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| **Working Group: EV Equity and Accessibility** |
| Challenges and barriers (15 minutes):   * Cost – vehicle (initial cost), charging infrastructure * Education * Institutional * Access to enforced dedicated parking (multi-family, condo, row house, etc.) * Availability of chargers on commuter routes that are not interstate highways * Who owns and maintains infrastructure, patchwork? * Political barriers – competing interests, for and against infrastructure, messaging against the safety (News of Tesla’s catching fire) * Multi-family community infrastructure * Financial limitations * Participation in public meetings/hearings, representation – virtual access, closed caption at meetings (for example at stakeholder meetings like this one) * Messaging – consistent, the value, language barriers * Good utility EV programs, use of existing investments – incentives, managed charging (rates) * Lack of on-bill financing of EV charging infrastructure * Pricing when not charging at home or work – consistent across the state * Simple and non-confusing charging practices * Affordable EVs * Institutional inertia at car dealerships and utilities – education, consistent understanding * Change of behavior – How far can you go? Break of habit. Assess driving needs. * Safety messaging – public understanding * Absence of other equity policies in the state. Would be easier if there is other equity context in other discussions. * Full benefit of EV in terms of equity? * What do you do when there is a sustained power outage? How would you go get food and water if the vehicle is not charged? |
| Potential benefits and opportunities (15 minutes):   * Public transportation – EV buses, ambulance, fire truck, wheelchair vans   + Saves taxpayer dollars * Trucks (medium and heavy duty) * Lower total cost of ownership   + Cheaper per mile than gasoline – the “fuel” is less expensive   + Maintenance – if you have maintenance it is expected * No tailpipe emissions – air quality, GHG, climate, cleaning the grid over time * Lower healthcare costs – asthma, in school more, learn better, happier * Less dependency on oil, natural gas * Inspire greater innovation. Ex. for those with physical disabilities – make more accessible * Can update and improve without having to physically change out the car. * Autonomous vehicles * Manageable load for the utility – sell more energy without building more generation, use less carbon * Local construction jobs installing charging infrastructure – good for the economy * Better utilization of the distribution grid – lower the cost of electricity * Better transportation services – improve the service/vehicles * Noise pollution reduction – especially in larger cities * Resilience – can do a lot with the car battery when the power is out   + Utility policies to allow you go connect to your house * Integrate EVs to address resilience challenges (storms, natural disasters) * Wealth creation – help someone meet their transportation needs * Utility offer off peak charging at a better rate * Delivery drivers – save money in fuel, autonomous driving (car make money while you are asleep) * No oil spots * Time saver – plug in at home, do not have to go to the gas station |

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| **Rapid Fire Discussion (30 minutes)** |
| Education and outreach opportunities   * Energy 101 – What is a kWh? How much does a kWh cost? What is a kW? * EV 101 * Salesperson education – high turnover * How safe are EVs? * Understand the types of chargers * Educating legislators and regulators * PSC outreach to communities, be culturally sensitive, welcoming * Cost for EV owner – property tax, EV fee are part of the cost, * Battery replacement cost – Do you have to get a new car? * Lost jobs – workforce issues (car maintenance) if you can only repair vehicles at certain shops * Retraining programs? |
| Equity and environmental justice considerations   * PSC/hearings – Won’t be able to hire a lawyer, be able to participate in hearings, need childcare, have to work, etc. |
| Financing challenges and opportunities   * Targeted rebates – tiered for those who can’t buy a car * Rebates to buy a used car, to buses and EV charging equipment as well * Funds to convert to EV – public entities   + Ex. VA Dominion EV bus program. Dominion owns the batteries. |
| Implications to the electric grid   * If done well it will be cleaner and less expensive per kWh   + Will not have to build more infrastructure if managed correctly |
| Infrastructure considerations   * Deploy the appropriate type of fast charging * Safety around charging stations – well lit, access, big issue with women * Utility help with charging, and type of charger that can be managed * Who owns it? Utility? Town? Free market? * Stumbling block – need to address to increase adoption of EVs |
| Regulatory and legislative considerations   * Rate design * pricing of fuel * charging infrastructure ownership * Interoperability – fosters competition * Road tax * Who owns it? |
| Other:   * Mining lithium * Battery end of life * Encouraging recycling – build the infrastructure – in state   + Are they considered solid waste?   + Now, the dealership manages it.   + Tesla has a system for this. * Second life batteries * Research is being conducted on battery end of life. * With greater EV adoption this will lead to advancements in battery development and different types that may be better/more EJ friendly. * Battery leasing – South Korea and Hyundai. Makes the car cheaper. You lease the battery and return it when it is at 70% efficiency for a new one. * Right to repair? Small shops to repair vehicles? What will happen to them? * Refurbished Tesla – Can’t use Tesla charger. |

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| **Stakeholders and Subject Matter Experts** |
| * Additional stakeholders:   + Affected communities     - Bankers, teachers, NGO leaders, EJ advocates   + City and transit planners   + Faith-based leaders   + Grass tops organizations – trusted partners   + Auto manufacturers   + Social science experts   + EV charging companies – focus on development in EJ communities   + Owners of rentals-landlords, property management groups   + Potential EV owners – What is stopping them from purchasing an EV. Fleet owners as well.   + EV Hybrid Noire * Subject Matter Experts:   + Proterra |

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| **Final Report Out Question** |
| What is the greatest challenge or opportunity to transportation electrification identified in your working group?   * Education * Infrastructure – Can see the difference between states. * Vehicle price – large gap in price from pre-owned ICE vehicle and EV * Variety of vehicles * Managing expectations |