



# WASHINGTON STATE ROAD USAGE CHARGE

*Update and Forward Drive Project  
Introduction*



Washington State  
Transportation Commission

October 20, 2020  
Olympia, Washington

# Agenda

- 1) Team introduction
- 2) Brief history of RUC in Washington
- 3) Update on RUC nationally
- 4) Forward Drive project
- 5) Discussion and Q&A

# TEAM INTRODUCTIONS

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# Team Introductions

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Prime contractor: RUC research, planning, pilot testing, and project management



Equity research, policy analysis, and public communication



Financial modeling



enviroissues

Public communication and outreach



Equity research, public communication and outreach

# A BRIEF HISTORY OF ROAD USAGE CHARGING IN WASHINGTON

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# Time Capsule: Prior Findings and Discoveries (2012-2019)

## December 2013: Established 13 Guiding Principles for a RUC system in Washington

Principle	Description
Transparency	A RUC system should provide transparency in how the transportation system is paid for.
Complementary policy objectives	A RUC system should, to the extent possible, be aligned with Washington's energy, environmental, and congestion management goals.
Cost-effectiveness	The administration of a RUC system should be cost effective and cost efficient.
Equity	All road users should pay a fair share with a RUC.
Privacy	A RUC system should respect an individual's right to privacy.
Data security	A RUC system should meet applicable standards for data security and access to data should be restricted to authorized people.
Simplicity	A RUC system should be simple, convenient, transparent to the user, and compliance should not create an undue burden.

# Time Capsule: Prior Findings and Discoveries (2012-2019)

## December 2013: Established 13 Guiding Principles for a RUC system in Washington

Principle	Description
Accountability	A system should have clear assignment of responsibility and oversight and provide accurate reporting of usage and distribution of revenue collected.
Enforcement	A RUC system should be costly to evade and easy to enforce.
System flexibility	A RUC system should be adaptive, open to competing vendors, and able to evolve over time.
User options	Consumer choice should be considered wherever possible.
Interoperability and cooperation	A Washington RUC system should strive for interoperability with systems in other states, nationally, and internationally, as well as with other systems in Washington. Washington should proactively cooperate and collaborate with other entities that are also investigating RUC.
Phasing	Phasing should be considered in the deployment of a RUC system.

# 2019 Road Usage Charge Recommendations to the Legislature (1 of 3)

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- R1** Recommend implementation options that allow RUC to gradually scale up, offering drivers an opportunity to try the system and recommend further improvements while RUC is still in an early-implementation stage.
- R2** Recommend that additional research be conducted (alone or in collaboration with other states) on differential RUC rates based on driver, vehicle, or infrastructure characteristics.
- R3** Recommend research be conducted in collaboration with other states that are implementing RUC to better understand compliance gaps and potential enforcement measures.
- R4** Recommend additional time and appropriate testing grounds (i.e., limited number of vehicles) to improve RUC before pursuing any wider statewide implementation.
- R5** Recommend that in an Initial start-up stage of RUC, compliance and enforcement mechanisms must be tested and developed.
- R6** Recommend that existing delivery mechanisms (e.g., public-private partnerships) be considered to most efficiently develop a RUC system that reduces the cost of collections.

## 2019 Road Usage Charge Recommendations to the Legislature (2 of 3)

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- R7** Recommend that cost reduction strategies be tested on a limited set of vehicles in an Initial start-up stage of RUC.
- R8** Recommend that border-area testing be conducted in an Initial start-up stage of RUC.
- R9** Recommend that ODOT's OReGO program be engaged to further explore bi-state RUC solutions for frequent WA-OR travelers.
- R10** Recommend specific changes in Washington statutes that protect personal privacy in a RUC program.
- R11** Recommend testing of new personal privacy protections during an Initial start-up stage of RUC.
- R12** Recommend that state agency vehicles be utilized as test subjects for privacy protection testing.
- R13** Recommend that during a transitional period while the gas tax remains in place, the same policy-setting and oversight roles between the Legislature, WSTC, and other agencies and the private sector should be retained.

# 2019 Road Usage Charge Recommendations to the Legislature (3 of 3)

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**R14** Recommend alternative RUC transition scenarios for legislative consideration in 2020 that specifically consider:

- Participants' preferences for implementation time frame and vehicles subject to RUC;
- Advent of electric and high MPG vehicles, their effects on revenue, and current programs to incentivize adoption;
- The need for continued development and testing of a RUC system before any wide-scale implementation;
- *Forward Drive* project timing, which is aimed at reducing the cost of collections for RUC; and
- The availability of state fleet vehicles as part of an Initial start-up stage for RUC.

**R15** Expenditures of RUC revenue should be made subject to Amendment 18 (restricted to highway purposes).

**R16** Current programs that receive gas tax refunds attributable to non-highway activities should continue receiving their same share of funding during the transitional period to RUC (expected to be at least 10 to 25 years), since the state gas tax will remain in place during this transition.

# UPDATE ON ROAD USAGE CHARGING ACTIVITIES NATIONALLY

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# Federal RUC Update

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- **STSFA 2019:**
  - Washington
  - Utah
  - Oregon
  - RUC West
  - Wyoming
  - Eastern Transportation Coalition
- **STSFA 2020: Awards pending**
- **FAST Act Reauthorization**
  - National pilot remains under discussion
  - Proposals include funding for state pilots, implementations



# State RUC Update

RUC West: interoperability demonstration (2020), RUC for AVs demonstration (2021)

Wyoming: Bill passed committee to implement RUC on all vehicles (Sept 2020)

Oregon: Expansion of nation's first operational RUC program under consideration

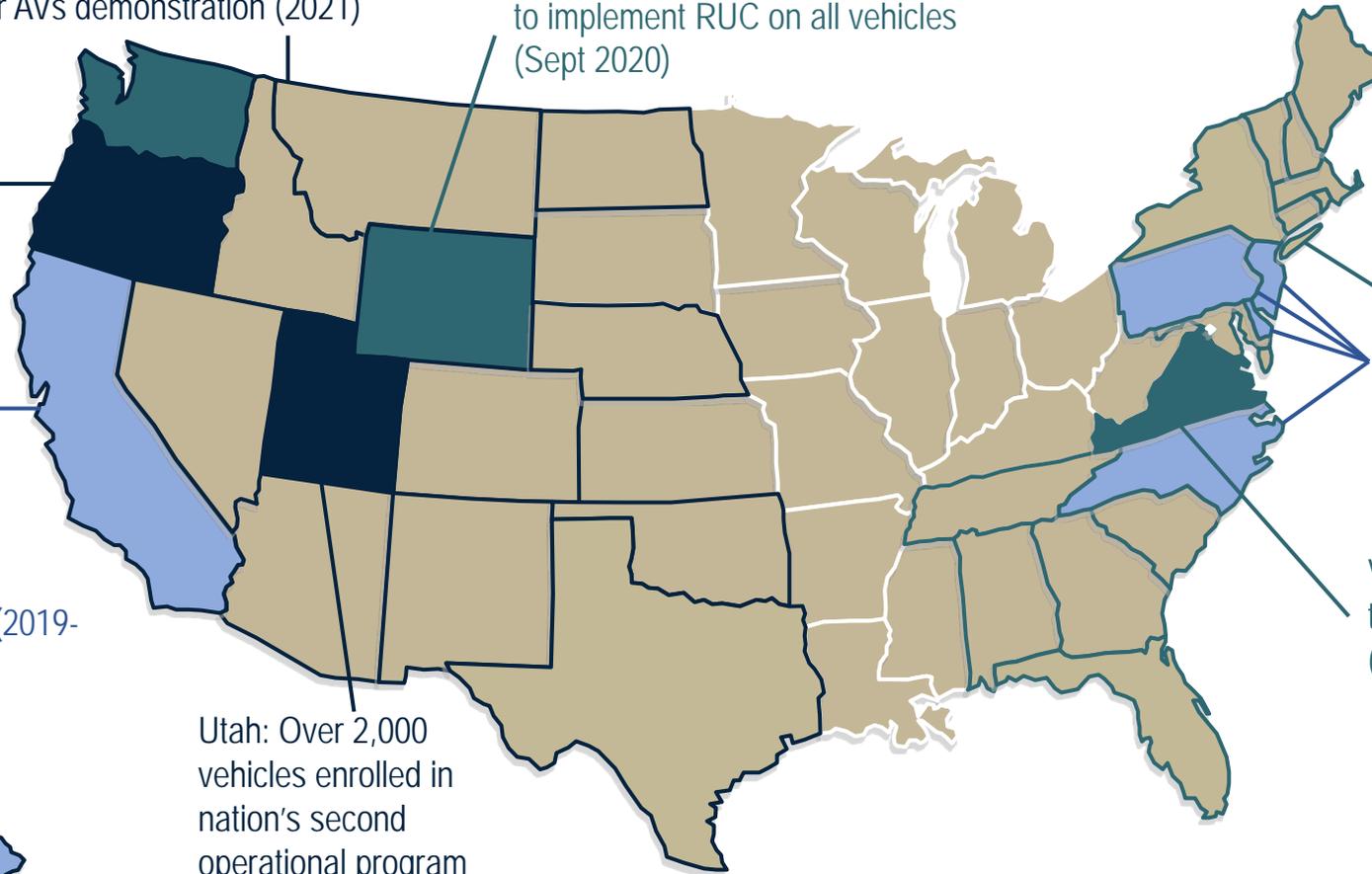
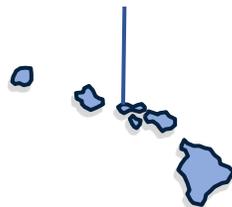
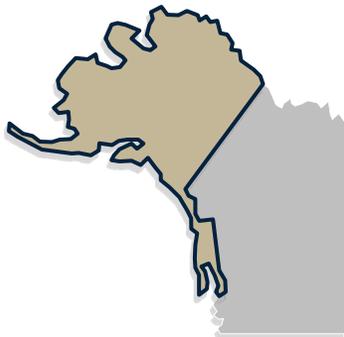
California: By 2035, all new passenger cars sold must be zero emissions; 4 RUC research demonstrations (beginning 2021)

Hawaii: two-phase (2019-2021)

Utah: Over 2,000 vehicles enrolled in nation's second operational program (2020)

Eastern Transportation Coalition:  
2 regional truck-only pilots (2019-2021)  
4 states with passenger vehicle pilots (2020-2021)

Virginia: Enacted nation's third operational system (2020)



# *FORWARD DRIVE* PROJECT INTRODUCTION

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# Forward Drive: WSTC's 2019 Federal STSFA Grant proposal (1 of 2)

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**1. New Mobility & RUC:** create a framework for modeling the effects of EVs, AVs, and TNCs on a RUC system in Washington



**2. Equity analysis:** identify and measure potential disparate impacts of RUC to communities of color, low income households and vulnerable populations



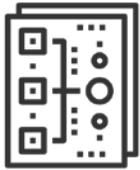
**3. Updated mileage reporting methods:** incorporate latest approaches to mileage reporting into a WA RUC system: in-vehicle telematics, improved smartphone apps, pay-at-the-pump, etc.



**4. Administrative cost reduction "Scrum":** workshops with other states to identify ways to reduce cost of collections for state RUC systems

# Forward Drive: WSTC's 2019 Federal STSFA Grant proposal (1 of 2)

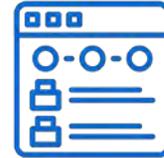
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5. **Detailed phase-in plan:** takes into account A/V and shared ride service impacts, equity impacts, updated mileage reporting approaches, and more



6. **RUC prototype "sub-test":** conduct a small-scale test of new mileage reporting methods, equity policies, collecting RUC from TNCs and shared ride vehicles, and cost reduction techniques



7. **RUC Roadmap:** detailing how Washington and other states can right-size a RUC policy and system to fit their circumstances (including a framework for how policy choices can be reexamined in light of increases in RUC revenue and allocations)



**New Mobility & RUC scenario planning:** create a framework for modeling the revenue effects of Plug-in Electric Vehicles (PEVs), Autonomous Vehicles (AVs), and Transportation Network Companies (TNCs) on a RUC system in Washington.

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**Scenarios:** illustrative

futures that capture a range of opinions about trends in the economy and mobility such as electrification, teleworking, ridesharing, and autonomy

**Outputs:** RUC revenue, fuel tax revenue, fee revenue, and cost of collections for a variety of scenarios and for a range of policy assumptions

**Outcomes:** User-friendly modeling tool for examining policy choices and their impacts on transportation revenue under a range of circumstances, to inform Commission recommendations



**Equity analysis:** identify and measure potential disparate impacts of RUC to communities of color, low income households, vulnerable populations, and displaced communities

Our approach seeks to **Define, Assess, Engage, and Mitigate**

### Define

1. Who are the populations of interest? Identify specific communities for outreach, including “vulnerable populations” based on WSTC and Legislative consultation
2. How is equity defined for analytic purposes?
  - Earlier work used **horizontal equity** – equal treatment through a usage charge - pay for what you use
  - **Vertical equity** – progressive with respect to income – ability to pay
  - In addition to **financial equity** (affordability – ability to pay with respect to amount and timing - ongoing versus lump sum) we will consider **systems equity** (accessibility, including ability to interact with and comply with a RUC system in terms of user interface and technology, language, trust)
  - **Process equity** (ability to participate in and shape policy and implementation through) will be address through engagement and participatory design

### Assess:

- Analyze the pros and cons of a RUC on its own and relative to existing transportation revenue sources (gas tax, EV/hybrid flat fees) to identify potential disparate impact



**Equity analysis:** identify and measure potential disparate impacts of RUC to communities of color, low income households, vulnerable populations, and displaced communities

## Engage

### Steps to Equitable & Accurate Assessment of RUC on low income communities and communities of color

1. Reach out to organizations representing low income populations, communities of color, and vulnerable populations
  - Statewide – large and small communities, rural and urban
  - Broad and Inclusive
  - Sensitivity to language and culture
  - Offer anonymity (privacy protection)
2. Techniques for participation
  - Surveys
  - Focus Groups/ group meetings by geography
  - Attendance at events/existing meetings
  - Email
  - Telephone
  - Social media
  - Ethnic media
3. Provide well-produced, understandable and clear information
4. Tabulate and identify key themes



**Equity analysis:** identify and measure potential disparate impacts of RUC to communities of color, low income households, vulnerable populations, and displaced communities

## Mitigate

- Identify legal, operational, financial and policy options and measures capable of mitigating any potential disparate impacts of RUC
  - ▶ **Co-design possible solutions:** inclusive research with those most affected
  - ▶ **Test prototypes:** simulate approaches that feature system accessibility
  - ▶ **Develop policy approaches:** evaluate and present a range of system approaches policy adjustments that address disparate impacts

## Engage

5. Go back to organizations with proposals
6. Conduct three or four focus group sessions – compensate org/participants
7. Regular WTSC and other briefings on progress



**Updated mileage reporting methods:** incorporate emerging approaches to mileage reporting into the WA RUC system, such as in-vehicle telematics, improved smartphone apps, use of private businesses to provide odometer verification and mileage reporting services, and more.



**1. Build on past efforts:** Identify opportunities to enhance Mileage Reporting Methods (e.g. MileMapper™ smartphone app) piloted in WA RUC and expand the network of reliable service partners to support a range of in-person RUC services



**3. Build RUC scenarios:** Use a selection of technologies and system components evaluated during the research phase to design RUC Application concepts that can be tested in pilots (Task 6.)



**2. Explore new opportunities.** Identify emerging technologies and evaluate their feasibility, viability and potential for supporting RUC collection, operations, and policy objectives (e.g. equity, cost effectiveness, security, privacy protection)



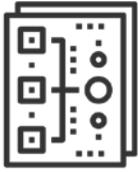
**4. Industry outreach:** Build partnerships with technology providers and service partners that can develop RUC Application scenarios and support live pilot operations.



**Administrative cost reduction “Scrum”:** works sessions with other states to identify ways to reduce cost of collections for state RUC systems

After gathering information from Washington and other participating states, a series of all-day work sessions (“Scrums”) would be held, each with the clear aim of reducing the cost of collections for RUC systems. States that have tested RUC systems, and private sector service providers and technology companies will be invited to participate.

1. In collaboration with other RUC-experienced states and private companies providing RUC services, all aspects of a RUC system that impact the cost of collection will be identified, documented (including variations between states), and organized into a cost of collections framework.
2. Work sessions (scrums) will be held for each grouping of Cost of Collection issues. The Scrums will involve rapid, high-impact assessments and development of strategies and solutions (“sprints”) among the public and private sector participants, all within the designated timeframe.
3. Cost reduction strategies and measures will be further developed into a stand-alone report that can be used by Participants to fit their individual state-by-state circumstances.
4. The identified approaches to reducing cost of collections that are relevant for Washington will be applied in road tests as part of Task 6.



**Detailed phase-in plan:** takes into account A/V and shared ride service impacts, equity impacts and mitigation measures, updated mileage reporting approaches, and more

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Based on the results of Tasks 2 through 4, a detailed plan and technical documentation for testing and phasing in the results will be prepared:

1. Develop opportunities to test RUC payment mechanisms with partners.
2. Develop a plan to test the mitigation measures and strategies identified in Task 2 (Equity Analysis).
3. Develop the technical requirements to test and implement expanded MRMs as identified in Task 3 (Updating MRMs).
4. Develop a detailed plan for applying cost of collection reduction measures and strategies identified in Task 4 (Administrative Cost Reduction Scrum).



**RUC prototype "sub-test":** conduct tests of new mileage reporting methods, equity policies, RUC for new mobility, and cost reduction techniques

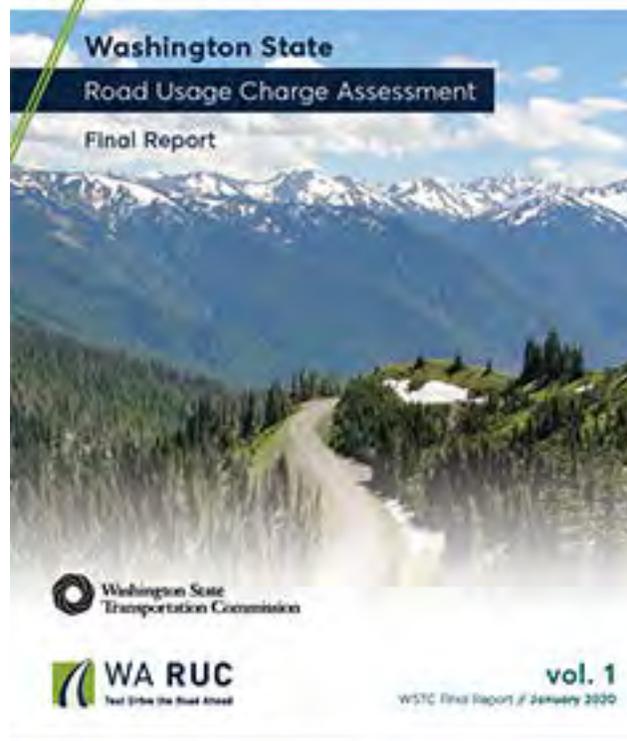
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Based on the Detailed Phase-in Plan (Task 5), the results from Tasks 2 through 4 will be developed for a series of road tests:

1. Enter into partnership agreements and interagency memoranda of understanding with partners to provide RUC-related services for a pilot test of these new approaches.
2. Recruit participants for the sub-tests.
3. Conduct public, media, and participant communications activities about the RUC prototype sub-tests.
4. Conduct the test of the new RUC prototype along side any larger, legislatively-authorized RUC program, to leverage ongoing activities and gain efficiencies in the sub-tests.



**Final Report and RUC Roadmap:** detailing how Washington and other states can right-size a RUC policy and system to fit their circumstances



# Forward Drive: How the 7 Tasks Work Together



**TASK 1:** Scenario Planning and Modeling for New Mobility & RUC



**TASK 2:** Equity impacts and mitigation strategies

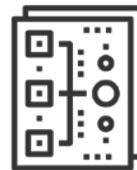


**TASK 3:** Enhanced Mileage Reporting Methods



**TASK 4:** Cost of collection reduction "Scrums" and approaches

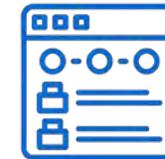
Schedule: 39 months (October 2020 – December 2023)



**TASK 5:** Detailed phase-in plan

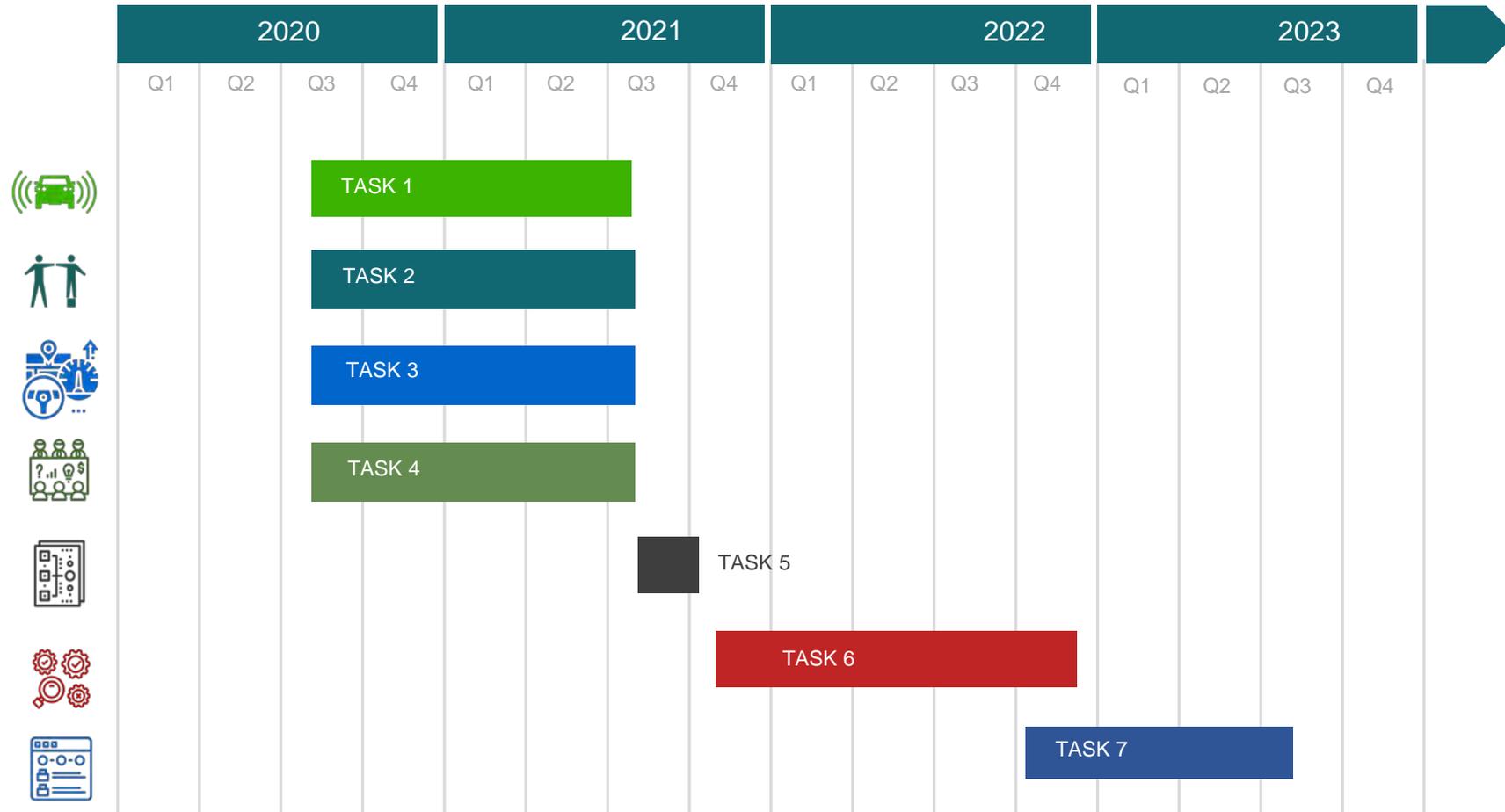


**TASK 6:** RUC prototype "sub-test"

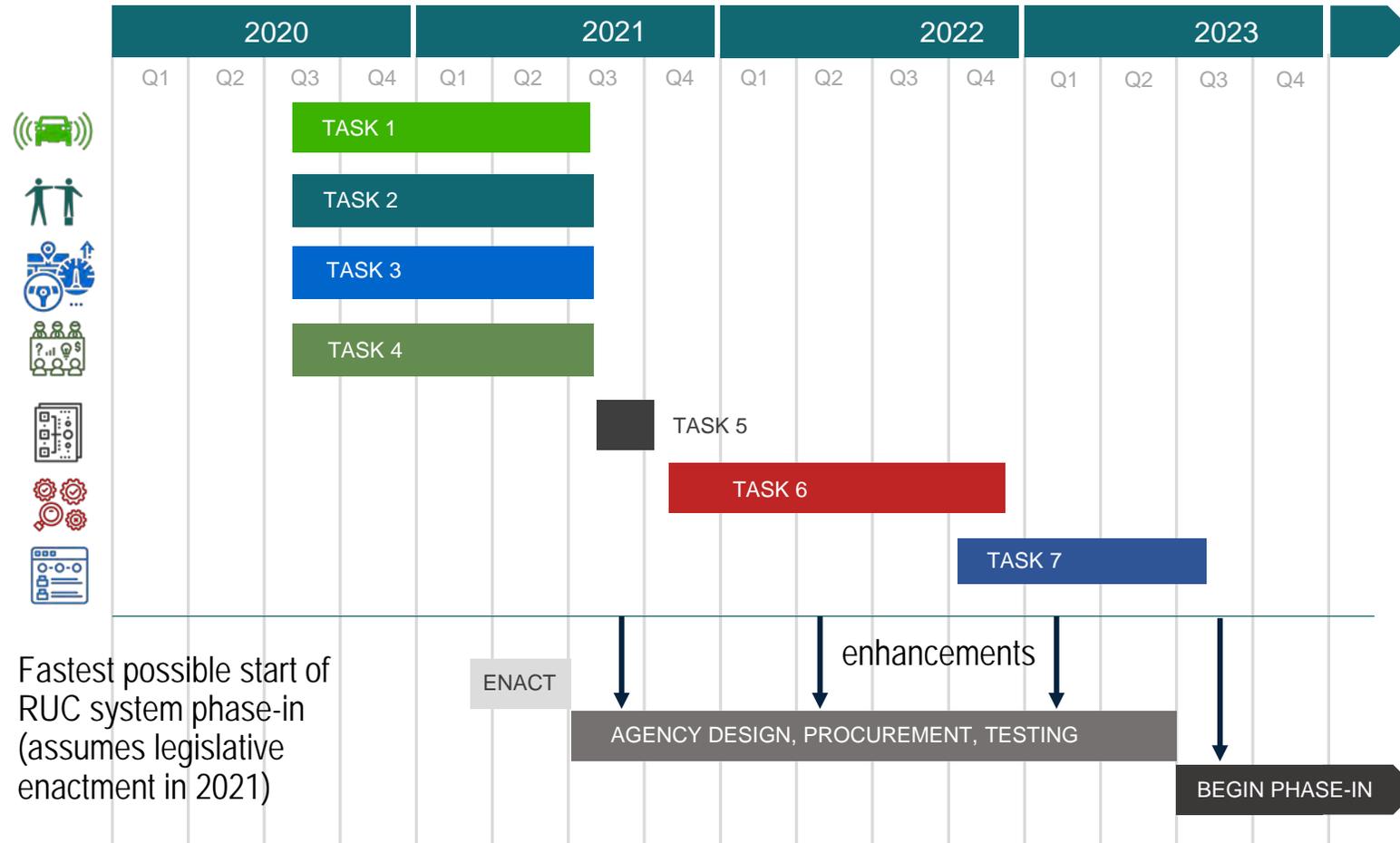


**TASK 7:** Final Report and RUC Roadmap

# Forward Drive Schedule



# Research & Testing Impact on Hypothetical RUC Program Implementation





# Questions