
Commercial Vehicle Charging

Response to Request for Information

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Commercial Vehicle Registration Fee Committee
Boise, Idaho
November 9, 2017



D'Artagnan Consulting LLP

- ◆ Formed in 2011 to work on innovative funding mechanisms for transportation systems
- ◆ Boutique firm with offices in Portland, Seattle, Honolulu, Austin, Washington DC, London and Sydney



Recent projects

- ◆ **Road Usage Charge Pilot Program Operations**
 - ◇ **Light vehicles** (Oregon)
 - ◇ **Light vehicles and heavy vehicles** (California)
- ◆ **Road Usage Charge Pilot Development** (Washington, Hawaii)
- ◆ **National Framework for Market based Road Charging and Funding Reform for Light and Heavy Vehicles** (Australia)
- ◆ **Road Usage Charge Research Studies** (RUC West)
- ◆ **Transportation Funding Mechanisms Study** (Indiana)



Current projects

- ◆ **Heavy Vehicle Fee Pilot Program Development** (Western Australia)
- ◆ **Road Usage Charge Pilot Project** (Washington)
- ◆ **Miles-Per-Gallon-Based Registration Fee Development** (Missouri)
- ◆ **Mobility Pricing** (Vancouver BC, Auckland NZ)



Current system in Idaho

- ◆ Registration fees in mileage and weight bands for commercial and farm vehicles registered in Idaho; participation in International Registration Plan
- ◆ Fuel tax for all fuel sold in Idaho; participation in International Fuel Tax Agreement
- ◆ Ton-mile tax dismantled in the 1990s following constitutional challenges, in exchange for higher registration fees

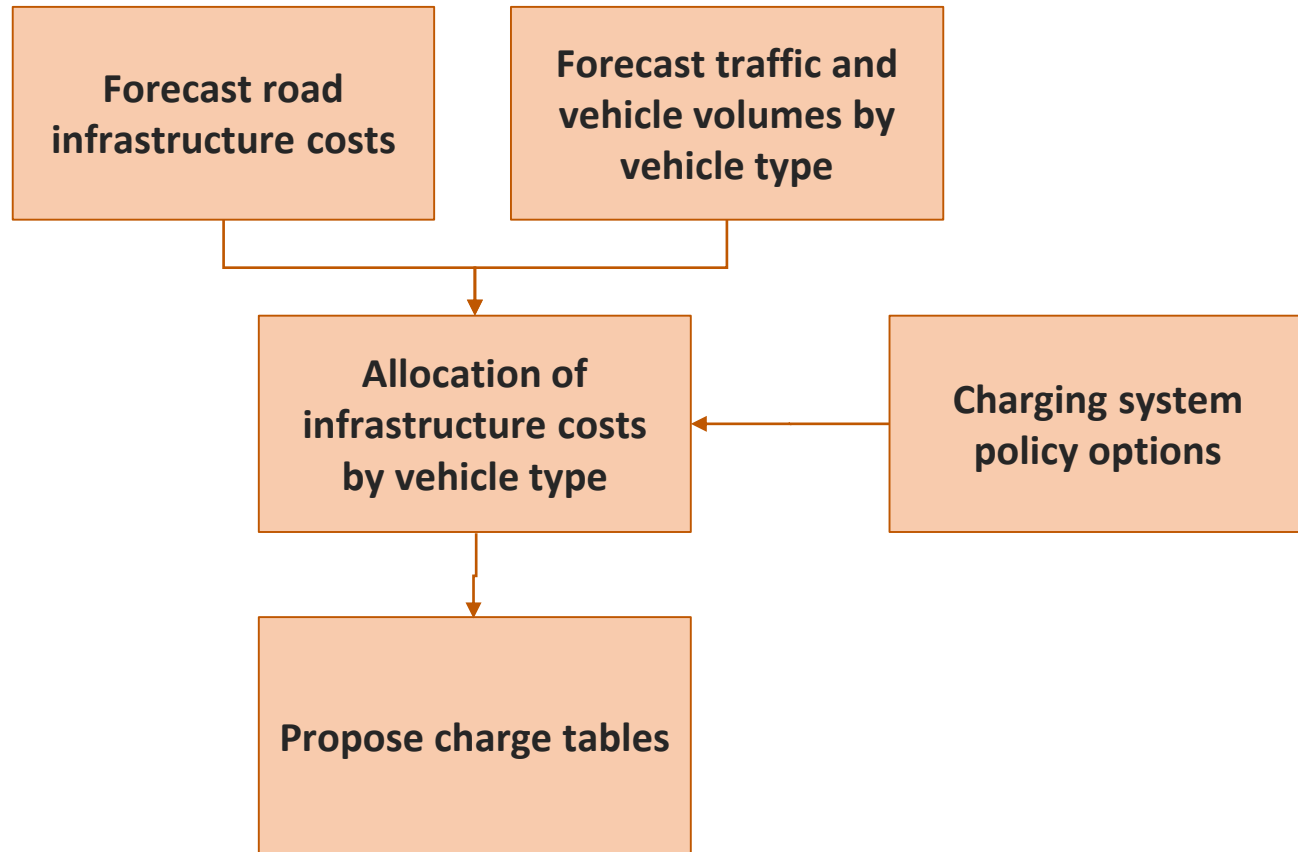


Existing mechanisms face equity challenges

- ◆ Registration fees do not reflect usage, impact or consumption of the road network
- ◆ Fuel taxes don't reflect impact of higher vehicle weights on road wear and tear
- ◆ Fuel taxes under challenge from fuel efficiency and alternative motive power
- ◆ Various jurisdictions implementing usage based fees to address equity and sustainability of existing forms of road user charging
- ◆ Some jurisdictions combine usage fees with wider market-based reforms of the management and provision of roads



Framework to set charges and collect revenue



What level of investment is desired?

- ◆ Long-run maintenance costs (based on lifecycle costs)
- ◆ Any deferred maintenance “catch-up”
- ◆ Capital improvements to network
- ◆ Forward looking base of costs, revised annually
- ◆ Take into account relevant inflation measures, but also productivity improvements



What is the source of road investment?

- ◆ On average about half of all road maintenance costs are fixed (related to the effects of rain, sun, snow, seismic activity on road surfaces)
- ◆ Of the remainder, most of the road wear and tear impacts come from heavy vehicles, directly related to the weight per axle
- ◆ Capital improvements can be raised from the road users who benefit from the improvements. Road upgrades may benefit light or heavy vehicles in distinct proportions
- ◆ Costs are allocated by types of vehicle (heavy and light), and weight bands, to fairly recover costs on the principle of user pays



Forecast traffic and vehicle ownership

- ◆ Based on same years as forecast revenue
- ◆ Split by vehicle type and weight categories
- ◆ Enables costs to be allocated based on forecast demand, and for charge rates to be calculated to recover revenue over time
- ◆ Consider future traffic and vehicle fleet, along with inflation to anticipate any need for increases (or decreases) over time



High-level revenue collection options

- ◆ Registration fees (charging vehicle ownership). At minimum should recover administrative costs of managing a motor vehicle registry, but can help recover weight based costs in the absence of usage based fees
- ◆ Fuel taxes (charging the fuel used by vehicles). Reasonable for light vehicles, but under challenge from alternative fuels in terms of equity and sustainability.
- ◆ Usage based fees (charge for road use). Best suited to recover usage based costs
- ◆ Other forms of taxation related/unrelated to road use or vehicle ownership (sales, income, property)



Registration fees

- ◆ Widely used globally, theoretically good for recovering fixed costs, but...
- ◆ Impose high costs on owning a vehicle rather than using it
- ◆ The higher the fees, the higher the propensity to evade them
- ◆ Do not reflect usage
- ◆ Jurisdictions introducing usage based fees may keep low flat registration fees to recover administrative and some fixed costs



Fuel tax

- ◆ Easy and cheap to collect, relatively easy to enforce
- ◆ Broadly reflects road usage
- ◆ Undermined by fuel efficiency of newer vehicles and newer fuels
- ◆ Poor proxy for weight related wear for vehicles weighing over 26,000 pounds.



Usage based fees

- ◆ Can be related to vehicle size, weight category
- ◆ Unrelated to type of fuel, highly related to road use
- ◆ Challenges have been cost of in-vehicle equipment, ease of enforcement, ability to charge cross border traffic, concerns about privacy
- ◆ Four US states and twelve countries operate weight/distance based fees on heavy vehicles



Oregon weight-mile tax

- ◆ An axle-weight and distance charge enacted in the 1920s but has changed over time
- ◆ All mileage on public roads in Oregon charged for both in-state and out-of-state vehicles
- ◆ Rates set based on cost recovery under a cost allocation process among heavy vehicle categories and light vehicles
- ◆ Generally a manual recording and reporting method but trucking firms have the option of electronic reporting of configuration, GPS-reporting of distance traveled and automatic electronic payment


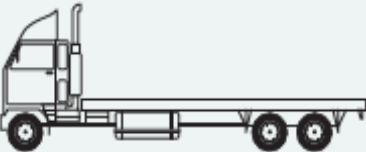

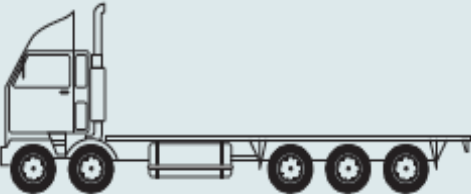


New Zealand Road User Charges

- ◆ Introduced in 1978 as part of package to deregulate road transport industry
- ◆ Replaced weight based registration fees and tax on diesel
- ◆ Applies to all distance traveled on public roads
- ◆ Rates set based on cost allocation process annually to raise money for future road maintenance and improvement program
- ◆ Also applies to light diesel vehicles (cars, vans)
- ◆ 2009 electronic GPS based option introduced in an open, competitive market for charge collection
- ◆ Did apply to farm vehicles on a time basis, but since made exempt



NZ RUC rate sample table

Vehicle Sample	RUC Vehicle type number	Description	Weight Bands	RUC rate (\$ per 1000 km GST inclusive)	US\$ per 1000 miles
 	6	Powered vehicles with 3 axles (except type 308, 309, 311, 399 or 413 vehicles)	Not more than 12 tonnes	\$90	\$101
			More than 12 tonnes and not more than 18 tonnes	\$292	\$331
			Any RUC weight more than 18 tonnes	\$391	\$443
	14	Powered vehicles with 4 axles (except type 408, 414 or 499 vehicles)	All RUC weights	\$361	\$409
	19	Powered vehicles with 5 or more axles (except type 599 vehicles)	All RUC weights	\$321	\$364



THANK YOU



Suggested areas of inquiry for the Committee

1. Consolidate financial analysis into a single exercise focused around building a dynamic, flexible, accessible tool to explore a wide range of fee schedule alternatives and their impact on both revenue sustainability and equity;
2. Develop high-level operational alternatives for implementing registration and weight-distance operational fees, including reporting, compliance, interjurisdictional features, and audit procedures;
3. Produce a series of white papers on topics essential to formulating policy:
 - (a) establish and prioritize objectives of fee exploration;
 - (b) provide options for addressing legal questions such as enforcement, exemptions, transition;
 - (c) summarize experience with open market provision of charge collection services and certification processes for such providers; and
4. Analyze and synthesize approaches and lessons relevant for Idaho from elsewhere.

