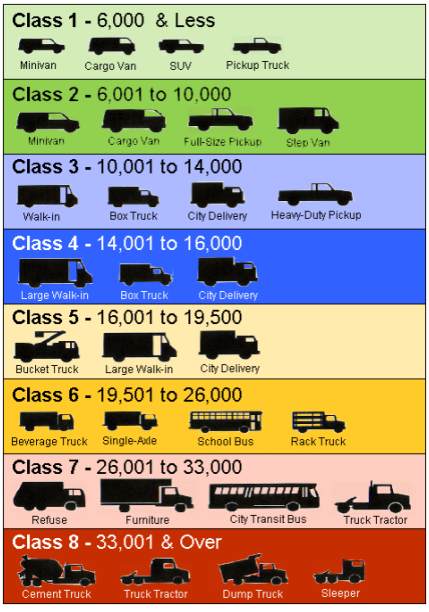
Local Government Alternative Fuels & Vehicles Rulemaking
Data Gathering Subcommittee Meeting Notes – March 5, 2015

Peter Moulton, Jim Jensen, Geri Beardsley, Hayward Seymore, Ron Stuart, James Allen, Alan Kies, Brandi Vena, Jeff Jensen, Dave Catterson, Scott DeWees, Cindy Steigerwald, Allan Jones

Discussion began with a review of our progress to date and the introduction of a draft framework for an alternative fuel/vehicle matrix that could be used to support local government decision-making. The matrix showed the four key alt fuels for Washington—electricity, biodiesel, natural gas and propane. It included separate columns for different vehicle weight classes. The criteria we are charged with considering were listed for each fuel with a narrative description. For each fuel, an X was placed under a column when it was practicable to consider using that fuel for that class of vehicle.

FUEL TYPE / CRITERIA	VEHICLES - X means "to be considered"											
	Passenger Vehicles	Police Pursuit	Cargo Vans	Light Trucks & SUVs (<10K lbs GVW)	Medium Trucks (10-20K lbs GVW)	Heavy Trucks (20-45K lbs GVW)	Extra Heavy Trucks (>45K lbs GVW)	Fire Trucks	Ambulances	Motorcycles	Small Utility Vehicles	Off-Road Equipment
Electricity	X		X							X	X	
Availability	Widely available; regional retail commercial rates vary but generally correlate with petroleum price variations											
Vehicles	Practical choice for passenger vehicles and some vans and shuttle buses, and increasingly for heavier weight classes as battery and charging technologies improve											
Refueling	PEVs can be charged overnight using common outlets; Level 2 chargers can be installed at widely varying cost, depending on hardware and installation costs											
Function	Passenger PEVs from OEMs are fully functional vehicles											
Cost	Price premium at present due to battery cost; attractive lease arrangements available while technology and pricing improves											
Phasing												
Other												
Biodiesel	X		X	X	X	X	X	X	X			X
Availability	B5 generally available at wholesale racks, higher blends can be requested; availability improving in eastern Washington; B5 may be sold at retail with no notice											
Vehicles	All OEMs warranty B5, nearly all warranty B20											
Refueling	Attention to storage and handling practices for blends over B5, storage tanks and fueling equipment require no modification up to B20											
Function	Improves lubricity of ULSD, enhances engine performance, prolonges engine life, suitable for all diesel engines (incl. emergency, critical duty, off-road or construction); older vehicles may have filter issues											
Cost	Fuel from regional producers should be nearly on par with diesel, problems with pricing under state procurement contract still need to be resolved											
Phasing	Consider more aggressive use of B20 when availability, cost and seasonal considerations are less of a concern (e.g. central Puget Sound)											
Other	Slightly lower energy density, negligible at B5, couple percent difference at B20											
Natural Gas	X		X	X	X	X	X					
Availability	Currently limited to natural gas pipeline infrastructure											
Vehicles	One OEM passenger vehicle, some larger class OEM vehicles; conversions are available for many vehicles											
Refueling	Self-fueling requires new investment in time-fill or fast-fill equipment; PSE can support investment; using public stations may an option for some											
Function												
Cost												
Phasing												
Other												
Propane	X	X	X	X	X							
Availability	Widely sold around the state, can be direct delivered for larger users											
Vehicles	OEMs and conversions are available for many vehicles, especially pick up trucks, vans, shuttle buses, and some larger class vehicles											
Refueling												
Function												
Cost												
Phasing												
Other												



The initial discussion centered on vehicle descriptions and different ways of dividing and describing weight classes. Different committee members had issues with the descriptions. Transit agencies use a classification system that is different in several respects. There were questions about why police cars and emergency vehicles were listed separately, and whether school buses or other specialty vehicles should be as well.

A standard weight classification system from the National Highway Traffic Safety Administration with classes 1 through 8 was offered as a substitute. This classification matches that of the Federal Highway Administration and had a nice graphic showing the types of vehicles in each class.

The discussion turned to whether weight and class had a role in driving alternative fuel decisions. In other words, how important is vehicle weight or engine type, versus other factors found in the criteria list? Geri said she believes fuel criteria are more important than vehicle weights.

There was some suggestion that for lighter duty classes, especially passenger vehicles, electricity and possibly propane could be good choices. It is the heavier duty classes, such as port and construction equipment fueled mostly by diesel, where the choices are tougher.

Scott challenged this idea, saying we should get back to considering biodiesel as the only drop-in fuel for heavy-duty classes. Other fuel choices require investments in vehicles and infrastructure, but it's not difficult to switch to B5 or even higher blends. The first prong of decision-making should be trading like-for-like fuels.

Without a resolution on the weight class issue, discussion turned back to making a workable rule and what that might look like. Peter reminded people that Commerce's approach to policy is to be supportive and not overly prescriptive given tight budgets and rapid technological change. The rules will unfold as a conversation with and amongst local governments, where there is a directive to move in certain direction but few metrics and no consequences other than inquiries from the state auditor.

Peter described the total cost of ownership (TCO) tool developed for agencies that compares different vehicle choices on the state contract under certain criteria and helps inform and nudge decision-making toward electrification. Could something similar be developed and maintained with the flexibility needed for local governments? In addition to a basic tool, there could be a set of criteria or standards for local government fleets to incorporate into existing models or software tools to support alternative fuel decision-making. Scott remarked that if we came up with clear total cost of ownership criteria, it would be the responsibility of respondents to implement the recommendations.

Geri suggested a checklist be used to help make decisions. If you reach certain point in the checklist, refer to the light-duty vehicle TCO tool to make your procurement decisions. Then, move towards applying established TCO criteria with your own software or evaluation tools for medium- and heavy-duty vehicles and equipment. The checklist would have such criteria elements as:

- Vehicle and fuel cost differentials
- Availability
- Refueling infrastructure and investment
- Maintenance and training
- Functional differences (e.g. operation, vehicle performance, fuel economy)
- Implementation costs
- Reliability of operations/services
- Regulatory issues/compliance
- Climatic differences
- Retrofit requirements
- Exemptions

While governments are able to claim an exemption under certain circumstances, they still have to make the case for the exemption, it's not automatic. The exception is CNG use by transit.

What else could be part of a checklist? Electricity is readily available around the state, and B5 is readily available from wholesale fuel racks. The general advice is to use B5 and evaluate under what conditions higher blends could and should be used. Core questions concern costs of fuel, tools and equipment, and sometimes vehicles.

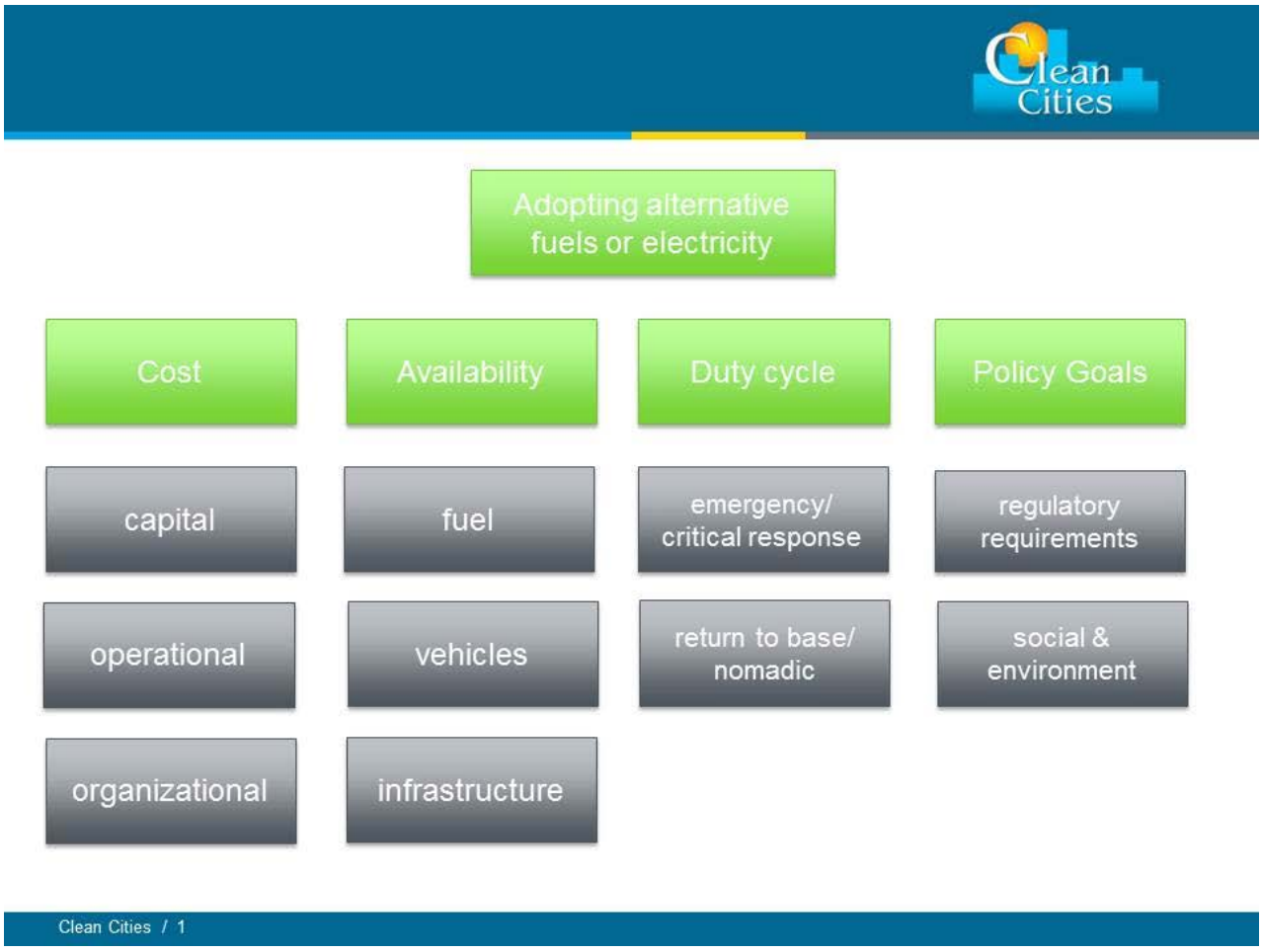
Transit requested that hybrid electric buses be included under the rule since they have equivalent or lower emissions than other alternative fuels. Although more efficient due to regenerative braking, they don't use grid electricity for motive energy and therefore won't reduce carbon emissions as much as a plug-in hybrid. The TCO tool used by agencies includes the social cost of carbon emissions, but this doesn't impact procurement much since agencies are selecting from a limited number of passenger vehicles that are already highly fuel efficient.

Revisiting local government fuel use data and the proposed 200,000 gallon reporting threshold, the numbers appear to be within the potential capacity of Commerce to manage a reporting process:

- Roughly a dozen cities
- Maybe 20 counties
- A couple ports
- A few PUDs
- About 16 schools
- Maybe 17 transit agencies

Jeff Jensen reminded folks that Central Puget Sound is where most alternative fuel is occurring, and that is this where much or most of the attention should be focused.

Meeting participants seemed to agree that a common goal is to create a process that encourages considerations away from the status quo. Scott offered a graphic illustration of a decision-making framework that included various considerations regarding cost (capital, operating and organizational), availability (fuel and vehicles), duty cycle and temporal variables, such as lead times for delivery or phased approaches. Consideration of the cost or challenge of installing new fueling infrastructure was added. Folks were generally positive about this graphic framework, which captures many of the criteria and considerations and can be applied to different types or classes of vehicles.



Participants were asked to consider additional changes to the framework. (Initial Transit Association recommendations attached.)

The next meeting of local government alternative fuel and vehicle rulemaking stakeholders will be from 9am to noon, on Thursday, March 26th. A revised version of the criteria illustration will be prepared in advance.