

## DRAFT Minutes of the MA ZEV Commission Meeting of April 15, 2022

### 1. Daniel Gatti, EEA

- Welcome and housekeeping and Zoom tips.
- Review of agenda:
  - Overview of transportation policies in revised CECP (EEA)
  - MOR-EV Cost Effectiveness study and proposed reforms (DOER)
  - Discussion
  - Updates on vehicle emission standards (DEP)
  - ACT: School bus and Mass Fleet Advisor (MassCEC)
  - Federal infrastructure opportunities (MassDOT)
- Transportation is our largest source of global warming emissions, responsible for 42% of statewide emissions pre-covid. Transportation emissions have grown since 1990 in spite of state and federal emission standards that have increased the efficiency of vehicles, including both passenger and medium and heavy duty vehicles. This is largely because VMT has increased with economic growth from 49 billion miles per year in 1990 to 61 billion in 2019. Emissions from medium and heavy duty vehicles has increased as freight has grown.
- Major goals of revised CECP: place more emphasis on reducing VMT, prioritize equity and environmental justice, take advantage of federal funding opportunities.
- Reducing VMT will require significant new investments in alternatives to personal vehicle travel. Challenges – single use and single family zoning limits travel options, limited bike/ped infrastructure, restrictions on density makes housing expensive near transit. EEA working with HED to implement MBTA communities to increase multifamily housing near transit. Increase funding for Complete Streets to support bike/ped investments. Climate plan calls for full funding of MBTA bus modernization plan. MBTA working to convert full bus fleet to electric, 100% of all bus sales will be electric by 2028. Greater potential to work with employers to reduce unnecessary travel after COVID. State launching e-bike rebate.
- EEA still sees transition to zero-emission vehicles as primary driver of decarbonization. Primary policy to support vehicle electrification is implementation of vehicle emission standards set by CARB. MassDEP will give update on two important new rules: Advanced Clean Trucks and Advanced Clean Cars 2. Moving ahead with reforms to MOR-EV, Commissioner Woodcock will say more.
- Proposing additional policies to electrify vehicles with important equity and public health programs. School bus program launching this year to help districts compete for federal funds. Vehicles for hire as important opportunity to get vehicles into the hands of high mileage high visibility drivers. Last mile delivery trucks are growing source of congestions and emissions. MassCEC will partner with local businesses to electrify this sector. In addition MassCEC will continue to provide community grants to heavily impacted communities through ACT4All.
- Continue to build out infrastructure, including fast charging, home & workplace charging. \$63 million available in formula funds through IJJA. MassDOT will update. 80% of charging happens at home, so making it easier to install home charging is a critical piece. Also best to shift load away from peak hours. If we fail to shift load there will be significant additional emissions and infrastructure costs.

- We will expand outreach and education programs. Purchase is complicated, needs support for both passenger vehicles and fleet operators.
- Summary does not cover all policies: two additional policies include MassCEC proposal on pilots for hard to electrify segments (refuse trucks, construction vehicles, airport equipment). Massachusetts has also joined NY, CT, NJ in a proposed regional hydrogen hub, which could include medium and heavy vehicles as an end use.
- CECP is not final; you can submit comments through the end of the month at [gwsa@mass.gov](mailto:gwsa@mass.gov)

Patrick Woodcock, DOER Commissioner

- Thank you for opportunity to present analysis on MOR-EV program. MOR-EV fits into a holistic approach, we want to deemphasize personal vehicles while recognizing that's a huge part of our emissions today.
- Legislature required study – due in October of this year. We are releasing study early to inform legislature as they consider extension of program and move forward with improvements to cost-effectiveness of program. Synapse did analytical work.
- Current MOR-EV is post-purchase rebate program for light duty and medium and heavy duty vehicles. Medium and heavy duty trucks were implemented in 2020. Light duty rebate covers BEVs and PHEVs, \$2500 for BEV and \$1500 for PHEV. \$50k price limit for eligibility.
- Key finding of this report is that cost-effectiveness is comparable to other clean transportation programs. However free ridership is high – up to 50% of all rebates are free riders. Determination is that program is cost effective even accounting for free ridership.
- After price limitation was introduced in 2018, MOR-EV rebates as a percentage of BEV sales declined significantly, to 31% of BEV sales. Policy is increasingly targeting a smaller percentage of the BEV market.
- Assessment of how program could be improved to reduce free ridership and improve cost-effectiveness of the program. Higher purchase price vehicles have higher free ridership.
- Current use of revenue from RGGI is going to strain the financial viability of the program. Study recommends ways to reduce cost and complexity of these incentives.
- High level of recommendations: Making rebate available at point of sale would improve the efficiency of the program. We are looking to enable a point of sale rebate model this year.
- We are assessing the reduction of the price cap at \$50k. A lot of considerations. Limiting PHEV eligibility is another area we are considering. Targeting awareness campaigns for underserved population. Targeted outreach or incentives based on vehicle registration, location, VMT is something we are considering.
- Looking at additional incentive amount for eligibility. Having a low/medium income incentive as well as non-profits serving LMI populations. Also assessing used EV incentive for BEVs.
- Move to a point of sale will require a new vendor. Targeting having this in place by fall of 2022. Important aspect of point of sale program is dealership participation. Considering hybrid system of having an after the fact rebate for dealerships that do not participate. We will move to point of sale only program once we have critical mass of dealerships.

- Considering reducing the vehicle price cap. Realize vehicles have been major source of inflation. Considering trajectory where price cap would settle at about \$42,000. Light duty pickup trucks may be an exception, since they have major greenhouse gas benefits.
- Continue to transition to supporting only battery electric vehicles. THought is to only support PHEVs where there are few or no BEV alternatives. Very few minivans right now for instance for BEVs.
- Releasing this study this afternoon. Concerned about how this program has had limited long term financial security. Funding to support program expires at end of June. Any of these changes is predicated on continuation of the program. Looking for bidding out services later this year. Low-medium incentives by the end of the year.

Dan Gatti

- Question from Ellen katz: aren't PHEVs good for people who are considering an EV but not ready to buy a BEV?
- Our thinking on PHEV is thinking about three things: data suggests that PHEVs are used in gasoline mode more than anticipated. My mother bought a plug in Prius and never once plugged it in. It's never going to be more efficient to have a gas engine and a electric engine. Overall direction of industry moving away from PHEVs. Happy to hear from more people on PHEVs.

Patrick Woodcock

- Question on targeting higher mileage people in the program. We agree, that's one of our directions. Looking at areas without public transportation and significant commutes.

Kate Fichter, MassDOT

- Want to weigh in support of PHEVs – I know people who would not have gone all the way to BEV but bought a PHEV.

Patrick Woodcock

- Considering program priorities based on currently available funding. We might develop a program that looks differently if there are more state funds appropriated, federal changes, etc.

Zach Khan, Tesla

- Didn't hear anything on Clean Fuel Standard. Is that still a priority for Massachusetts? On MOR-EV side, note caution on reducing price cap. CT reduced price cap to \$42k, now their incentive program doesn't really support EVs. Look at what vehicles are available at that price point. All wheel drive vehicles, 300+ range is important – under \$50k you can't get that. Supply chain issues are a significant problem. Wonder if we could index price cap to inflation. Sales tax exemption in the legislature could help. Consider an adder for taxis and rideshare vehicles. Identify drivers who went 30k+ miles last year, those are the vehicles that are most important to electrify. Agree with transition away from PHEVs. Data in Europe shows that in operation vehicles get significantly worse emissions.

Daniel Gatti

- On Clean Fuel Standard, if there is a regional effort to implement Clean Fuel Standard, Massachusetts will be there. We are a little sensitive to talking about regional partnerships as part of our climate mandates. Would not take it as a suggestion that we are not supportive even if it doesn't make it into this plan.

Staci Rubin, CLF

- Thanks to Commissioner Woodcock and Eric. Want advocates to be supportive on permanent financial security. Strong support for point of sale rebate model. We've been talking about this for years and I feel heard on this. Also strong support for a separate low to moderate income incentive, used incentives. Consider financial incentive for at home charging equipment.

Michael Maten, GM

- Thanks for detailed and comprehensive analysis. We would support all of the points you have in terms of next steps. On price cap, we would support discussions to reduce, but be careful given supply chain shortages and inflation. Really important point on the pickup truck rollout, a lot of emission reductions to be had for EV pickups, larger vehicles mean more cost. Low and moderate income yes lets talk about that. Financial stability is key. Other states have incentives lasting 2-3 months. That does no good for market or dealerships. Changes in program need to be communicated well.

Veena Dharmaraj, Sierra Club

- Thanks Commissioner Woodcock for the presentation, and express support for the reforms proposed here. Understand that financial stability is important to make this all happen. We saw how EVs dropped when the rebates were not available. Also want to strongly support rebate level for high mileage fleets, and excited to see low and moderate income rebate is under consideration, as well as point of sale.

Robert O'Kenowski, Massachusetts State Auto Dealers Association

- On the process of the rebate, we have been a long time supporter of current process where customer applies for rebate. We had discussions going back a couple years on cash on the hood approach. Our biggest concern has always been the flow of the funds. We've talked with dealers about transitioning to that but as a pilot program initially. If we go to a cash on the hood approach, which many dealers are looking forward to, lets do a pilot first so we don't have a problem like with cash for clunkers.

Patrick Woodcock

- Need to have this as a partnership, we wouldn't look to require this for participation. Instead of pilot might call it a hybrid transition, we would allow dealers who do not want to participate in mail in rebate.

Kyle Murray, Acadia Center

- Appreciate thought that has gone into the proposal. A lot is aligned with the Senate bill that went through last night. Wondering if there are parts of Senate proposal you have concerns over?

Patrick Woodcock

- Appreciate recognition that financial stability is imperative for this program. Appreciate Senator Barrett for that recognition. Area we have the most concerns with is the incentive levels for medium and heavy vehicles. We think that needs to be rectified.

Daniel Gatti

- Will Lauwers, Patrick and I worked hard to set up MOR-EV Truck program, got input from stakeholders including people on this call. We would like to see us build on what we've already done on the medium and heavy duty space.

Christine Kirby, MassDEP

- Updates on where we are on rulemaking. Advanced Clean Trucks rule adopted late last year and our plan to implement California Clean Cars 2.
- Massachusetts has a law in place that requires us to adopt California standards if they achieve greater public health protection than the federal standard. We've implemented many standards. Today we are focused on zero-emission standards. California has unique authority to set stricter voter emission standards than EPA. Another section of Clean Air Act allows states to adopt California standards – Section 177. Massachusetts is one of the earliest states to adopt CA standards. Needs 2 model years notice.

Sharon Weber, MassDEP

- Trio of truck regulations that DEP adopted December 31, 2021. Advanced Clean Trucks reg, greenhouse gas phase 2, low-NOx heavy duty omnibus standard. MassDEP implemented these as a group in order to comply with requirements that we must adopt these vehicle standards.
- Advanced Clean Truck standards requires increasing amount of zero-emission vehicles, similar to light duty ZEV regulation. Sales must be a minimum percentage of total MA sales in each category. First year applies is model year 2025, the earliest we could apply these regulations. Can earn early action credits beginning in MY 2021. Classes 2b-8. Standards broken out by weight class. Encouraged that we have a regulatory backstop to ensure vehicles move in this direction.

Christine Kirby

- Advanced Clean Cars 2 hasn't been adopted yet – anticipated by the end of the year. Includes requirements for ZEVs and PHEVs and other things. Also next iteration of low-emission vehicle standards for internal combustion engines.
- California issued regulatory analysis this week, planning on board hearing for June 9 this year. Very dense proposal. They will have a comment period between April 15 and May 31. A second board hearing in August. MassDEP is planning to adopt by the end of 2022. Critical part of climate plan.

- Sales requirement of 36% by 2025, ramping up to 100% in model year 2035. Some flexibilities built into the proposal, like allowing states to pool credits across state boundaries. Some states ahead of others in ZEV deployment – new states coming into the program may need time. Early action credits. EJ credits.

Daniel Gatti

- Note that these vehicle standards apply to manufacturers, it requires them to sell vehicles, it doesn't require anyone in particular to sell them. So there's a continuing need for incentives and support.

Jade Lu, MassCEC

- Here to provide updates on ACT: School Bus and Fleet Advisor.
- Electrifying school buses provides significant public health benefits. Goals for this program include reaching heavily impacted communities and helping to achieve large-scale transitions of school bus fleets. Hundreds of school bus fleets in Massachusetts, majority uses third party fleet models. School bus electrification has high and uncertain costs. Requires a lot of expertise and management. Process barriers of securing funding. Two part program structure, one set of funding towards deployment projects for 3 fleets to look at full fleet electrification. Looking at different ownership models. Another bucket of funding to provide electrification roadmaps for larger number of fleets and districts. Looking to leverage EPA funding. \$5b available over 5 years, including rebate programs and competitive funding. Infrastructure upgrades are not eligible for funding, just vehicles and chargers. Looking for disadvantaged communities and cost share. Launching program by the end of this month, first round of funding as lottery system with different rebate levels available for priority districts. Third party contractors will not be eligible for first round of funding. Ask: Connect to stakeholders who would be interested in participating in this program.
- Next program to plug is Mass Fleet Advisor. Currently active. Providing technical assistance and road-mapping for private commercial and non-profit fleets. We hired a team of consultants to provide fleet services to medium and heavy duty private fleets. Goal to leverage MOR-EV Truck programs, looking for fleets operating in environmental justice areas. Want to make it as easy as possible for fleets to participate in this program. Ask here is to send fleets our way.

Kate Fichter, MassDOT

- I know there are a lot of questions out there and people are looking for more clarity. The program has settled on a name: National Electric Vehicle Infrastructure program, or NEVI. Federal infrastructure bill that passed includes lots of money for lots of things, including several buckets related to EV charging. What we're focused on right now is formula program, the money every state will get for EV charging, \$63M over 5 years for Massachusetts. First step in process is for MassDOT to submit a plan that will go to DOE/DOT to access funding. We don't have funding yet and we don't have plan yet.
- Legislation has parameters for how NEVI money can be used: must be for fast charging, must be 4 ports in each location, places where it can be used. Legislation requires chargers on Alternative Fuels Corridors. Limited access, big fast highways. We have in the past designated some. Guidance we have so far is limited, puts a deadline of August 1, we still don't have all of

the guidance. Rush to get conceptual plan to federal government. Some of the key things we are looking at: where are the gaps, what transportation markets are we trying to serve, financing and operations. Thinking about models for how to do this at scale. Not planning on identifying specific sites. Thinking about a survey or other strategies for public input.

Dan Gatti

- One thing we will be looking at with NEVI program is that we are building stations that are financially viable in the long run.

Kate Fichter

- One effect of this program is that at the end of 5 years state DOTs will own a lot more charging stations than we do now, which may be a good thing but may raise questions. NEVI program does allow program funding to be used for operations and maintenance but only in 5 year window. Operating costs will quickly become a real challenge.

Wondering if there are any plans about how they are going to compensate operators with demand charges, which at 600kw will make this a loss leader for the entire period?

Kate Fichter

- Not to my knowledge. A lot of questions that this policy present for all of us.

Did you say DOTs are planning to own and operate?

Kate Fichter

- Every state DOT will receive the same kind of funding. If they do most likely the model will be public ownership.

Dan Gatti

- Open DPU docket on electric vehicle infrastructure considering demand charge issues. Competing demands about wanting to deploy charging stations but also consider financial incentives for onsite storage.

Robert Boch

- Is \$63 million available to spend all at once or limit by year?

Kate Fichter

- Limited by year.

Veena Dharmaraj

- What are you thinking about with public engagement & recent RFP on NEVI charging plan?

Kate Fichter

- RFP is near a contract but not public information yet. Interested in hearing from stakeholders on public engagement. Challenging given short timeline and restrictions on funding.

Veena Dharmaraj

- Appreciate turnaround on ACT rule. Wanted to check if DEP considering large fleet reporting requirement and timeline?

Christine Kirby

- Short answer is yes but I don't have a timeline yet.

Jeff Hyman

- Question on NEVI program. Is there going to be standardization for manufacturers? Second question is pricing. Can't always have free charging.

Kate Fichter

- Still at early days of mass expansion of EV charging. Everyone's aware of the differences in charger types, speeds, etc. NEVI program will do that for a number of chargers but there a lot of players involved – whether there will be one standard is unclear. Most MassDOT sites do not charge consumers but this will be a more urgent question as we have more infrastructure.

Dan Gatti

- MassCEC is also looking at charging station business models. We don't know what the business model is going to be – paying for charging, free amenity to get you in the door. Different for different kinds of charging, locations.

Anna van der Speck, Green Energy Consumers Alliance

- If most of these stations will be owned by the state, does that mean that stations will be on state owned land? To what extent will Massachusetts be coordinating with states in the region across borders? On ACC2, the ZEV mandate currently in place was supposed to result in 300k EVs by 2025 but in the latest version of CECP that's been brought down to 200k because of provisions to make the program more flexible? Does MA team have a sense of whether flexibilities built into ACC2 will reduce our chances of hitting CECP requirements?

Kate Fichter

- NEVI statute doesn't specify on whether it must be public land. Historically we have placed chargers on DOT owned land because it's easier to do so. We have good distribution of MassDOT land. One key thing to think about is do we want to have an avenue for private land. It is infinitely more complicated and difficult but there could be reasons to do so. What is the role of public sector? We haven't yet reached out to other states.

Christine Kirby

- ACC2 is a proposal, we will have to look at it. There are flexibilities but they are capped.

Dan Gatti

- First iteration of ZEV program gave different credits based on the range of the vehicles, we ended up getting more credits per vehicle because they got longer range vehicles. Because there is going to be pooling between 177 states there will be some competition between states, are you above the level or below the level for EV adoption. So continuing need for infrastructure and incentives.

Gus Block, Nuvera Fuel Cells

- Is hydrogen in NEVI program?

Kate Fichter

- Not in NEVI program, but other competitive grant opportunities are available for other alternative fuels, of which hydrogen could be one. State would need to designate a hydrogen alternative fuel corridor.

Gus Block

- Is Massachusetts pursuing that designation for hydrogen?

Kate Fichter

- At this point we are not. As I understand it there may be a future for hydrogen in trucking, heavy vehicles. We just had a meeting on it, we're thinking about it.

Dan Gatti

- We are joining with New York, Connecticut and New Jersey to pursue a grant on hydrogen hubs, looking at what end uses make the most sense, medium and heavy duty vehicles are one of things we are looking at.

Gus Block

- Who is the point person on that?

Dan Gatti

- Probably me or Galen Nelson at MassCEC

Michael Maten, GM

- On NEVI think about the operation of these, getting utilization high. Also think about future proofing for new technologies. Encourage you to think about EV trucks with larger batteries and longer range. 150kwh is going to be tough to recharge in a good timeframe. One question on ACC2, model year 2026 starts in under 3 years. 36% is somewhere between 6x or 7x increase. Is there a study on what infrastructure we need to support that?

Dan Gatti

- As part of modeling that we did under 2050 deep decarbonization study we used EVI Pro-Lite to predict what level of EV penetration will require in terms of infrastructure. We have numbers, although there are challenges in predicting future infrastructure needs. We're going to need to continue to do more analysis and get more refined in our thinking about this.

Bob O'Kenowski

- Comment and a question. We have a lot of deadlines we're looking at. I'm concerned that there's continuity of policy after January when we have a new administration. Have some flexibility to build in to our policies moving forward. We want to make sure there are no impediments to private charge. We want the business community to be able to develop these stations, rather than commitment to state or federal commitment to charging stations.