

What role do electric vehicles play in our transportation network in 2050? What is your vision for electric options in 2050?

- Central role, particularly for public transportation
- EVs are good for smaller vehicles but size & weight of batteries can restrict larger vehicles
- EVs are possible because there are more charging stations
- EVs are charged using renewable energy
- EVs provide additional energy storage opportunities
- Is there a role for hydrogen fuel cells (using green hydrogen) in the 2050 vision?

What are the barriers to achieving that vision? What do we need to be mindful of to ensure that electrification goals don't conflict with other priorities, like mobility, efficiency?

- Charging / Infrastructure
 - Availability overall
 - How will infrastructure change over time and how do we not get stranded with infrastructure that becomes obsolete (i.e. mobile, stationary)
 - Level III availability particularly for neighborhoods where parking is on-street (right-of-way issues) or for multifamily buildings
 - Charging times, especially for larger vehicles/buses vs. overhead wires
 - Standardization around charging (language) – currently complex, jargon-y and not accessible (i.e. public vs. private vs. publicly accessible is even hard to parse)
 - Visibility of charging & ease of use – plug charts alone are hard to navigate
- Technological limitations of batteries & charging technology currently
 - Range issues, especially for buses
- Grid capacity & how grid resources are aligned with policy
- Regional issues, like getting WMATA to electrify even though it is multijurisdictional
 - How do we move them quickly from pilot phase into adoption?
- Increasing number of short distance / regional delivery vehicles but mostly not registered in DC. How do we move them to 100% EV fleets (i.e. Amazon, FedEx, etc.)
- Cost – for the vehicles (buses, passenger cars) as well as infrastructure
- Land Use: mode shift is still the top priority. How do we provide enough accessible charging without locking into using valuable space for parking, when our goal is to shift more trips out of vehicles and not just replace current passenger vehicles one-for-one?

What solutions could address these barriers (policy needs, technical support, resources, etc.)? What do you see that is working that we might adopt or accelerate?

- Require all vehicles to be EV after a certain date
- Charging

- EV Readiness bill currently with Council could expand charging infrastructure / make-ready. Need to pass and expand on it.
- Financing / Funding
 - Incentivize WMATA to electrify in line with the District's timelines, or
 - Charge WMATA an exhaust pipe tax
 - EV bank concept: 2% lower interest rates (subsidies) for onsite solar or offsite agreement for exchanging a combustion engine
 - Incentives / subsidies for low emission vehicles for low-income households
- Education
 - Consumers re: benefits of EVs, options for people to get familiar with how they drive, how to charge, how to find charging, plug interoperability (i.e. ride and drive events as a starting place)
- Partnering with automakers and dealers, especially around leased vehicles which are a huge revenue stream. How do we accommodate charging when manufactures increasingly offering EV cars for lease?
 - Ensuring they convey charging information correctly to consumers
 - What's the role of dealers in providing charging equipment?

What else do we need? Blue skies/magic wand. How might we advance equity in program design or implementation?

- Building codes that support charging infrastructure – all new construction must include 100% EV ready w/proper amperage and ready for storage
- Access:
 - EV car-sharing system? Paris and other cities have tried a system that allow people to reserve cars w/charging spot at their destination. Would offer a clean option for people who don't own cars but need them on occasion.
 - What does EV access look like in COVID recovery – for those workers, particularly hourly and low-wage workers who can't work from home and may not feel safe returning to transit. How can we make EVs accessible to them?
 - Car share for Wards 7 & 8 is pretty high, particularly of land-use and terrain making it hard for residents to use other modes. For those who need to drive, how can we help encourage electrification so that it is a real option for all incomes?
- Readiness for jobs – including thinking about the economic dislocation that will happen to repair shops and gas stations as EVs become dominant