement programs that empower all citizens to participate in RUC**, creating leakage and missed financial opportunities for state Departments of Transportation.

For example, in Washington State, citizens could choose between plug-in devices or smartphone applications. Plug in devices were the option of choice for 56% of participants. The only problem in the state's study was that the smart phone application was only available for the iPhone iOS and not always a reliable tracking device, reducing the number of app users to 14%. Only 1% of respondents used a mileage permit, allowing them to purchase blocks of miles in advance. 28% of users paid for mileage post use electronically or in person. This method became cumbersome for participants to remember (11).

The state of Oregon took choice to the next level. They gave participants choices regarding human account managers versus complete mobile interface, the ability to tack on value-added services beyond payment for road usage, and multiple options for payments. They created competition amongst subcontractors offering options for each form of service, driving down service fees for the state and increasing options for the user experience (12). Participants liked having multiple options but also wondered if it would be possible for them to maintain the same extensive amount of program options for a statewide RUC system.

Finally, in California, the state tried very hard to create a variety of manual and automated reporting and recording methods based on individual interests. However, offering many choices created concerns amongst participants. People felt that there was not enough clarity regarding each choice and were weary of how their choice compared to the experience and costs others experienced Ultimately, participants responded in the end that they were happy with their choice at the end of the program. Still, it was also cumbersome for the state to try to provide so many different options for reporting to citizens, especially given the bi-lingual nature of the state (13).

Privacy and Cyber Security

Privacy and Cyber Security are major issues discussed not only around all electronic tolling (AET), but also around RUC. Afterall, **in order to achieve a successful RUC program, one must report mileage, and likely will use an app or tracking device that verifies mileage used.** This opens up the user experience to **sharing their locations visited in past or real time with government entities, creating privacy concerns for all.** Moreover, as data is collected by states regarding payment, driver's license and personal information, and travel destinations, a trove of information is created that would entice any hacker to try to steal. **Each state tried to address these issues to the best of their ability.**

> " Privacy and Cyber Security are major issues discussed not only around all electronic tolling (AET), but also around RUC. "

In California, privacy and data security was taken most seriously, as it was mandated by the state legislature in order to enact the program. California cited at the end of their pilot that no data breaches occurred, but critics warned that the population was so small, and the time period was so short, that a data breach would have been hard to accomplish. Overall, there was a 78% satisfaction rate by participants on data privacy, much touted by the state (14).

Strikingly, the Washington State RUC program, upon completion of their final study in January 2020, put together a 134-page document on ensuring data privacy for RUC users. The state's plan includes amending state privacy laws, creating task forces for enforcement, and comparing data privacy requirements in Washington State to those in the EU, which many say is the standard bearer for data privacy (15).

Oregon was also faced with data privacy issues, particularly related to collection of information. ODOT ended up mandating that the state would not track specific vehicle point location or trip data at any time, and that data about travel could not be transmitted, although general zone information and mileage could be aggregated. As a result, it made it more difficult to challenge and audit billings, but general citizens felt protected by such policies enough to participate in the program (16).

Ease of Use

All three of the programs evaluated considered ease of use as a major target for success. Afterall, **without ease of use, it would be impossible to entice customers to participate in RUC, creating a failing system**. If customers from all walks of life and ages cannot use the RUC system easily, they will eventually find ways to avoid payment as they continue to get busy in their everyday lives.

Without giving specific numbers or examples, Oregon reported that customers found their system very easy to use. A quick analysis of the final report suggests that possible reasons for this could include the pay-at-the-pump option, that allowed customers to pay for mileage at gas stations, rather than carry large bills or deal with reporting structures later. Another reason for ease of use with the Oregon system could be the account management system that was developed by human interaction over the phone. Although accurately staffed call centers were an added expense, users appreciated the ability to get to a human being quickly within the state to ask questions and discuss the program.

According to the California RUC program, citizens reported ease of use ratings of over 86% across the board, no matter what type of implementation they chose. The lowest rating at 86% was related to those who submitted their road usage based on time, and the highest ratings at 97% were for those who had brand new cars that were able to have the software installed directly to track RUC (17).

Finally, the Washington State program quantified ease of use based on the ability for citizens to report mileage successfully, and the clarity of general compliance. Without providing statistics, the state cited the local help desk (i.e. customer service center) as the reason for most customer satisfaction and ease of use, because it was particularly responsive to participants. That being said, scaling a help desk from 2000 drivers to the entire state and maintaining the same level of customer service will be a difficult and expensive process in the long term.

Anticipation of Technological Advances

By providing multiple options, technological advances should be enabled over time through each state program. For example, if users are initially allowed to participate via in person reporting or even written submissions, they will eventually **adapt to making the technological advance of reporting measures online**. Furthermore, for states like Washington, that were only able to adapt software to iPhones, eventually they should be able to create an app that would work with all mobile phones.

In Washington State, for example, the RUC project seeks to empower state technology, encouraging state advancements in payment collection, software, and cyber security across the board. The final report issued in January 2020 explains that the state must upgrade to federal information standards through technological advances, therefore, perhaps this RUC program would be the means to kick off such an effort at the state level.

> " Remaining technology agnostic should allow the state to make upgrades at any time, replacing one technology with another and not getting tied into any specific platform. "

Through the California RUC program, a new technology collaborative has been established, anticipating continuous evolution in technology and the engagement of departments across the state, as well las federal and local entities. This collaborative seeks to work with the public and private sectors to continue updating payment and monitoring systems. It also seeks to create the initial program based on a simple platform that is easily upgraded over time, rather than scrapped and recreated with each new technological advancement (18).

Ultimately, Oregon had the idea of creating a technology agnostic system, which would allow the organization to "plug and chug" different technologies as they come in, while maintaining the same ongoing concepts of RUC. Remaining technology agnostic should allow the state to make upgrades at any time, replacing one technology with another and not getting tied into any specific platform. This will allow the state not to get lazy with old technology, creating customer satisfaction as technology continues to evolve.

Recommendations

Based on these three state programs, there are many recommendations and lessons learned that can be implemented nationwide as RUC progresses. **All three states did an excellent job focusing on ease of use, mainly through multiple payment options and creating special customer service centers manned by local state employees.** All three states also did not experience a data breach throughout their pilot and were able to assure the public that they could maintain privacy standards for all. What was interesting about all three projects was their intent to drive state technology forward through the RUC programs, in ways that could be implemented statewide and even with other agencies.

Based on this three-state evaluation, **we would recommend that all RUC programs consider multiple means of payment and use, but not get too convoluted in terms of systems, which can be confusing and expensive to operate.** Managing multiple systems for an entire statewide population will become very complicated and create the opposite of ease of use.

We also recommend that **states implementing RUC programs maintain well-staffed customer service centers that are based locally**. All three states implemented this concept, which is typically different from the reputation toll operations have had in the past as for many years customer service was outsourced overseas to save money. **Creating and maintaining call centers locally will create jobs around the RUC**

programs, while humanizing the payment system, maintaining ultimate ease of use and customer satisfaction.

One of the most valuable technology practices, implemented by the state of Oregon, was to **maintain agnostic technology**, which we recommend for all RUC programs. This allows for competition to create the best solutions, avoids states from getting locked into monopolies, and allows for changes to be made with the times. Most importantly, **it will allow states to respond to the needs of consumers.**

Additionally, the Congressional Transportation & Infrastructure Committee, led by Rep. Sam Graves (R-MO), has been discussing a **national RUC program** since 2018. Representative Graves has proposed a national pilot program several times to find a way that the USA can address the lack of gas tax revenue decline across the nation. **A-to-Be supports and recommends this type of a program, so that the USA can be coordinated, learning from the experiences of state pilot programs, and enact some sort of RUC program that will empower the country to improve infrastructure.** Especially during the COVID-19 virus outbreak, jobs are scarce and an emphasis on improving infrastructure, while following CDC protocols for the virus, would help create jobs and empower the economy.

Our recommendations

❶ Consider multiple means of payment and use

❷ Do not get too convoluted in terms of systems

❸ Maintain well-staffed customer service centers that are based locally

❹ Maintain agnostic technology

❺ A National Pilot Program in the USA

Summary

In closing, many other states besides these three we have compared now have RUC studies or pilots in preparation, including Utah, Indiana, and Hawaii to name a few. **States are getting innovative when it comes to RUC and finding ways to implement these programs that do not look like additional taxes, as the negative connotation was given to traditional tolling.** Moreover, citizens can understand and tie RUC to their everyday travelling habits. If they see actual infrastructure improvements made based on their RUC payments, they should feel more empowered and involved in the system at hand. **If the systems are easy to use and customer service is responsive, these programs will grow and empower state citizens to have ownership in their destinies when it comes to state travel.** Consumers will vote with their wallets, as economists traditionally say, and participate in programs that are the easiest to self-implement and follow.

Contact information
Jason Wall
Jason.wall@a-to-be.com
A-to-Be, Powered by Brisa

a-to-be.com

Stay tuned for the **Fourth Edition of A-to-Be's Transportation Funding Series**, where A-to-Be will employ detailed pilot data and the latest industry forecasts to make the business case that Road Usage Charge is sustainable over time.

This —
and more interesting
industry content —
can be found here.
http://bit.ly/AtoBe-knows

Works Cited

1. European GSA. *European GSA Website.* [Online] https://www.gsa.europa.eu/.

2. Econ Journal Watch. *Econ Journal Watch Web site.* [Online] https://econjwatch.org/issues/volume-3-number-2-may-2006.

3. IBTTA. *IBTTA Web site.* [Online] www.IBTTA.org.

4. [Online] https://waroadusagecharge.org/participant-experience/.

5. *Oregon Department of Transportation.*

6. *California Department of Transportation.*

7. *The Khan Academy 2019.*

8. *Oregon Department of Transportation.*

9. *Washington State Department of Transportation.*

10. [Online] 10. https://caroadcharge.com/Portals/0/Documents/Final%20Report/road-charge-final-report.pdf.

11. [Online] https://caroadcharge.com/Portals/0/Documents/Final%20Report/road-charge-final-report.pdf.

12. [Online] https://waroadusagecharge.org/participant-experience/.

13. [Online] https://orego.com/.

14. [Online] https://caroadcharge.com/Portals/0/Documents/Final%20Report/road-charge-final-report.pdf.

15. [Online] https://waroadusagecharge.org/wp-content/uploads/2020/01/WA-RUC-A-6-Model-Privacy-Policy-for-Road-Usage-Charging.pdf.

16. *Oregon Department of Transportation.*

17. [Online] https://caroadcharge.com/Portals/0/Documents/Final%20Report/road-charge-final-report.pdf.

18. [Online] https://caroadcharge.com/Portals/0/Documents/Final%20Report/road-charge-final-report.pdf.