
Global Evolution of Road Charging Policy

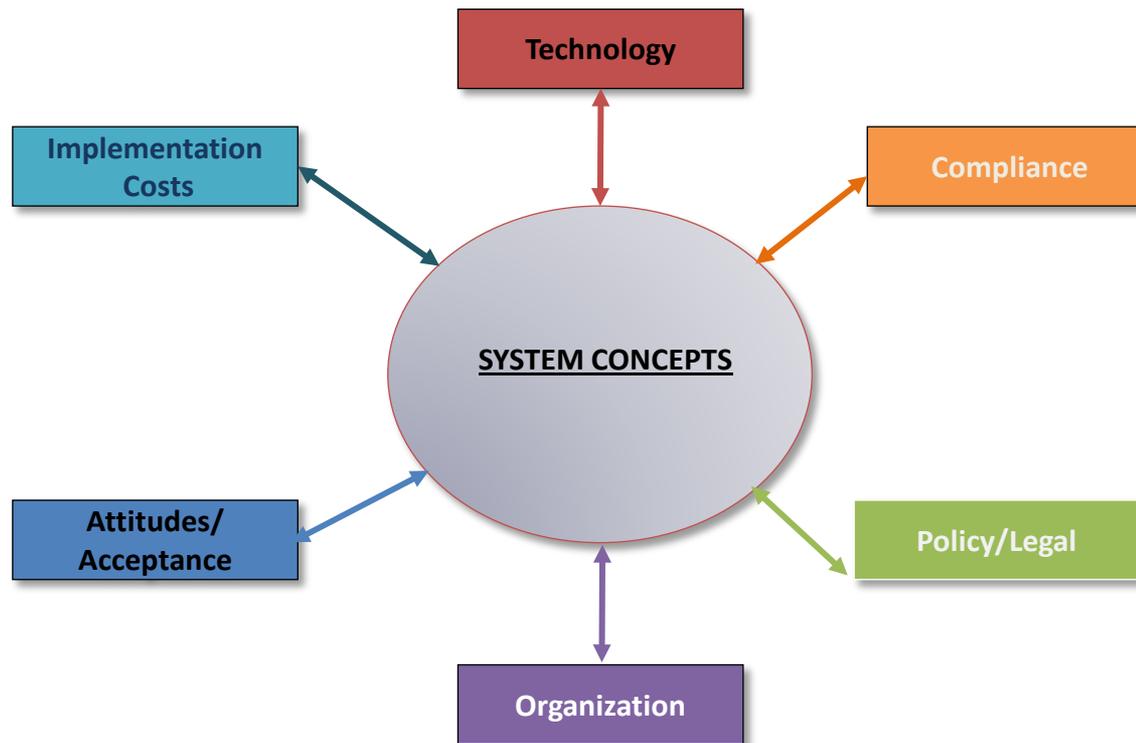
Jack Opiola

Agenda Item #8
TAC Meeting #2, February 26, 2015
Sacramento, CA

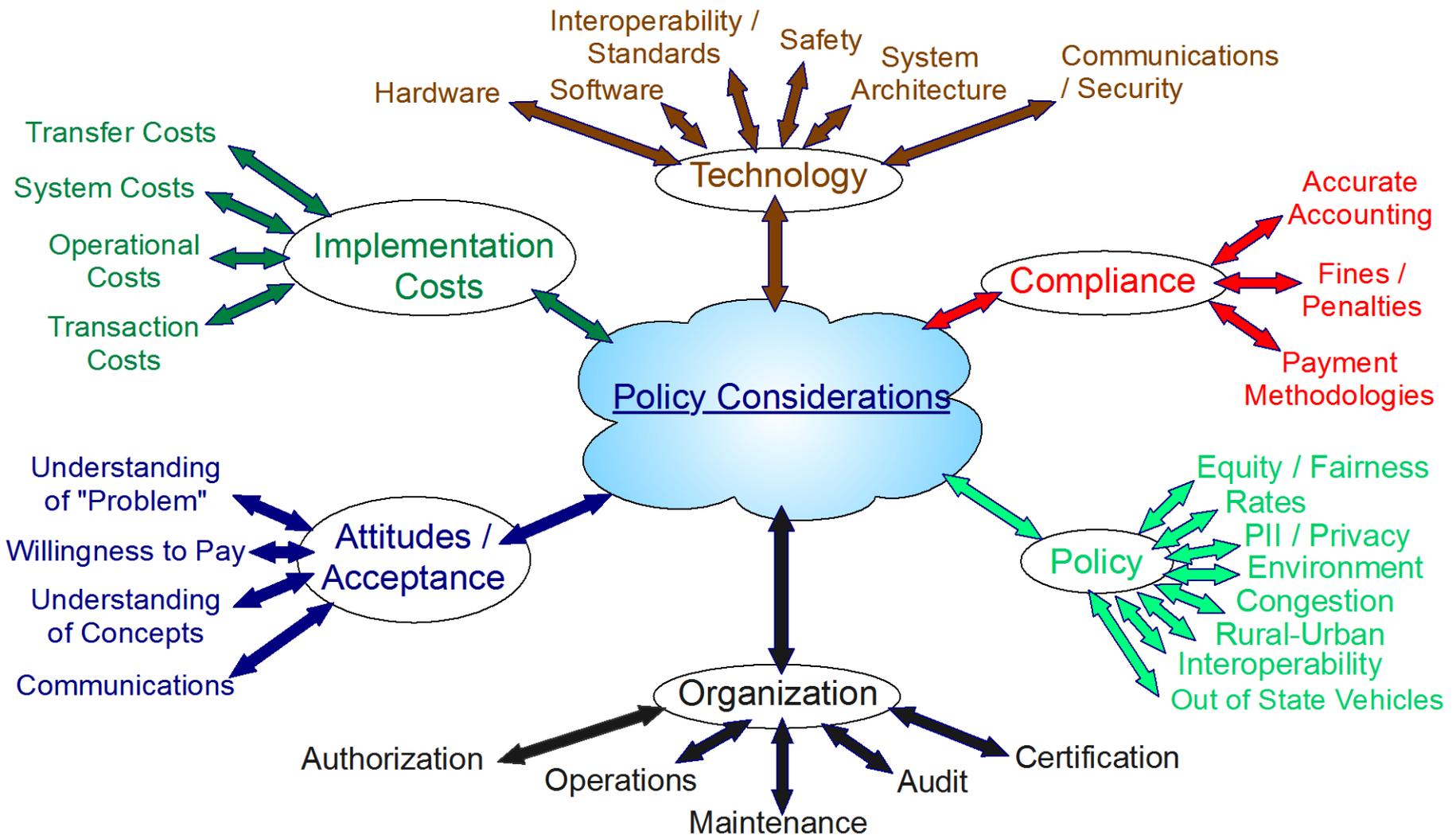


The “Problem”

Planning futures of highly dependent and interdependent systems which may create unintended consequences, both positively and negatively, in one or more of the dependencies of the system



Dimensions of the “Wicked Problem”



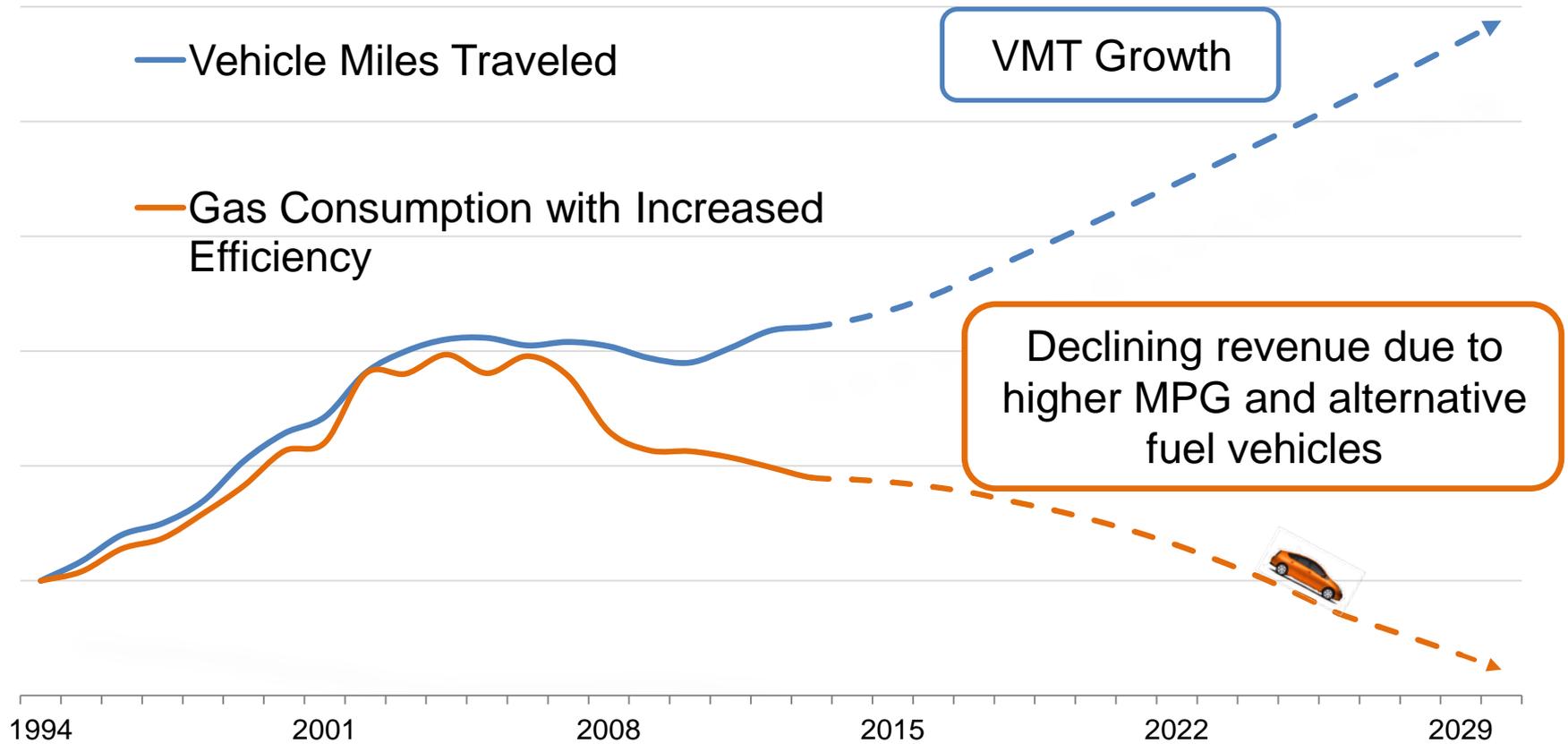
New Zealand Independent Review Group (2009)

“A good charging system should not be discarded in the pursuit of a perfect system.

The policy aim should be for a system that accomplishes as many and as much of the objectives as possible at low cost and, from a dynamic perspective, is not so complicated that different parties are constantly tempted to chip away at various components and undermine it”



California Gas Tax Forecasts

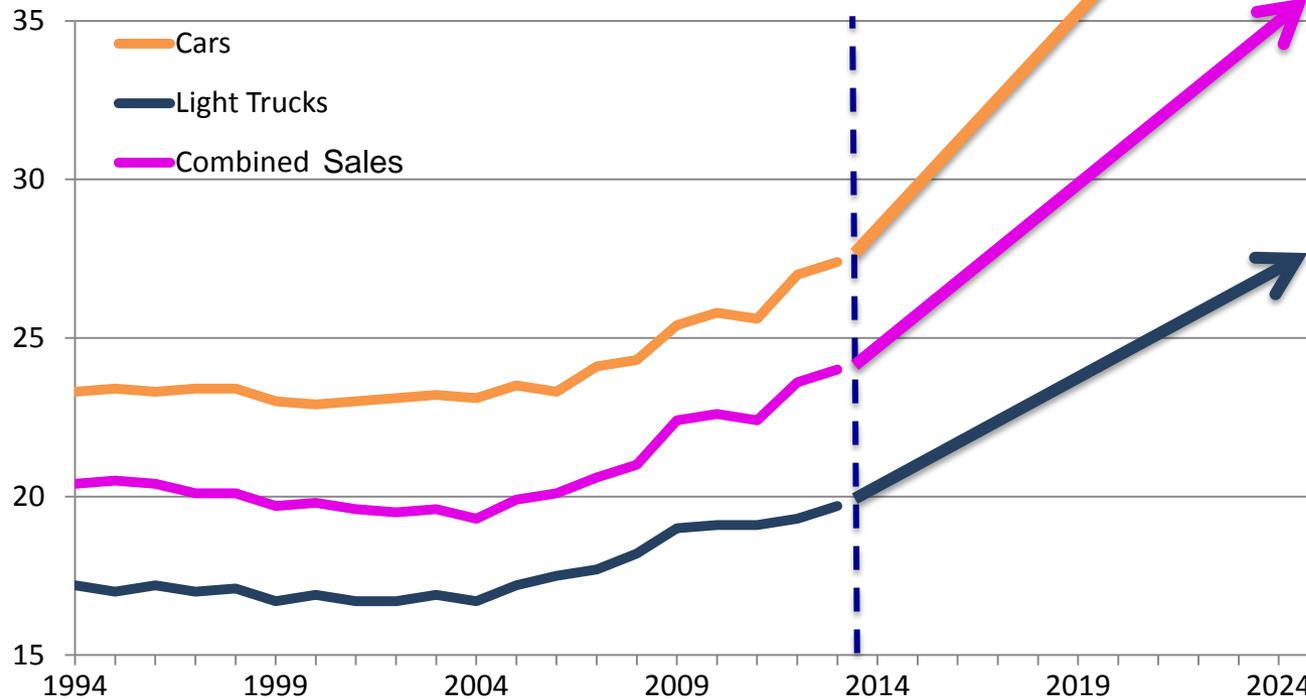


Source: Caltrans



State Fleet Forecasts of Light Vehicles

Fuel Economy (MPG) by Model Year



2025 CAFE:
36 MPG (sticker)
54.5 MPG (lab)

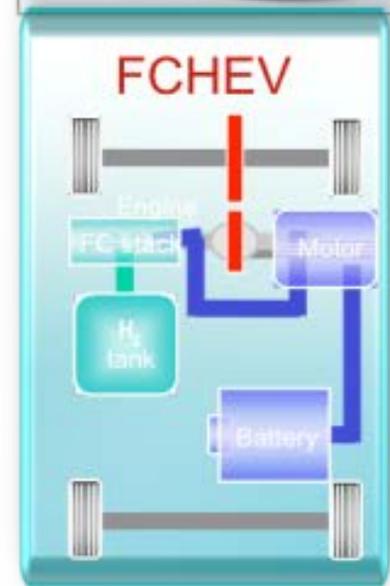
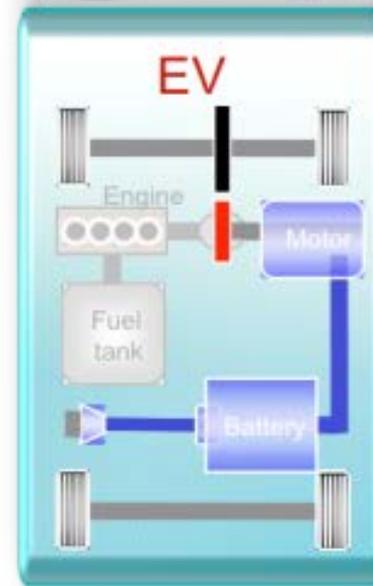
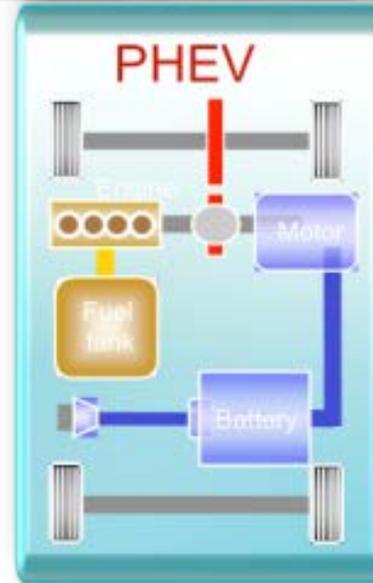
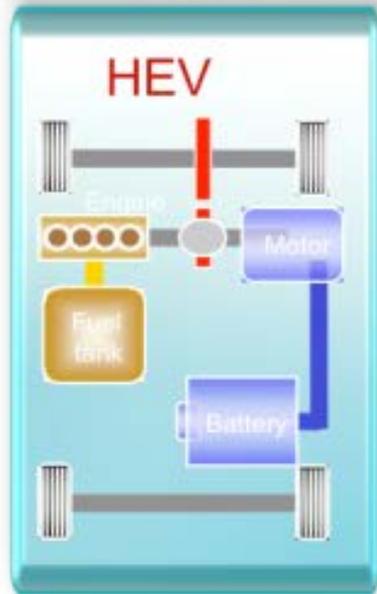
Source: ODOT – Fleet Forecast Study, OIPP, 2011



Future Fleet Efficiency to Meet CAFE-Standards



Using hybrid technology for PHEV, EV and FCHEV



Ways to Charge for Road Use

Traditional:

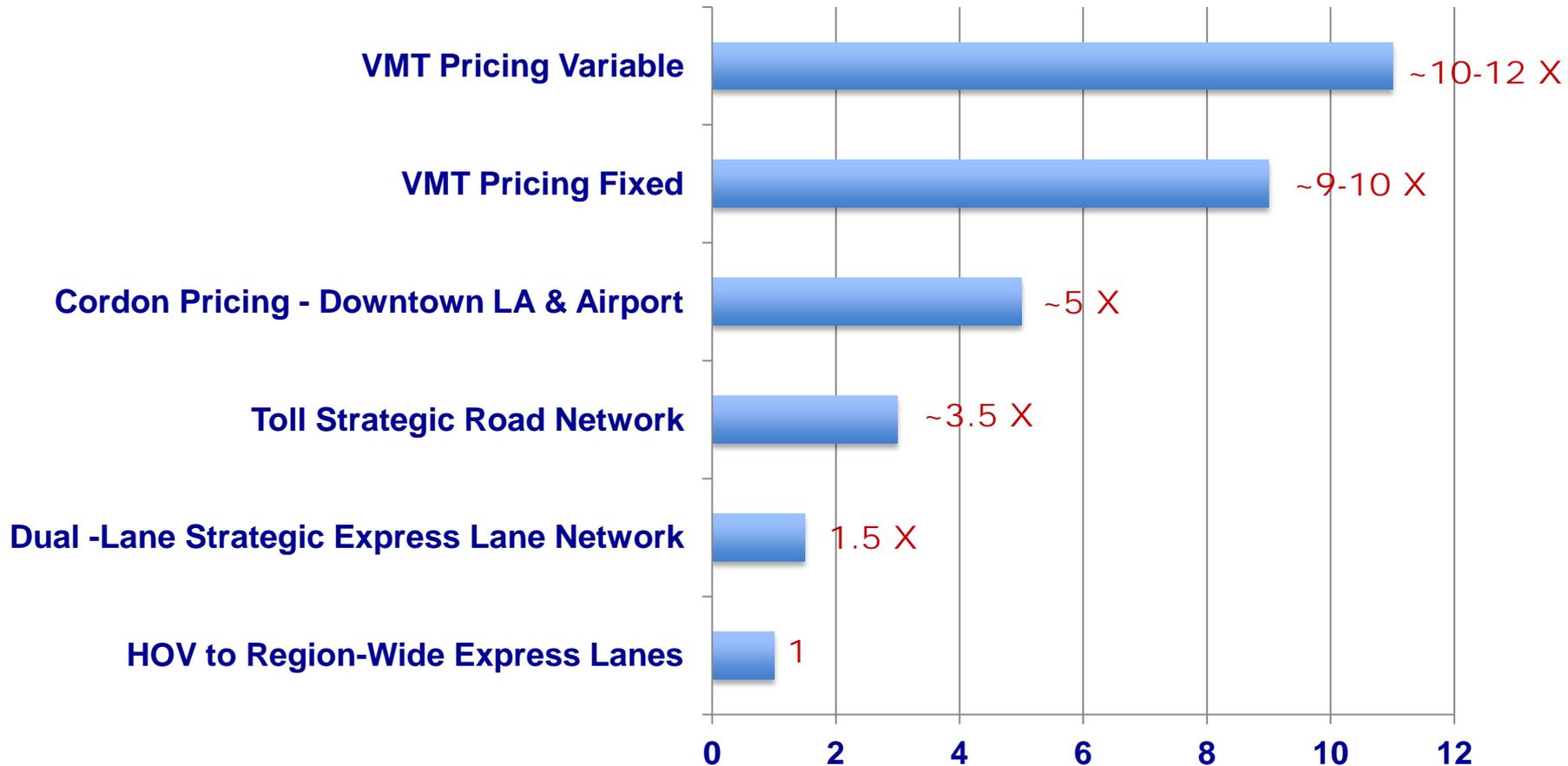
- ◆ Motor fuels tax (fuel excise tax, fuels tax, gas tax)
- ◆ Tolls, HOT/Managed Lanes
- ◆ Registration fees/taxes
- ◆ Licensing fees
- ◆ General sales taxes
- ◆ Property taxes
- ◆ Weight-distance taxes

Non-traditional (from the US perspective):

- ◆ Congestion charges
- ◆ Vignettes (stickers)
- ◆ Road charging, vehicles miles traveled or engine run time



Alternative Revenue Sources



Revenue generation per annum - \$B normalized by Express Lanes alternative

Source: SCAG and team of HNTB, CDM Smith and D'Artagnan Consulting LLP



Distance Related Charging

- ◆ New Zealand – RUC (paper based & GPS)
- ◆ Switzerland (Odometer w/GPS)
- ◆ Austria – Heavy Truck road charging (DSRC)
- ◆ Germany – Heavy Truck road charging (GPS)
- ◆ Czech Republic – Heavy Truck road charging (DSRC)
- ◆ Australia – Intelligent Access Project (GPS)
- ◆ Slovakia – Heavy Truck road charging (GPS)
- ◆ London – Low Emission Zone for Trucks (Video)
- ◆ France – Environmental Tax for heavy trucks (GPS)
- ◆ Sweden – ARENA Project (GPS)
- ◆ Oregon, NM, KY, NY – Weight/Distance for Trucks



Road Charging Internationally

- ◆ New Zealand – 1978 to present
- ◆ United Kingdom – 1964 to present
- ◆ Singapore – 1978 to present GPS trials
- ◆ Hong Kong – 1983 to 2006
- ◆ Netherlands – 1988 to 2010



New Zealand and the United Kingdom Offer Insights

New Zealand's Independent Review of Road Charges:

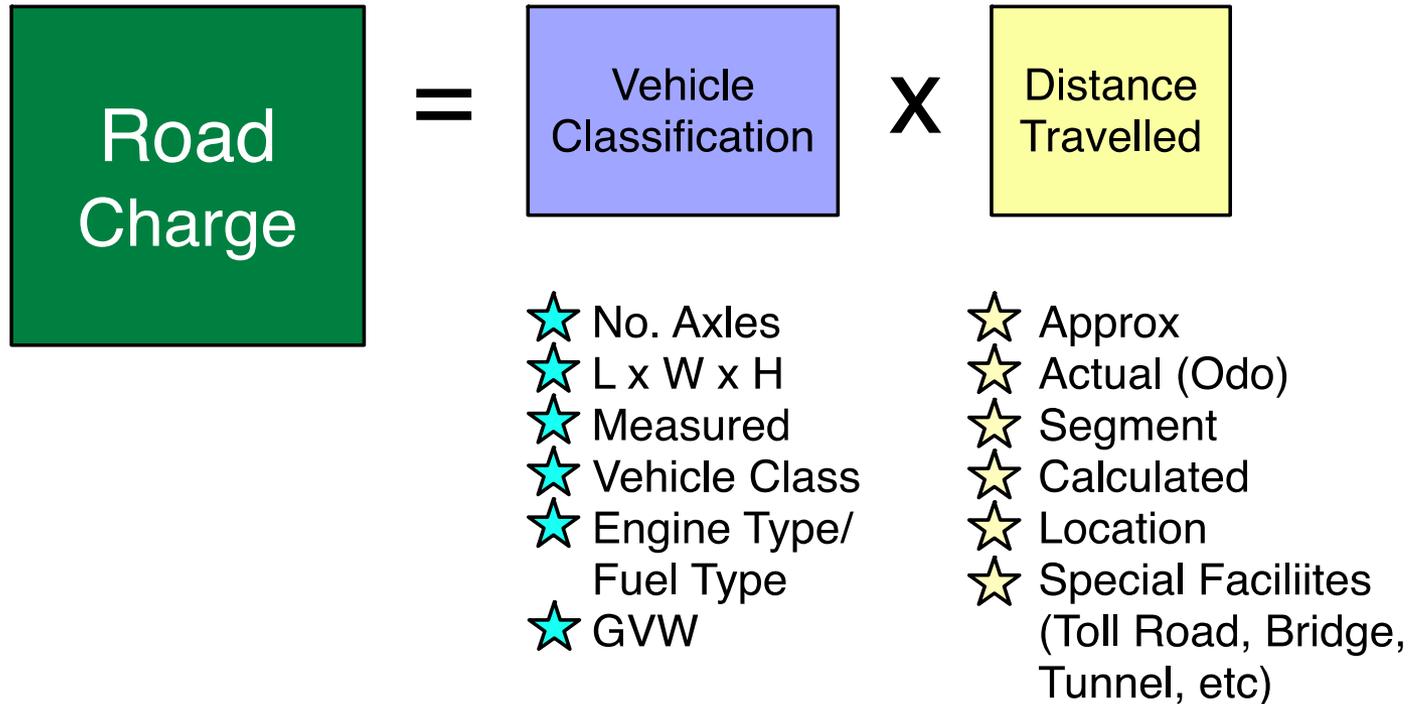
- ◆ High satisfaction among road charge payers
- ◆ Led to major reforms in 2012 – currently being implemented

United Kingdom's 2006 RAC Report on Motoring:

- ◆ Driving in the United Kingdom is more painful than gainful
- ◆ Results included:
 - ✧ 63% would back road charging if revenue dedicated to improving roadway network
 - ✧ 69% would back road charging if replaced gas tax
 - ✧ 80-87% suggest that value-added services (telematics) could constitute a useful bargaining chip in a positive reception for telematics-enabled road charging



Road Charge Can Match Policy Objectives



Keep It Simple



Euro Vignettes

Current Vignettes (stickers):

- ◆ Austria – use of major motorways
- ◆ Czech Republic – use of major motorways
- ◆ Switzerland – use of all roads
- ◆ Hungary – all motorways electronic (ANPR)
- ◆ Bulgaria – all motorways (cars & trucks)
- ◆ Romania – all motorways (cars & trucks)
- ◆ Slovenia – all motorways (cars)
- ◆ Slovakia – all motorways (cars)

Future Vignettes (stickers):

- ◆ UK – trucks for motorway network
- ◆ Belgium – cars (electronic vignette)
- ◆ Poland – cars & trucks (DSRC)



Distance Charges or Fees on Private Cars

- ◆ New Zealand – diesel & alternate fuel vehicles (paper-based using odometer or GPS by service provider)
- ◆ Oregon – new legislation for 5,000 volunteers:
 - ✧ Open system
 - ✧ User choice of methods/payment options
 - ✧ Commercial account managers



Worldwide Lessons Learned



- ◆ Establish policy and legislative framework first, then select a solution to fit policy objectives.
- ◆ Understand, refine and test your objectives, be open and communicate clearly with the public and stakeholders.
- ◆ Objectives drive the technology selection not the other way around. Road charging is not tolling and cars are different than trucks.
- ◆ “Choice”— establish choices in mileage reporting technology and payment methods. Ensure simplicity and efficiency.
- ◆ “Open Market” approach: use of private account managers reduces overall costs and ensures system sustainability.
- ◆ Minimize exemptions & consider phase-in discounts.
- ◆ Clearly define what will be done with the revenues. The public wants the money to be reinvested in road transport.
- ◆ Enforcement and legal appeals process are critical.
- ◆ Political will is essential. Consistently communicate to the decision makers & public the “need” for the package of measures.
- ◆ Keep it simple!



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