

COUNCIL OF THE CITY OF PHILADELPHIA
JOINT COMMITTEE ON STREETS AND SERVICES
AND GLOBAL OPPORTUNITIES AND THE
CREATIVE/INNOVATIVE ECONOMY

Room 400, City Hall
Philadelphia, Pennsylvania
Monday, May 15, 2017
1:24 p.m.

PRESENT:

COUNCILMAN MARK SQUILLA - CHAIR (Streets)
COUNCILMAN DAVID OH - CHAIR (Global)
COUNCILMAN AL TAUBENBERGER
COUNCILMAN ALLAN DOMB
COUNCILMAN DEREK S. GREEN

RESOLUTIONS: 161039

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2 COUNCILMAN SQUILLA: Good afternoon,
3 everyone. Thank you for coming today. I
4 would say, we are starting our joint
5 committee on Streets and Services and Global
6 Opportunities and the Creative Innovative
7 Economy. Co-chair -- I am here with
8 Co-chair Councilman Oh and Councilman Domb.

9 We are not going to have long speeches
10 before we start, because we know we are here
11 to look at the ability for the City of
12 Philadelphia to grow out of infrastructure
13 necessary to grow the EV use in our City.
14 Looking at all the expertise and also look
15 at technologies that are used throughout not
16 only our country, but throughout the world.
17 And how we can then put a plan together
18 within a year to make this happen.

19 Without further ado, Matt, if you'd like
20 to read the first panel. And let's get
21 started. Thank you.

22 THE CLERK: Resolution 161039: A
23 resolution authorizing Council's Streets and
24 Services Committee and Committee on Global

1 Opportunities and the Creative/Innovative
2 Economy to hold hearings regarding the
3 installation of electric vehicle parking
4 spaces in Philadelphia.

5 The first panel is Christopher
6 Puchalsky.

7 (Panel approaches Table.)

8 COUNCILMAN SQUILLA: Chris, just state
9 your name and proceed with your testimony.

10 MR. PUCHALSKY: Yeah, hi. My name is
11 Christopher Puchalsky. Go ahead and read my
12 testimony?

13 Thank you for the opportunity to give
14 testimony today on the promotion of electric
15 vehicles as part of a sustainable
16 transportation system. I'm the Director of
17 Policy and Strategic Initiatives at the
18 Managing Director's Office of Transportation
19 Information Systems also known as OTIS.
20 Recent advancements in electric vehicles
21 have brought this technology into the
22 mainstream. While the original legislation
23 by then Councilman Kenney was an important
24 stimulus, the technology has moved so fast,

1 that now is a good time for a moratorium to
2 review our electric vehicle policies. OTIS
3 and the Streets Department look forward to
4 working with other Members of the
5 Administration and Council during this brief
6 moratorium to examine as stated in the
7 Mayor's letter to Council dated April 20 of
8 this year, the behaviors and needs of
9 drivers and EV owners, the changing
10 technologies of EV and EV charging
11 infrastructure, potential incentive
12 mechanisms, various models used for
13 integrating EV infrastructure into the
14 transportation network, best practices for
15 EV parking way-finding.

16 While examining these points and others,
17 the task force suggested by the Mayor should
18 keep in mind the optimal place of electric
19 vehicles in a larger mobility strategy that
20 promotes equity, sustainability and safety.
21 Promoting the wider adoption of electric
22 vehicles, especially when they are powered
23 by renewable energy is important. Equally
24 important is the promotion of inherently

1 clean alternate modes of transportation such
2 as transit walking and bicycling. These
3 modes are safer than electric vehicles which
4 contribute just as much to fatalities on our
5 roadways as conventionally powered
6 automobiles.

7 OTIS looks forward to partnering with
8 Council to find a wholistic EV strategy that
9 fits comfortably inside a larger mobility
10 framework.

11 Thank you for the opportunity to testify
12 on Resolution No. 161039. I would be happy
13 to answer any questions you have at this
14 time.

15 COUNCILMAN SQUILLA: Chris, thank you so
16 much for your testimony. I just have a
17 couple questions before. Moving forward as
18 we create this task force to come up with
19 this plan, now we know people from OTIS --
20 somebody from OTIS would like to be
21 involved.

22 Is there any other departments -- I was
23 thinking if we look at the growth of this
24 through sustainability, somebody from

1 Sustainability to be involved, and also L&I.
2 Because if we look to grow features in
3 electric vehicle chargers, maybe we add
4 things to the Building Code. So, all new
5 developments that have parking, maybe
6 percentages are allotted for charging. If
7 we could get a list from you to the Chair to
8 people who you think in the Administration
9 who would like to be a part of this task
10 force so that we can put that together
11 working with you and plus some of our
12 stakeholders that are here today to come
13 out. Because really, I mean if you think
14 about it, a year it's not a real long time.

15 MR. PUCHALSKY: Yeah.

16 COUNCILMAN SQUILLA: We want to make
17 sure we have all the players, stakeholders
18 necessary to make this work. And we also
19 want to be able to put something in place
20 and a plan in place that we can start. We
21 have some short-term reachable goals right
22 away and some long-term goals that we could
23 then be able to show as we move forward
24 where we are going to be maybe five years

1 from now as we move forward.

2 So if you can get that list to us, I
3 think it would be great.

4 MR. PUCHALSKY: Yeah. I would be happy
5 to. I think one other part of the
6 Administration that should be on the task
7 force is Fleet. So, I think they have --

8 COUNCILMAN SQUILLA: Fleet?

9 MR. PUCHALSKY: Yeah. They have a part
10 to play. I will see if there is anybody
11 else, and get you some names.

12 COUNCILMAN SQUILLA: All right. Thank
13 you very much.

14 Councilman Oh.

15 COUNCILMAN OH: Thank you very much.
16 Thank you for your testimony.

17 We have discussed, Councilman Squilla
18 and I, and looking for the input of the
19 Administration, the support of the
20 Administration on two matters. One is, the
21 complaints we have had before the moratorium
22 and during the time of the moratorium is
23 that PPA does not tow vehicles that are in
24 violation of the reserved space. And so, we

1 thought it would be a good idea to speak
2 with PPA about creating a number, a
3 constituent service number so that EV owners
4 could report vehicles that are in violation
5 for towing. So rather than kind of deciding
6 that to enforcement officers, just directly
7 contact the -- the -- the tow drivers.

8 The second thing is that I'll be
9 introducing a bill along with Councilman
10 Squilla to increase the penalties for
11 vehicles that are parked unlawfully or
12 improperly after 6:00 p.m. in the EV spaces
13 that, hopefully, will also encourage, you
14 know, the vehicles from not being in those
15 spaces when during the time from 6:00 p.m.
16 to 6:00 a.m.

17 And so, certainly, we look for the
18 Administration's support on those two
19 matters.

20 MR. PUCHALSKY: Okay. Thanks.

21 COUNCILMAN OH: Thank you.

22 COUNCILMAN SQUILLA: Councilman Domb.

23 COUNCILMAN DOMB: Thank you,

24 Mr. Chairman. And thank you for your

1 testimony.

2 A question for you Dr. Puchalsky. Have
3 we as a City looked at the opportunities in
4 electric vehicles in Police Department,
5 trash compactors or sanitation trucks, all
6 the vehicles that we use as a City in Fleet
7 Management and seen maybe we can do an
8 analysis as to cost of how we are operating
9 now versus with electric vehicles and what
10 the payback is? Because if we are going to
11 do something like this, it would be nice to
12 see the City taking the lead with its own
13 vehicles converting.

14 MR. PUCHALSKY: Okay. I don't know off
15 the top of my head if there's been -- I
16 think that's a reasonable part of what the
17 task force should look at.

18 COUNCILMAN DOMB: Okay.

19 MR. PUCHALSKY: Is the cost and the
20 payback period.

21 COUNCILMAN DOMB: Okay. Thank you.
22 Thank you, Mr. Chairman.

23 COUNCILMAN SQUILLA: Thank you. I know
24 SEPTA is also looking at this. And there is

1 a couple buses that are now coming online --

2 MR. PUCHALSKY: Yeah.

3 COUNCILMAN SQUILLA: -- in the summer
4 that will be electric buses. So, I think we
5 are going there. And as technology changes
6 and the batteries last longer, I think we
7 will be able to do more and more of this as
8 we move forward.

9 Is there any other questions for this
10 panel?

11 Seeing none, Chris, thank you so much
12 for your testimony.

13 MR. PUCHALSKY: Thank you very much.

14 COUNCILMAN SQUILLA: You're welcome.

15 Matt, would you like to read the next
16 panel.

17 THE CLERK: Tom Bonner, Robert Graff and
18 Karen Paci.

19 (Panel approaches Table.)

20 COUNCILMAN SQUILLA: Before you start,
21 just -- we would like -- for the record, we
22 have your written testimony. Just state
23 your name, and then your position. And if
24 you your testimony is real, real long, maybe

1 if you can summarize part of it to get to
2 the main points. And then, we will try to
3 wait till all of you are done with your
4 testimony before we ask questions and that's
5 all right.

6 So if we want the start with, Tom,
7 you're first and then Robert and then Karen.

8 Thank you.

9 MR. BONNER: Good afternoon. Thank you
10 Chairman Squilla, Chairman Oh and Members of
11 the Committee for inviting me to testify
12 today on behalf of PECO regarding the
13 challenges and opportunities in
14 transportation electrification for
15 Philadelphia.

16 My name is Tom Bonner, Energy Policy
17 Manager at PECO. And I work to coordinate
18 the company's legislative and regulatory
19 strategies with business approaches that
20 will enable us to meet the emerging needs of
21 our customers and communities. At PECO, we
22 believe transportation electrification
23 represents a unique opportunity for the
24 Philadelphia region to improve our economy

1 and our environment while delivering better
2 quality of life for all. But providing this
3 access will require an integrated plan that
4 works -- serves the needs of those who
5 purchase EVs, those who drive conventional
6 vehicles, and those who walk, pedal or ride
7 public transportation to bring these
8 benefits to all of our neighbors.

9 This can be a challenge because most EV
10 owners charge their vehicles at home. And
11 where owners have their own garage, that's
12 cost effective and convenient. However,
13 where they don't, we need to think more
14 creatively about how we provide charging
15 access. The increase and focus of
16 environmental sustainability and the
17 dramatic improvement in the price, quality
18 and variety of vehicles, electric vehicles
19 that are available today, do demonstrate to
20 us that this is something we need to be
21 working on. There is no path to dramatic
22 greenhouse gas reductions that don't involve
23 significant transportation
24 electrification.

1 The US DOES estimates that an all
2 electric vehicle produces 66 percent less
3 emissions than a conventional vehicle; and a
4 hybrid vehicle, that's about 50 percent for
5 hybrid plug in. And as ranges get better,
6 those -- the numbers for the hybrids
7 continue to improve more toward the all
8 electrics. Electric vehicles, including
9 buses, also remove ground level emissions
10 from -- and noise from our neighborhoods,
11 improving public health and quality of life.

12 The range and affordability of these
13 cars is rapidly improving. Consumer Reports
14 currently list 23 models of plug-in electric
15 or all electric vehicles available for sale
16 in the United States. And these are no
17 longer just small subcompacts. They now
18 include minivans and small SUVs, as well.

19 When the Chevy Volt was introduced in
20 2011, it had an all-electric range of 35
21 miles and a sticker price of \$40,000.
22 Today's Volts have a range of 53 miles, and
23 a sticker price of 43,000. And for a few
24 thousand dollars more later this year, the

1 Volt will come online with a 238-mile range
2 for just a couple thousand dollars more.
3 Addition to that, there are federal tax
4 incentives: \$7,500 for EV purchases and
5 Pennsylvania offers a \$1,750 rebate. And
6 some manufacturers, including Nissan, are
7 currently offering an additional \$10,000
8 incentive for customers in our service
9 territory for PECO.

10 So while the initial purchase price is
11 still generally higher, you do need to take
12 into consideration what we call total cost
13 of ownership which includes fuel savings and
14 maintenance, which are significantly cheaper
15 for electric vehicle than a conventionally
16 fueled vehicle. So, these are not just a
17 kind of upper market option anymore. They
18 are increasingly available to customers in
19 all price ranges. By 2020, they -- the firm
20 that did this work for us estimates that's
21 going to grow to 21 percent favorability.
22 This really can be an economically good
23 choice for the customer if they can get
24 access to the charging.

1 At PECO, we try to take a measured
2 approach. We don't believe in spending a
3 lot of public dollars or rate-payer dollars
4 ahead of the market. We also believe you
5 have to plan infrastructure a bit in advance
6 when it's going to be needed. We have
7 checked our system. We can accommodate any
8 reasonably foreseeable level of EV adoption
9 without creating any problems on our grid.
10 We have worked with the DVRPC to map and
11 model where we expect concentrations of EV
12 owners to come online in the next, you know,
13 10, 15 years. I guess our initial analysis
14 is really for 10. And we are looking at a
15 longer term analysis.

16 We are also looking at where will these
17 people live, work and play. And that's the
18 question. And the "live" really tracks with
19 your Level One long-term chargers, the work
20 and play is Level Two where folks are going
21 to stop for two to three hours. And then
22 what are the corridors where you will need
23 that emergency charging and the backbone
24 infrastructure that probably tracks with the

1 fast charging. And that's the analysis we
2 need to do.

3 Rob will talk a little bit about some of
4 the work that we have done collaboratively
5 with the DVPRC. I will also mention we have
6 done work on educating our customers about
7 this opportunity. We believe the time is
8 right to do more. We have hesitated. We
9 have watched the market. We have tried to
10 learn and not get too far ahead, but we see
11 a lot of developments that are important.

12 The Volkswagen settlement is bringing
13 \$118 million into Pennsylvania. They also
14 have designated this as one of their direct
15 investment areas where Philadelphia is one
16 of 11 metropolitan areas for an additional
17 40 million of direct investment. And
18 Governor Wolf has launched an EV
19 infrastructure task force that a number of
20 us who are testifying here today are part
21 of. We were also very pleased during the
22 DNC to collaborate with SEPTA on their EV
23 bus demonstration. And I believe, they are
24 bringing on 25 buses later this year. And

1 we continue to work with them trying to
2 identify the most cost effective way to do
3 their charging.

4 So in order to get this right, the City,
5 other local governments, transportation
6 analysts, utilities and industry experts
7 need to develop and integrate a regional
8 plan. We have worked with stakeholders,
9 developed legislative proposal that would
10 require the State to set a goal for
11 electrification expansion and then require
12 utilities to work with a broad range of
13 stakeholders to develop what we call the
14 regional frameworks; basically, how much
15 charging infrastructure will be needed by
16 2030 and where it should be located.

17 We would sponsor these frameworks and
18 then submit the required investment by the
19 utility where we believe because of our
20 long-term investment horizon, we can make
21 those type of long-term investments to our
22 public utility commission for recovery. We
23 are pleased that Representative Marguerite
24 Quinn of Montgomery County has announced her

1 intention to introduce legislation based on
2 this proposal. And we hope to work with
3 Council, the City and other stakeholders to
4 help promote it. We do think it's the best
5 way forward.

6 In terms of VW, we think the \$4 million
7 direct investment -- approximately
8 \$4 million direct investment could be best
9 used to look at some neighborhood pilot
10 solutions, you know, look in those areas
11 that are most impacted by the number of
12 applications for the curbside chargers, and
13 then also those owner and potential owners
14 by the moratorium. Lets pilot some things.
15 See what can work, look at things like
16 neighborhood charging pods or charging
17 access along public buildings, parks,
18 schools, et cetera where it may not have the
19 same kind of gut reaction as my neighbor has
20 one of those spaces in front of his house,
21 why can't I get my own space. If you put it
22 in a public neighborhood access point, that
23 may go over better.

24 Longer term, part of the EV investment,

1 we think the highest opportunities are
2 actually in some other areas such as the
3 court, airport and transit charging. But we
4 do think if you have a successful pilot
5 applications with the original -- with the
6 local VW dollars, you can look to use some
7 of the national dollars to begin taking
8 those to scale where they are needed.

9 So in summary, we thank you for the
10 opportunity here today. We really look
11 forward to a long term engagement with the
12 City and other stakeholders on how to make
13 EVs in the City work. And we think that
14 requires a partnership of a whole lot of
15 parties. And we appreciate your leadership
16 in bringing this issue forward.

17 COUNCILMAN SQUILLA: Thank you, Tom, for
18 your testimony.

19 I guess we want -- Robert, if you want
20 to -- Mr. Graff.

21 MR. GRAFF: Sure.

22 COUNCILMAN SQUILLA: I know you have a
23 long testimony here. If you can summarize
24 some of it, don't know if you want to read

1 the whole part.

2 MR. GRAFF: It's relatively less than
3 four pages. I will just read it because I
4 haven't prepared a shorter summary.

5 COUNCILMAN SQUILLA: Okay. All right.

6 MR. GRAFF: Good afternoon. I'm Rob
7 Graff. I manage the Office of Energy and
8 Climate Change Initiative at the Delaware
9 Valley Regional Planning Commission, DVRPC.
10 We are the metropolitan planning
11 organization for Greater Philadelphia,
12 including Philadelphia and its eight
13 surrounding counties. It's my honor to have
14 been invited by Councilman Oh to participate
15 in today's City Council Joint Committee
16 Hearing before the Committee on Streets and
17 Services and the Committee on Global
18 Opportunity and Creative/Innovative
19 Economies.

20 DVPRC is honored to have Councilman
21 Squilla designated to represent City of
22 Philadelphia on our Board. I am here to
23 present testimony on Resolution 161039,
24 which authorizes hearing regarding electric

1 vehicle parking spaces in Philadelphia.

2 My work at DVRPC has enabled me and my
3 colleagues to be engaged for the past seven
4 or eight years in discussions and research
5 surrounding electric vehicles and electric
6 vehicle charging stations. I have brought
7 copies today of our report Ready To Roll
8 Southeastern Pennsylvania's Regional
9 Electric Vehicle Action Plan also available
10 on our website. I also serve as a co-chair
11 of the Charging Infrastructure Committee of
12 the Pennsylvania Electric Vehicle Coalition
13 that Tom mentioned.

14 My understanding is that these hearings
15 are to take -- are taking place to help City
16 Council as it begins to formulate City
17 policies and might facilitate the charging
18 of electric vehicles in the City. In his
19 letter dated April 20 that accompany the
20 moratorium legislation allowing it to become
21 law, Mayor Kenney stated that during the
22 moratorium, the City needs to study the
23 issues surrounding electric vehicles and
24 electric vehicle charging and begin to

1 develop appropriate policies to address
2 these issues within the broader context and
3 needs of the City -- concerns of City
4 residents. DVRPC will be happy to offer
5 whatever assistance the City needs as it
6 carries out this research.

7 I will first provide a few basic facts
8 about electric vehicles, because I think
9 that's really important to have some
10 understanding of that first. Then I will
11 discuss what DVRPC has learned from recent
12 discussion with officials and other US
13 cities. I will conclude with a few
14 recommendations.

15 It is important to start with a few
16 basic facts about electric vehicles and
17 electric vehicle charging. Policymakers
18 need this information to understand how best
19 to develop policy to address the needs of
20 the vehicles, their owners and the residents
21 of the Cities. To keep this portion
22 relatively short, I have simplified the
23 issues. The end of my testimony has some
24 key documents that provides additional

1 detail.

2 The term "plug-in electric vehicle"
3 covers a very wide range of vehicles that
4 use an externally charged on-board battery
5 and electric motor for some or all of their
6 power. The batteries is charged by plugging
7 the vehicle into an external source of
8 electricity. Plug-in vehicles vary widely
9 in how much power the electric motor
10 provides. Some plug-in electric vehicles
11 have a gasoline engine as well to supplement
12 part of the electric motor when needed or to
13 provide all of the vehicles power when the
14 battery is depleted. These are called
15 plug-in hybrid electric vehicles.

16 Some plug-in electric vehicles have only
17 a battery, an electric motor and run only on
18 electricity. These are called battery
19 electric vehicles or all-electric vehicles.

20 The all-electric range of any plug-in
21 vehicle depends on the size of the battery.
22 The battery costs roughly a hundred dollars
23 per all-electric mile. That is, a battery
24 for a vehicle at the range of 2,000 miles

1 cost roughly \$2,000. Manufacturers balance
2 electric range with vehicle costs when
3 designing their vehicles.

4 The all-electric range of plug-in hybrid
5 vehicles goes from under 10 miles for early
6 models of the plug-in Prius to over 50 miles
7 for the current Chevy Volt. However, a
8 plug-in hybrid electric vehicle can continue
9 to travel using a traditional gasoline
10 engine when the battery is depleted. A
11 Chevy Volt, for instance, has a total range
12 of 420 miles with a full battery and a full
13 gas tank. The range of an all-electric --
14 plug-in all-electric vehicles goes from a
15 low of 80 miles to a so-called limited range
16 up to 335 miles for the luxury Tesla Model
17 S. The Nissan LEAF has a range of just over
18 100 miles.

19 Electric vehicles have several
20 attributes that make them highly desirable
21 for personal transportation. For the
22 consumer, electric vehicles can be a joy to
23 drive. They have high acceleration rates,
24 drive smoothly, are very quiet and can be

1 fueled at home for much less than the
2 cost-per-mile of gasoline. From a public
3 goods standpoint, electric vehicles do not
4 produce tailpipe emissions while they are
5 using only electricity. They are, however,
6 responsible for certain levels of omissions
7 associated with electricity generation. It
8 should be noted that electric vehicles, just
9 like any car, cause congestion, take up
10 parking spaces and can hit people walking,
11 riding bicycles or driving. In addition,
12 they do not pay the State and Federal
13 gasoline taxes that help pay for the roads
14 they use and for other transportation needs
15 of the City.

16 Of course, a plug-in electric vehicle,
17 or PEV, needs a place to plug in. The speed
18 of charging depends on the type of charger
19 used. Charging at home and in most other
20 locations such as shopping centers or
21 parking garages is typically done with
22 either 120v electricity like a lamp or
23 television uses or a 240v electricity like
24 an electric clothes dryer uses.

1 A PEV can add about 5 miles of range per
2 hour to a battery when plugged into 120v
3 charger, and up to about 15 miles of range
4 per hour if connected to a 240v charger.

5 National Research Council study from 2015
6 reported that between 97 and 98 percent of
7 all charging by PEV owners takes place at
8 home or work if these options are available.

9 Faster charging times are possible, but
10 these require voltage and power levels that
11 are not readily available in residential
12 areas, require very expensive charging
13 equipment, and are not practical to serve as
14 the primary way to charge PEVs, although
15 they may be appropriate for occasional
16 special uses such as emergency charging or
17 charging for long distance inner-state
18 trips.

19 Note for comparison, that a standard
20 gasoline pump delivers up to 8 miles or up
21 to 10 gallons per minute equivalent to a
22 rate of about 15,000 miles of range per
23 hour.

24 DVRPC's most recent household travel

1 survey found that on a typical day,
2 80 percent of all cars in our region travel
3 fewer than 50 miles, thus driving an
4 electric vehicle with home and/or workplace
5 charging is feasible for many drivers in our
6 region for people who have dependable place
7 to park at home or work where they have
8 access to electricity. Electric vehicles
9 are easy and inexpensive to fuel.

10 The situation for charging electric
11 vehicles is, as you know, quite different
12 for those who do not have a dedicated
13 parking space. In February 2012, as part of
14 our research for the Regional Electric
15 Vehicle Action Plan, DVRPC held what we call
16 a garage-free electric vehicle summit where
17 we brought together attendees from
18 Baltimore, Boston, Cambridge, New York,
19 Greater Philadelphia, Washington DC, as well
20 as representatives of EV charging
21 manufacturers, utility industry, Car Share
22 industry and EV manufacturers, including
23 General Motors, Nissan and Tesla.

24 I would suggest that that writeup of

1 that summit include as an appendix to
2 DVRPC's Electric Action Plan would be a
3 useful start to the City's research in the
4 area. More recently, DVRPC gathered
5 information from nine U.S. cities about how
6 they handle electric vehicle charging for
7 the residents. We spoke with
8 representatives from San Francisco;
9 Portland, Oregon; and Berkeley, California
10 and gathered documents from Los Angeles, San
11 Jose, Chicago, Pittsburgh and New York City.
12 With one exception, none of these cities
13 provide or permit private installation of
14 on-street electric vehicle charging in
15 residential neighborhood. That one
16 exception is Berkeley, California.

17 At the beginning of 2015, Berkeley
18 started a three-year Residential Curbside
19 Electric Vehicle Charging Pilot Program.
20 This program permitted residents of all
21 types of housing, including single family,
22 duplex, multi-family to install charged at
23 the curbside only in situations where the
24 City deemed off-street parking was not

1 available or feasible to build. The program
2 was available for the first 25 installations
3 and covered the permitting costs for
4 installing the charger. Prior to starting
5 the program, Berkeley officials contacted
6 officials in Philadelphia to learn about
7 challenges that Philadelphia has had with
8 its curbside electric vehicle charging
9 program. To avoid problems Philadelphia
10 faced, Berkeley chose not to provide any
11 signage or parking limitations with the
12 spaces where curbside charges are installed.
13 And parking is not limited to electric
14 vehicle. Because of this, those choosing to
15 install curbside charging only do so in
16 situations where they are quite confident
17 they will be able to park in front of their
18 house on a regular basis. Such a system
19 might work in those neighborhoods of
20 Philadelphia where on-street parking is
21 readily available.

22 The population of Berkeley is about
23 120,000. And they had over 100 registered
24 public electric vehicles in 2005 -- in 2015,

1 rather. In 2015, the City of Philadelphia
2 with population of over one and a half
3 million had 188 plug-in electric vehicles,
4 only 71 of which were all electric.
5 Berkeley is over two years into this
6 program, and it's only had five residents
7 install charges. In addition, City
8 officials permitted two additional
9 installations on private property by
10 creating off-street parking through zoning
11 flexibility. The current thinking in
12 Berkeley is to not renew this pilot program.

13 Portland, Oregon has no plan or desire
14 to provide private electric vehicle curbside
15 spots in front of private residences.
16 Portland had established a transportation
17 hierarchy that has informed all of their
18 decisions on transportation. The highest
19 priority is walking followed by cycling,
20 transit, other shared vehicles. And only
21 then by zero-emission vehicles such as
22 electric vehicles. Other private vehicles
23 have the lowest priority. Portland does not
24 want to implement any policies that

1 encourage private automobile use in the
2 City.

3 San Francisco has a general policy to
4 discourage private vehicles. They noted
5 that electric vehicles have the same
6 problems as other vehicles except for lower
7 tailpipe emissions. However, EVs are not
8 the most cost-effective way to reduce urban
9 air pollution. San Francisco has no
10 mechanism for or interest in providing for
11 on-street charging for residents electric
12 vehicles. However, these and other cities
13 do have programs to help make chargers
14 available for those who need them.

15 Portland's policy is that public
16 charging stations to be cited in those areas
17 of the city which are currently not well
18 served by other charging facilities, have
19 low access to transit and cycling
20 facilities, are multi-family buildings, are
21 home to low income and other disadvantaged
22 populations and work places. However, the
23 City itself has no plans to install charging
24 facilities leaving that to the marketplace.

1 In general, Portland does not want any
2 charging in the public right of way.

3 Los Angeles Department of Water and
4 Power started a pilot program in December
5 2016 to install up to five charging stations
6 on utility poles with use limited to four
7 hours. The Los Angeles Department of Public
8 Works has installed dozens of curbside
9 electric vehicle charges using the electric
10 wiring on street lights. These are operated
11 by charge point and users pay a fee of about
12 \$2 per hour to use them. Other cities have
13 similar programs or private companies offer
14 charging for a fee.

15 For some EV owners without their own
16 charging stations, these may serve their
17 needs. However, they are generally best
18 suited for an occasional user. An EV owner
19 needs to have a regular dependable place to
20 plug in either at work or home.

21 So, what solutions are there other than
22 privatizing the public street for on-street
23 dedicated EV charging?

24 First, private off-street parking is

1 available at a cost in most of the areas of
2 Philadelphia where on-street parking is
3 tight. EV owners could rent or purchase a
4 parking space. With sufficient demand, the
5 market can provide such spaces with EV
6 chargers. The City can help facilitate the
7 permitting and installation process.

8 For example, the City can make changes
9 in laws and regulations to facilitate
10 overnight use in private parking lots for
11 electric vehicle charging. For instance, a
12 store that's closed overnight could be
13 permitted to install an electric vehicle
14 charger and restrict parking to paid
15 customers who'd be charged by that business
16 or department.

17 The City could advocate for changes in
18 the Building Code to require new buildings
19 to provide electric vehicles charger-ready
20 parking. This means a certain portion of
21 vehicle spaces, new parking spaces, would be
22 required to have conduit installed to
23 facilitate easy installation of electric
24 vehicle chargers. Make changes in laws and

1 regulations to make it easy for building
2 tenants to have dedicated parking in a
3 shared lot that would be accessible to
4 electric vehicle for charging, explore
5 opportunities for overnight parking and
6 charging at City or School District-owned
7 lots with appropriate fees, time
8 restrictions and penalties.

9 As you may know, the VW zero-emissions
10 vehicle settlement will bring about
11 \$4 million for electric vehicle charging
12 infrastructure to the region. I forwarded
13 the Mayor's letter to the head of this
14 program at VW with the suggestion that they
15 use some portion from that money to pilot
16 something for residents of Philadelphia.

17 DVRPC is ready assist the City as it
18 works to address this challenge, reach
19 questions that merit addressing include what
20 is the current availability of on and
21 off-street parking in the different areas of
22 Philadelphia at different times of day?
23 What are the legal and regulatory barriers
24 for establishing dedicated off-street

1 parking spaces with EV chargers in different
2 types of parking facilities such as
3 individual spaces, commercial lots and
4 government lots with different types of time
5 restrictions? And what costs are EV owners
6 willing to pay to charge their vehicles?

7 I would be happy to taken any questions
8 you might have. And thank you for your
9 time.

10 COUNCILMAN SQUILLA: Thank you so much
11 for your testimony. We are going to hold
12 the questions until everybody is done.

13 I guess Ms -- Karen, if you would like
14 to state your name for the record and give
15 your title and proceed with your testimony,
16 then we will ask questions to the whole
17 panel.

18 MS. PACI: Absolutely.

19 COUNCILMAN SQUILLA: Before you start, I
20 would like to recognize Councilman Green
21 present at the hearing, also.

22 Thank you.

23 MS. PACI: My name is Karen Paci. I'm
24 here on behalf of Enterprise Holdings. I

1 oversee our Enterprise CarShare Division
2 here in Philadelphia.

3 Back in August, in 2011, U.S. Department
4 of Energy announced that it would be
5 providing funding through the American
6 Recovery and Reinvestment Act to accelerate
7 the development and production of electric
8 vehicles in order to reduce petroleum
9 consumption. To encourage the adoption of
10 EVs, the DOE had undertaken the deployment
11 of a large EV charging infrastructure in
12 several cities, and one of them being
13 Philadelphia. This program was known as the
14 EV Project.

15 I work directly with the Mayor's Office
16 of Sustainability throughout the project.
17 There are 22 charging stations that were
18 placed in Philadelphia throughout the
19 project. Philly CarShare, which was a
20 nonprofit operating in Philadelphia at that
21 time, arranged the partnerships with the
22 properties that -- where charging stations
23 were installed. The partners were Temple
24 University, University of Pennsylvania,

1 Parkway Corporation and the Philadelphia
2 Horticultural Society. The charging station
3 partner was Blink.

4 Enterprise CarShare acquired Philly Car
5 Share in August of 2011. And we agreed to
6 continue with this initiative. We purchased
7 the 22 electric vehicles, which were Chevy
8 Volts to place at the EV stations and
9 promote the usage of the vehicles through
10 our member base as well as through several
11 other marketing initiatives to promote the
12 vehicles and encourage usage from our
13 members. Electric Transportation
14 Engineering Corporation doing business as
15 ECotality North America was selected by the
16 DOE as the project manager for the EV
17 Project. ECotality collected our data along
18 with the other city's data to evaluate
19 vehicle use and charging patterns in a
20 variety of topographies and climate
21 conditions as well as the effectiveness of
22 the charging infrastructure deployed under
23 the EV Project. The collection and analysis
24 of this data was gathered to support the

1 expansion of the EV infrastructure into our
2 regions.

3 We encountered challenges as a company
4 due to the fact that the vehicles, electric
5 vehicles Chevy Volt, cost twice as much as
6 my normal vehicle cost. Members were
7 excited about this initiative, but proved
8 that they would not travel to the EVs or pay
9 a higher hourly cost for the vehicles. We
10 rolled out the EV Program with an
11 introductory low hourly rate at that time of
12 \$4.50 per hour. And we did end up keeping
13 that low rate for most of the two-year
14 program. And we still did not experience
15 increase usage or enough usage to support
16 the vehicles.

17 We experienced challenges with members
18 not charging the vehicle for their next
19 member. As in CarShare, that member that
20 returned the vehicle is responsible to plug
21 it in so when the next member got there, it
22 would be fully charged for their trip.
23 Thus, the next member that arrived at the
24 vehicle had a very unpleasant experience.

1 We also experienced the charging cords being
2 stolen. And they came at a very high cost,
3 so we had to pull those. And they were not
4 available to those utilizing the vehicles.
5 At the time, we had to store them in our
6 office. Overall, these vehicles were too
7 costly and placed the responsibility on our
8 members to charge the vehicles, resulted in
9 many negative experiences with our follow
10 members.

11 After the two-year agreement, we did
12 remove the electric vehicles from our fleet.
13 But as I look back on it, the very positive
14 part of it is that the 22 charging stations
15 were granted to the partners with us where
16 they were -- we parked the vehicles and
17 placed them. So, we left with the 22
18 charging station infrastructure in
19 Philadelphia at the end of the project.

20 COUNCILMAN SQUILLA: Thank you. Thank
21 you for your testimony.

22 So, those charging stations are still
23 there currently?

24 MS. PACI: Yes. I do believe some of

1 the ones in Parkway have been removed. But
2 I know at the universities, they are still
3 there. And that's some of the Parkway
4 locations.

5 COUNCILMAN SQUILLA: Hopefully, we can
6 keep them there for now until we figure out
7 how to reuse them and make them accessible
8 to others. I have just a quick questions,
9 and I will go to my colleagues.

10 First of all, Mr. Bonner, I am sure PECO
11 would be interested in being part of this
12 task force as we move along and DVRPC to
13 help Philadelphia come up with this. Is
14 there -- would you be the person that would
15 be --

16 MR. BONNER: I think I would be your
17 initial point of contact. We have a small
18 team that's been working on EV issues for a
19 number of years. But we would be very
20 excited about participating and helping the
21 City craft a path forward.

22 COUNCILMAN SQUILLA: And I know you
23 mentioned that there's legislation being
24 introduced or, hopefully, has it been

1 introduced yet?

2 MR. BONNER: It has not been introduced.

3 Representative Quinn has issued what is

4 called the cosponsorship memorandum

5 announcing her intent to introduce. It's

6 still -- because it's fairly novel piece of

7 law that's being written, a lot of --

8 there's been a lot of back and forth with

9 the legislatures attorneys on some of the

10 details. We expect that to be completed any

11 day now, but I've been saying that for a

12 couple months.

13 COUNCILMAN SQUILLA: We know how

14 complicated that is.

15 MR. BONNER: Take it for what it's

16 worth, yes.

17 COUNCILMAN SQUILLA: Especially in

18 Harrisburg at this time. I am now sure it's

19 not always easy to get thing. Once they are

20 introduced, they change again. I'm sure

21 there will be a lot of back and forth. But

22 knowing the -- I think a lot of the folks

23 bipartisan would be looking at this as a

24 benefit for the Commonwealth.

1 MR. BONNER: Absolutely. We have
2 received really favorable reaction to the
3 concepts when we were shopping them on both
4 sides of the aisle, house and senate. What
5 we tried to do is build a prudent approach
6 where there will be multiple kind of check
7 steps and a lot of independent analysis
8 before the investments would be made. And
9 really, avoid some of the problems we have
10 seen in other states where the initial
11 proposals were probably too aggressive.

12 COUNCILMAN SQUILLA: I know you
13 mentioned the dollar figure Philadelphia
14 would have available from the Volkswagen
15 lawsuit. Is there going to be, I guess, a
16 decided -- is there a certain person who
17 decides how the rest of that money is being
18 spent? And if that, we will reach that
19 percentage of money to be spent for EV
20 charging and use?

21 MR. BONNER: Yeah. There is a
22 \$118 million allocated to Pennsylvania.
23 That -- every piece of information we have,
24 the Pennsylvania DEP will be the entity that

1 controls that. It's not been officially
2 announced. After that, they have to submit
3 a plan to the federal trustee. And the
4 federal trustee will, you know, hopefully
5 approve the Pennsylvania plan. Then
6 solicitations will go out for the dollars.
7 We don't know if those are going to be
8 allocated regionally. We don't know if they
9 will be allocated programmatically. All of
10 that is being held real tightly within the
11 Administration. I think there is a lot of
12 speculation about how that could go.

13 What we do believe is to the extent that
14 the region can come together and go to
15 Harrisburg and say this is an area of
16 potential, that would be how we would
17 hopefully get the most dollars for the City
18 and our region. There is an opportunity to
19 use up to 15 percent of those dollars for
20 passenger vehicle charging. And that's
21 where, you know, we are not sure that that
22 would be -- that would be our first use of
23 those dollars. We see things like the port
24 and transit and supporting their

1 electrification as the highest priority.
2 But there is the opportunity to take
3 successful pilots to scale. And I think it
4 makes sense to reserve some of that money
5 and potentially up to the 15 percent to
6 support that both here and potentially in
7 Pittsburgh and some of the other cities
8 around the State.

9 COUNCILMAN SQUILLA: I see it as we have
10 something in the works and a plan in place,
11 and they make it easier to apply with our
12 surrounding region because this is not just
13 a Philadelphia issue, obviously, it's going
14 to be an issue for Philadelphia and the
15 surrounding counties.

16 MR. BONNER: That's exactly correct.

17 COUNCILMAN SQUILLA: And we have a
18 better chance of working with DVRPC working
19 regionally, understanding that it's better
20 to have that regional ask.

21 MR. BONNER: Yeah. One of the -- one of
22 the things that underlies the legislative
23 idea is a state goal but regionally based
24 solutions.

1 COUNCILMAN SQUILLA: Right. Now DVRPC,
2 as we see this moving forward and sounds
3 like somebody from your team would also be
4 willing to work with us on this -- and since
5 you already have a ready to roll type place
6 and documentation in place, I mean, it could
7 be used as a baseline. But knowing what we
8 have available to us or potentially
9 available dollars to us, and then as we hear
10 from some of our stakeholders maybe some
11 private dollars whether it's third-party
12 chargings or manufacturers. I know right
13 now we will get Tesla up here.

14 There is different ways to charge
15 different vehicles. So as technology
16 changes, I don't know if we will have
17 adapters that use different uses or charging
18 stations or, you know, is everybody going to
19 have to be plugged into the future. Can you
20 be 5 feet from the station to get charged
21 and all these other things that will come
22 into play.

23 But do you see DVRPC as willing
24 participant in the task force to help guide

1 this plan?

2 MR. GRAFF: Absolutely. We would be
3 honored to participate in that and happy to
4 share our expertise. And you know, as
5 member of government, Philadelphia would
6 simply have to ask us to direct some of our
7 effort that way.

8 If I may say two other things, we have
9 just -- we are working with the University
10 of California and Davis which has developed
11 some very useful analysis tools that we're
12 have been using when we worked with PECO.
13 And we believe we are going to be getting
14 some funding for the National Center for
15 Sustainable Transportation to expand that
16 research in Southeastern Pennsylvania with
17 new data from -- we have already requested
18 new vehicle registration data for
19 Southeastern Pennsylvania. So, we will be
20 able to get all -- we have already got all
21 the cars in Southeastern Pennsylvania from
22 2015. We can get that again for 2017 and
23 get a sense of where the growth and electric
24 vehicles is coming.

1 COUNCILMAN SQUILLA: And I think it's
2 important, too. As we move forward, again,
3 we have mentioned earlier, you know, there
4 is going to be a short term goal of what we
5 can do and a long term goal. Obviously, we
6 don't want to wait until we have everything
7 perfect before we start doing anything.
8 Because as technology changes, this all
9 constantly change. We just can't wait for
10 that.

11 But knowing what's coming on and looking
12 at the products coming online and how
13 affordable these new products will be, we
14 see this. Even in the car show this year
15 coming and see the number of electric
16 vehicles that we saw in the Car Show, you
17 know that electric vehicles are going to be
18 pretty well used in the City. And we need
19 to make sure we have the availability to
20 charge for them. So, whatever we need to do
21 to make this work, your input would be
22 greatly appreciated.

23 MR. BONNER: Councilman, if I could add
24 one thing. In the legislative proposal, one

1 of the components of that is if we are to
2 spend utility dollars on the infrastructure,
3 those charging stations would have to be
4 interoperable and would have to be public
5 access with the exception of if they were at
6 a work place or if they were in a
7 multi-dwelling unit apartment. But if it's
8 something that's intended for the public, it
9 has been to available to all and has to be
10 on an interoperable platform.

11 COUNCILMAN SQUILLA: Because a lot of
12 the ideas we saw, and we had some ideas,
13 too, of the parking lots that are empty at
14 night, and all these other things that we
15 can put there. Looking at our Building
16 Codes to add charging stations in areas that
17 don't have them. You know, when people go
18 to work, if they can charge them. When they
19 go home, they might not have a charge in
20 front of their house but they can charge in
21 the lot somewhere. You know, these are
22 things that we need as a City to do to look
23 at to make sure we are providing what is
24 necessary to make the use of EVs grow.

1 MR. GRAFF: If I could just add one
2 thought onto that. It would be -- you know,
3 one idea that came to our heads when we were
4 brainstorming about what you can do, for
5 instance, if you had lots and you would just
6 let people plug in, the way you can have
7 them pay for that is by having additional
8 permit that they may pay, I don't know what
9 the amount would be, but amount to cover the
10 cost of the infrastructure. And then
11 someone would have to go to the lot at night
12 and make sure everyone plugged in had that
13 permit. Because a lot of the challenge for
14 electric vehicles is actually -- electricity
15 is so inexpensive that the cost of
16 collecting fees, additional fees for it just
17 the process of that, can be almost as
18 expensive as the electricity itself.

19 Like, having cellular connections or
20 data connections for credit cards. So on a
21 day-to-day basis, that type of system won't
22 work. You need a system where people can
23 just plug in without having to make any
24 transaction. I think one of the things we

1 will have to think about in the study is how
2 to make that transaction cost as small as
3 possible.

4 COUNCILMAN SQUILLA: I agree. I think
5 it's hard, you know, when you are in a dense
6 urban area, it's a little more difficult
7 than if you are out in rural area.
8 Everybody can just add that charger to their
9 garage. So, we have to be a little more
10 creative on how we put these things
11 together. Hopefully, with all these
12 expertise that you guys have and people who
13 have seen how other areas do it, people are
14 trying different things. Some of them are
15 successful, some of them aren't.

16 If we can learn from the ones that
17 weren't successful and then learn from the
18 ones that are and incorporate them together,
19 hopefully Philadelphia can be an example of
20 what you can do when you really put your
21 heads together to make it work for
22 everybody.

23 Councilman Oh.

24 COUNCILMAN OH: Thank you very much,

1 Chairman. I just have a number of questions
2 to go through. Some of it's just
3 informational, you know, for my purposes.

4 But let me just start with this. In
5 terms of City-owned property, be it parking
6 lot at the airport, parking facilities, I
7 understand at least from our last
8 conversation that there may be some type of
9 challenge in terms of expending funds to put
10 in EV charging stations. Because without
11 some type of legislation, the City is not
12 able to recoup its costs.

13 MR. BONNER: I think little shade
14 different than that. The infrastructure can
15 be a very large part of the cost of putting
16 in the charger, especially when you're
17 breaking concrete.

18 COUNCILMAN OH: Yes.

19 MR. BONNER: What we have been looking
20 for at PECO is the authorization to where we
21 can move beyond the customer meter.
22 Typically, if it's on the other side of the
23 customer's meter, you would have to pay all
24 that investment. And the cost -- the

1 ability to recover that investment would
2 take a long time. For a lot of businesses,
3 it would very unlikely be in their financial
4 interest to host one of those charging
5 stations. To the extent that we can put the
6 infrastructure below ground in our utility
7 rate base and then recover that over the
8 very long period of time that utility
9 investments are recovered under, we can
10 allow the host to just pay for the charger.

11 Alternatively in some locations where
12 there would be no host who is willing to be
13 the owner, there would be the possibility of
14 utility own charging stations. We have not
15 made that decision whether that's a business
16 that we want to be in or not. The Public
17 Utility Commission hasn't made a decision
18 whether that's a business they want us in or
19 not. Our view now is to leave all options
20 on the table while we do more analysis and
21 get some more concrete plans in place. And
22 then we will know how to make this work.
23 But right now, we don't know the answer.

24 COUNCILMAN OH: So one of the challenges

1 we are faced with is that the City has very
2 much pushed to get this plan done within the
3 year, and that seems to be a very large
4 portion of the plan. In other words, we
5 would have to know how we would be able as a
6 city to put electric vehicle charging --
7 charging stations in the airport parking
8 facilities at the -- you know, even as you
9 talked about, you know, if there was some
10 parking lots that allowed for charging in
11 the evening, private employers who put
12 charging stations.

13 Like how is all this going to get
14 delivered?

15 Do you have some idea of, at least on
16 the part of PECO? I know you just said all
17 options are open. But is there any time
18 frame in which you would know about this
19 legislation?

20 MR. BONNER: The legislation, we are
21 making every effort working with the
22 sponsors to hope that gets enacted this
23 year. If we have it enacted this year, we
24 have a clear path forward. If not, what it

1 probably requires us to do is go up to our
2 Public Utility Commission and kind of see
3 where the boundaries would be. Having the
4 City making a compelling statement that at
5 least on a pilot basis, some of this
6 investment should be undertaken would
7 certainly be beneficial. We can't give any
8 guarantees.

9 We do think in the interim, the
10 Volkswagen dollars allow some pilots to be
11 put in place. And it's really an almost
12 perfect use of that funding that's coming to
13 the City. And then the overall Volkswagen
14 settlement should also give you a jump
15 start. That is not controlled by
16 Volkswagen. That's controlled by the state.

17 And we are ready, willing and able to
18 work with all parties to get -- help pull
19 the region together to communicate that to
20 Harrisburg, that this is one of the good
21 uses of those dollars.

22 I don't know if you have anything to
23 add, Rob.

24 MR. GRAFF: Yeah. I think a couple

1 things are important. Whatever plan the
2 City comes up with in the next year, a very,
3 very important part of it is to have a
4 deployment at a rate that allows you to
5 respond to how that equipment is actually
6 being used. Because as the EV Project found
7 out, they ended up installing a lot of
8 equipment that ended up not being used very
9 much. And you know, some of the work that
10 we are trying to do with UC Davis is to try
11 to learn how to figure out what locations
12 will see the greatest use. And it's very
13 important to keep the feedback in that
14 process and happen as a continuous learning
15 process and not say this is how we are going
16 to deploy it for the next ten years. Keep
17 it very flexible and open and responsive.

18 And also, make sure it's a plan that
19 will be good or be viable in the long term
20 when you have 10 percent of the vehicles or
21 20 percent of the vehicles electric.
22 Because that's a lot of vehicles. And a
23 process that works for the 51 vehicles or
24 whatever it was that had the curbside spots,

1 we found out that point -- really point in
2 that, that wasn't viable anymore. And
3 having reserved spots for everyone in the
4 City will probably not be political viable,
5 I would imagine. But politics is your game.

6 COUNCILMAN OH: Right.

7 MR. BONNER: I would add to what Rob
8 said. Even if one year from now PECO
9 doesn't have the clear statutory authority
10 to do the investment, we will certainly be
11 able to do the investment up to the meter.
12 We certainly can help in selecting the most
13 cost effective locations to connect your
14 pilot or neighborhood charging stations.

15 And if we have the right signals, you
16 know, we can make decisions. The process
17 that's laid out in the legislation takes
18 about 18 months to fully unfold. But you
19 can start planning the day, you know, the
20 legislation passed. And in fact, we are
21 already planning and looking at options now.
22 So, these things can move in parallel. And
23 one doesn't have to be entirely complete,
24 you know, restricting the ability to move

1 forward on the other.

2 COUNCILMAN OH: Yeah. I think one of
3 the challenges that we have in creating this
4 plan is we are going to have to try to guess
5 the speed of the technology curve, so we are
6 not building infrastructure that is outdated
7 both in terms of the -- the physical
8 resources and the culture of how charging is
9 being done.

10 I think, you know, kind of as this
11 moratorium took place, there were 58
12 charging units in front of a house. And
13 typically, the testimony we received were
14 from hybrid owners who would drive 7 or 8
15 miles and come back and recharge; drive and
16 recharge; drive and recharge. I have got to
17 think that is an outdated type of technology
18 as we look at how we're going to build the
19 City infrastructure. I doubt we would be
20 building an infrastructure for vehicles that
21 constantly need to be recharged every 8 or 9
22 miles or 14 or 20 miles.

23 What is the -- what is your plan -- do
24 you have a basis of trying to or do you have

1 some type of foresight into the technology
2 curve? I know we have private industry here
3 problem chomping at the bit to tell us. But
4 do you on behalf of government or on behalf
5 of CarShare, do you have some idea of the
6 speed of that technology curve?

7 MR. GRAFF: Whatever the technology is,
8 the biggest challenge -- and Tom may feel
9 free to correct me on this. But the biggest
10 challenge and expense is getting the
11 electricity to the place where you are going
12 to install that actual charging technology.
13 The actual charging technology itself if it
14 changes, you can swap out that \$1,500
15 charging device and replace it whatever the
16 most current one is, whatever that is, if
17 that's some sort of a giant capacitor that
18 is charging over time to put electricity
19 quickly into a vehicle or whatever -- having
20 the conduit and the wiring in place is
21 really the greatest expense.

22 And I think the biggest challenge for
23 expanding electric vehicles right now is the
24 cost of the vehicles and the low cost of

1 gasoline. It's very -- there is only a very
2 narrow range of driving that makes economic
3 sense for someone as an individual to choose
4 to have electric -- to choose to have
5 electric vehicle, which is why they are
6 requiring subsidies and providing. As a --
7 in order for them to become mainstream, we
8 either need to charge more for gasoline or
9 figure out a way to keep the vehicle prices
10 low, which is a challenge when you get to
11 more than tenth of a percent of the vehicles
12 on the road. It becomes a very different
13 challenge than introducing a new product.

14 COUNCILMAN OH: I do have a question for
15 CarShare. Are there successful EV Car Share
16 programs operating in the U.S. around the
17 world? Well, I will take around the world I
18 know that there are.

19 But in the U.S., do we have any
20 successful EV Car Share programs?

21 MS. PACI: Enterprise does not.

22 COUNCILMAN OH: Enterprise does not. So
23 we have --

24 MS. PACI: I apologize for interrupting,

1 but we have had success with them in our
2 rental fleet. And if a lot of our business
3 with Enterprise is a local insurance
4 replacement, so if somebody has a higher
5 policy that allows for a higher amount,
6 they're willing to get behind that and try
7 it out. So, it's an opportunity that I know
8 Enterprise is open to help people get behind
9 an EV to support that initiative for people
10 maybe to make their next purchase, an
11 electric vehicle.

12 COUNCILMAN OH: So, electric vehicle
13 rental is successful, but the CarShare,
14 based on your testimony, that at the time
15 you did it, the vehicles cost more. And
16 then, unfortunately, drivers didn't seem to
17 want to recharge for the next person.

18 MS. PACI: Right. With the rental, we
19 are seeing that vehicle every time it goes
20 out and every time it comes back. They are
21 meeting with somebody face to face. With
22 CarShare, we don't see our vehicles or
23 members after every trip.

24 COUNCILMAN OH: Okay. And then just in

1 terms of just information, you did talk
2 about or the testimony included the benefits
3 of the EV vehicles versus fuel-powered
4 vehicles. But just in terms of question,
5 what is the longevity of an EV versus a
6 traditional fuel-based vehicle?

7 MR. BONNER: I can speak on what we
8 know. We haven't really gotten to a large
9 number of vehicles that are reaching the end
10 of the life of their battery. The battery
11 is the kind of definer of the useful life of
12 the vehicle. Someone told me one time, a
13 conventional engine has several hundred
14 moving parts. A all-electric vehicle has
15 about eight moving parts and its engine.
16 That is why it is cheaper to maintain and,
17 in many ways, more reliable. Which as you
18 think of the economics, it's still easy to
19 think of them as, you know, kind of high end
20 vehicles. But as the prices keep coming
21 down, they do have a great opportunity for
22 people on the lower end of the economic
23 spectrum because you are not getting hit
24 with rebuilding a transmission and, you

1 know, that \$2,000 expense.

2 In the next couple years, we will get a
3 better idea of how long those batteries in
4 the cars are actually lasting. So, that's
5 remained to be seen. But we are seeing the
6 batteries getting better and better and the
7 vehicles are getting better and better.
8 It's one of the reasons when Rob was talking
9 about you need to plan in kind of time
10 periods, we didn't do a whole lot on
11 promotion in the last four years. It was
12 only when we saw more vehicles meeting more
13 market niches and getting affordable to more
14 customers, that we felt really merited our
15 time to get more active in this to meet
16 emerging customer needs.

17 In the legislation, what they do is they
18 require refreshes of these regional plans
19 every four years. There is no specific art
20 to that. I don't know if four years is
21 right or five years is right, but I think
22 it's something you have to look at
23 periodically because of the technology
24 development both on the vehicle side and the

1 charging station side.

2 MR. GRAFF: If I may just add a couple
3 thoughts to that. One thing that vehicle
4 manufacturers work very hard at is the
5 controls to make their batteries last as
6 long as possible. And as a result, I think
7 they're lasting longer and longer, much
8 longer than they initially thought.

9 They retain most of their charge to the
10 point where they are now for the first time
11 in the last few years been used cars on the
12 electric vehicle market. And some very
13 inexpensive cars have come off of lease. It
14 will be interesting to see how that
15 phenomenon unfolds. Because as that
16 happens, as they no longer becomes the
17 vehicles for the very wealthy which they
18 have been up to now or very committed up to
19 now. But can become, as they come off
20 lease, a lot of these vehicles are very
21 inexpensive.

22 Replacing the batteries is currently,
23 you know, exceptionally expensive. May not
24 be worth it. But as Tom noted, it's

1 expected by everyone. And I think the
2 experience is starting to show that the
3 maintenance costs are very low, which is
4 perversely one of the challenges for getting
5 car dealers to sell them because car dealers
6 make a lot of money off return visits for
7 maintenance.

8 COUNCILMAN OH: All right. Thank you
9 very much. Thank you, Chairman.

10 COUNCILMAN SQUILLA: Councilman Domb.

11 COUNCILMAN DOMB: Thank you,
12 Mr. Chairman. I just have a couple general
13 questions, you may or may not be able to
14 answer it. Would you say the number of cars
15 in Philadelphia in the last five years has
16 increased, decreased, stayed the same?

17 MR. BONNER: That's Rob.

18 MR. GRAFF: Yes. Sorry. I can find
19 that answer for you. I can find that
20 answer. We have that data. I don't have it
21 offhand.

22 COUNCILMAN DOMB: Then I have a question
23 for the rental car business. Enterprise is
24 the business you are running?

1 MS. PACI: Yes. The CarShare Division.

2 COUNCILMAN DOMB: Oh, okay. You may not
3 this. But has the rental car business
4 increased, decreased, stayed the same the
5 last five years in the City overall?

6 MS. PACI: Well, I can say our market
7 share has increased. I don't know overall.

8 COUNCILMAN DOMB: Don't know the total.
9 I can tell you why I'm asking these
10 questions. I can see what's going on
11 with -- it's funny yesterday with the Uber
12 and Lyft, although I pulled at the stoplight
13 at 17th and Walnut, a woman knocks on my
14 window and says "Uber driver?" I said "no."

15 I mean, there is so many going on that I
16 wonder what that is doing to the demand of
17 rental vehicles, owning cars, et cetera. I
18 just wanting to get a fuller picture of how
19 that's impacting the section.

20 MS. PACI: I can certainly speak to
21 that. Uber/Lyft has definitely taken a
22 piece of the CarShare business for sure, not
23 so much rental. Rental is a different
24 animal when you need a vehicle to get around

1 for a full day. Where CarShare, if you just
2 need a vehicle for an hour or two, you very
3 easily could get into an Uber.

4 COUNCILMAN DOMB: Right.

5 MS. PACI: What I can say is Enterprise
6 is partnered with Uber, actually. And have,
7 you know, hundreds of vehicles in other
8 markets where we actually will rent vehicles
9 to Uber drivers through an Uber Program.
10 So, it's kind of unique.

11 COUNCILMAN DOMB: That's a creative
12 idea.

13 MS. PACI: It's like an oxymoron. But
14 they need to get the vehicles, they need to
15 get the drivers looking for work. But they
16 don't have the type of vehicles that Uber or
17 Lyft would require them to drive. So, we
18 have been partnering with them that way.

19 COUNCILMAN DOMB: Okay. Thank you.
20 Thank for your testimony.

21 Thank you, Mr. Chairman.

22 COUNCILMAN SQUILLA: Thank you very
23 much. Are there any other questions for
24 this pane? And knowing that again this is

1 just the beginning, so we have a few more
2 panelists to come up, and then some written
3 testimony that was added.

4 But thank you so much for your
5 testimony. Looking forward to working with
6 you as this moves forward. And hopefully,
7 have a plan in place for this time next
8 year. Thank you very much.

9 Matt, would you like to read the next
10 panel, please.

11 THE CLERK: Kevin George Miller and Beau
12 Whiteman.

13 (Panel approaches Table.)

14 COUNCILMAN SQUILLA: Kevin, if you'd
15 like to start.

16 MR. MILLER: Sure. Happy to.

17 Thank you for the opportunity to
18 testify. Pardon my computer up here. I cut
19 out two-thirds of my remarks in the interest
20 of time to keep things moving, so I did some
21 editing on the fly to keep this short and
22 sweet. But happy to answer any further
23 questions. And the remainder of my remarks
24 are submitted.

1 COUNCILMAN SQUILLA: Yes. And we do
2 have your whole testimony submitted for the
3 record, also. Thank you.

4 MR. MILLER: My name is Kevin Miller.
5 I'm the Director of Public Policy for
6 ChargePoint. ChargePoint designs and sells
7 electric vehicle charging stations and
8 provides network services for those station.
9 I serve with Tom from PECO and Rob from the
10 DVRPC as co-chair of the EV Infrastructure
11 Committee for PEA EV Coalition. And I also
12 serve as the co-chair for Infrastructure
13 Committee for Massachusetts Zero Emission
14 Task Force, which produced strategic
15 recommendations for EV infrastructure in
16 Massachusetts.

17 My testimony in January when we first
18 touched on this issue focused on the whole
19 pallet of policy options that could be
20 pursued to support transportation
21 electrification. And today my remarks will
22 focus largely on EV-ready building codes,
23 and why those are such a critical and
24 valuable tool for decreasing the barrier for

1 site hosts of EV charging stations to enter
2 into the market.

3 Briefly, ChargePoint is the world's
4 largest electric vehicle charging network in
5 the world with charging solutions for every
6 charging need, and all the places EV drivers
7 go at home, work, around town and on the
8 road. We have got more than 34,000
9 independently owned and operated charging
10 spots and more than 7,000 customers. Our
11 drivers on our network have completed more
12 than 23 million charging sessions, saving
13 upwards of 21 million gallons of gasoline
14 and driving more than 525 million gas-free
15 miles. Our site hosts make decisions about
16 whether to set fees or prices for EV
17 charging. And over 60 percent of the
18 charging on our network is free.

19 As I mentioned, we don't typically own
20 or operate the infrastructure. We sell
21 those products and the network services to
22 families, businesses, city and state
23 agencies to provide those services directly
24 to drivers. This resolution presents a

1 fantastic opportunity for Philadelphia to
2 really take the lead on increasing access to
3 clean transportation by lowering the
4 barriers for EV charging site hosts to enter
5 into the market to provide access to the
6 refueling for electric vehicles.

7 ChargePoint strongly supports any effort to
8 increase access to charging. And we
9 recommend that decisions to shape EV
10 charging strategy in Philly be made in the
11 context of smart network of home multi-unit
12 dwelling workplace and public facing EV
13 charging services.

14 With an increasing variety of funding
15 opportunities on the horizon, it's critical
16 for the City and for Pennsylvania as a whole
17 to ensure that there is level playing field
18 for the wide range of competitive market
19 actors to support that increased access to
20 clean transportation. The private market is
21 truly the driver of innovative EV charging
22 products and services. And it's essential
23 that investments that are made with public
24 funds support and actually don't crowd out

1 or push out those private dollars. We want
2 to make sure that we increase the value of
3 the pie and that we don't replace those
4 private funds with public ones.

5 Requiring private investments is a
6 critical tool for ensuring that you cite
7 charging stations efficiently and that you
8 increase the total value of investments.

9 Setting rules for the road on infrastructure
10 investments through crafting a City-wide EV
11 strategy, which seems to be one of the key
12 goals of today's session and is generally on
13 the table, would help to send a clear signal
14 to the market that Philadelphia supports new
15 Innovative EV and EV charging solutions.

16 With regard to EV-ready building codes,
17 sustainable policies to support EV charging
18 and understanding why EV-ready building
19 codes are critical in the first place
20 requires an understanding of how EV drivers
21 charge their vehicles. As previous
22 panelists have stated, most charging takes
23 place at home or at work. EV drivers are
24 refueling their vehicles when they arrive at

1 their destinations, not on their way to
2 them. And so, because EVs will largely be
3 refueled in buildings and parking lots, it's
4 essential that we prepare those sites to
5 accommodate EVs. Failing to prepare the
6 building now and when they are being
7 constructed will cost millions later on.
8 Because retrofitting a building that is not
9 EV ready is significantly more expensive
10 than getting it right the first time.

11 Building codes are sets of rules and
12 regulations that govern baseline standards
13 for how residential and commercial buildings
14 are constructed. The details of an EV-ready
15 building code can vary by region, but the
16 typical baseline is that they would require
17 new building construction to prepare a
18 certain proportion of parking spots for EV
19 charging to be installed at a later date.
20 Again, not making decisions of what type of
21 solution is best, but decreasing that
22 barrier for future EV charging site hosts to
23 make that decision and to pull in those
24 private dollars.

1 While EV-ready building codes can help
2 encourage EV adoption, they don't
3 necessarily require mandating EV charging
4 stations to be included at the time of
5 construction. When buildings aren't built
6 EV-ready, owners will need to engage in
7 expensive and time consuming retrofitting,
8 adding new electrical capacity and running
9 conduit in order to install EV charging.
10 This can take weeks of additional
11 construction time and cost tens of thousands
12 of dollars per installation. Delaying
13 charging availability, taking time away from
14 other lucrative projects and compromising
15 people's ability to drive electric when they
16 want to.

17 We ran -- and I include in our written
18 testimony -- a case study on what the
19 potential value add of having EV-ready
20 building codes in Massachusetts was based on
21 some data that we pulled on current
22 construction outlook. And the site
23 installation cost difference for a retrofit
24 scenario versus an EV-ready building cost

1 being retrofit. You'd have 2100 -- \$3,700
2 to \$7,000 in cost for installation compared
3 to for an EV-ready building about \$1,600.
4 We projected a savings of \$67 million in
5 retrofitting costs by just having a certain
6 percentage, 5 percent of parking spots being
7 EV ready. There is plenty of states and
8 cities that have taken these steps into and
9 put those steps into practice. And there is
10 a number of different examples that could be
11 discussed by the task force.

12 As I mentioned at the hearing in
13 January, there is a range of other barriers
14 to increasing access to EV charging in
15 Philadelphia, which I included in written
16 testimony. I urge the Council to consider
17 adopting those EV-ready building codes,
18 convening a public, private task force to
19 set City-wide strategy and pilot a range of
20 solutions like urban workplace charging
21 programs, Smart curbside pilots that ensure
22 equitable access to not only the charging
23 spots but to the parking availability, and
24 efforts to provide equitable access to

1 electrified transportation for folks who
2 don't actually own their own vehicles, such
3 as public transit pilots, car sharing and
4 ride hailing. And there are examples of
5 similar pilots in other parts of the country
6 that are working and are providing good
7 lessons.

8 We have experience in implementing those
9 pilots, such as Charge To Work New York
10 Program, which is currently under way that
11 seeks to connect folks that don't have
12 dedicated workplace charging with charging
13 services at nearby parking facilities.

14 So, I would be happy to dive in after
15 Beau and address any questions, but it's
16 just the tip of the iceberg. And we really
17 appreciate the opportunity to shine a light
18 on this critical issue to increase access to
19 clean transportation. And we are looking
20 forward to being a partner for the City, for
21 the Council, for the Mayor's Office and with
22 all the stakeholders here to ensure that the
23 goals that you are setting forth here can be
24 achieved.

1 COUNCILMAN SQUILLA: Thank you for your
2 testimony. We will ask a couple questions
3 after we are done full testimony.

4 Just state your name for the record and
5 then proceed with your testimony.

6 MR. WHITEMAN: Certainly. Good
7 afternoon. My name is Beau Whiteman. I'm a
8 Senior Associate on Tesla's Business
9 Development and Government Affairs Team
10 focusing on the acceleration of EV
11 infrastructure around the country. Tesla
12 would like to thank the Council and Members
13 here on the Committee today for the
14 opportunity to present testimony on the
15 future of EV charging here in Philadelphia.

16 As quick background, Tesla is an
17 American manufacturer of the world's most
18 advanced electric vehicles and battery
19 energy storage systems. While most known
20 for our best in class vehicles, we have also
21 been investing in a global infrastructure
22 network of EV supercharger stations known as
23 Superchargers, to make electric road trips
24 easier than ever before. Later this year,

1 Tesla will introduce it's newest vehicle,
2 the Model 3 with a starting price of \$35,000
3 and at least 200 miles of range on a single
4 charge.

5 As a bit of background, the Philadelphia
6 EV Parking Program that was recently placed
7 on moratorium, in Tesla's opinion was not
8 designed for long term sustainability since
9 the code allowed for no more than two EV
10 parking permits on the largest of city
11 blocks. The number of total participants
12 over time was limited from the start. In
13 addition, the upfront costs associated with
14 installation created an impossible hurdle
15 for many would be EV drivers. While the
16 program was and remains useful to a number
17 of residents, it did not allow for the
18 growing infrastructure needs of the City.

19 So, where do we go from here?

20 There are a number of actions the
21 Council can take to create a wholistic plan
22 for robust deployment of EVs in
23 Philadelphia. At a high level, planning
24 effort should include the Department of

1 Motor Vehicles, City building officials and
2 the local utility properly account for where
3 EVs currently are and how to accommodate
4 their use in the future. Specific steps
5 include tracking EV ownership in the City,
6 developing a streamline permitting process
7 for EV charging hardware installation,
8 updating building codes to promote EV
9 readiness, and working with PECO to
10 efficiently promote increased EV adoption.

11 By understanding where EVs are currently
12 located within the City, the City can better
13 understand where to direct and make
14 infrastructure investments. It will also
15 help inform future planning decisions and
16 could assist with the creation of charging
17 depots. As City planning officials develop
18 a better sense for where EVs are, they
19 should work with building officials to make
20 sure infrastructure deployment is as easy as
21 possible.

22 Developing a streamline permitting
23 process for EV chargers would be a good
24 first step. Most EV charging takes place on

1 a Level Two system, which operates at 240
2 volts and is ideal for home or workplace
3 charging. Most installations can be
4 completed by any licensed electrician in an
5 afternoon. Looking ahead, the Council could
6 consider updating building codes for new
7 development and redevelopments to prepare
8 for EV charging station installation.

9 Very recently, San Francisco moved to
10 require all new parking, both residential
11 and commercial, to be equipped with
12 necessary conduit for future EV charging
13 needs. Working in conjunction with PECO
14 could also help with promoting EV adoption
15 and ensure charging infrastructure is
16 deployed most efficiently. Across the
17 country, utilities are beginning to identify
18 the benefits that EVs and associated
19 hardware deployment can have on the
20 distribution system. City officials can
21 engage with PECO and other stakeholders to
22 develop a program that is in the interest of
23 the grid and rate payers alike.

24 Finally, Philadelphia should not give up

1 entirely on its ambitious curbside charging
2 program. By pursuing a pilot in the space
3 that alters ownership of the hardware,
4 greater opportunities can be unlocked.

5 Take, for example, the City of
6 Amsterdam. Their City-managed program
7 invites residents to apply for a charging
8 solution in their neighborhood and
9 infrastructure is installed as the fleet
10 grows. The City's Parking Authority manages
11 deployment and location while contracted
12 third parties own, operate and maintain the
13 charging hardware.

14 Ultimately, the City will find willing
15 partners among Tesla, certainly the other
16 OEMs, PECO and other charging station
17 operators. Thanks for the opportunity.
18 Looking forward to your questions.

19 COUNCILMAN SQUILLA: Thank you for your
20 testimony, and appreciate your willingness
21 to help.

22 As the charging stations are rolled out
23 as we come up with infrastructure, I know
24 Tesla has their own charging feature. Is --

1 are you able to charge at other then Tesla
2 charging stations?

3 MR. WHITEMAN: Tesla vehicles can charge
4 on any charging system. Unfortunately,
5 Tesla charging hardware can only be utilized
6 by Tesla drivers at this time.

7 COUNCILMAN SQUILLA: And is -- would
8 your company look at other ways to do that?
9 I know it's a tough question for you.

10 MR. WHITEMAN: That is a tough question,
11 one that I get everywhere I go.
12 Standardization is a difficult conversation
13 among the OEMs. What we are choosing to
14 focus on is where we can all work together,
15 which is on the Level Two charging solutions
16 where while we manufacture and distribute
17 proprietary connectors, Tesla drivers can
18 utilize any Level Two charging solution.
19 And those public facilities can benefit all
20 EV drivers.

21 What we are really interested in seeing
22 is the proliferation of those Level Two
23 charging solutions. And it honestly does
24 not matter to us what connector is on the

1 end. Although in truth, Tesla is also going
2 to be interested in, and what you are going
3 to see from us in the coming months, is a
4 pretty rapid deployment of our Level Two
5 charging solutions. And we are just going
6 to be giving them away to anyone who will
7 take them and install them for our drivers.

8 COUNCILMAN SQUILLA: Give them away and
9 install them?

10 MR. WHITEMAN: Exactly.

11 COUNCILMAN SQUILLA: That's great.
12 That's a good sign. If -- do you have
13 somebody from the manufacturer standpoint
14 that would be willing to join our task
15 force?

16 MR. WHITEMAN: Certainly.

17 COUNCILMAN SQUILLA: Maybe we can -- if
18 you can give that information to the Chair,
19 I think it would be great to have as many
20 people who understand the need for this.
21 And then also, obviously, there is a little
22 bit of personal benefit for Tesla in this.
23 But we want to see all ideas being used and,
24 at least, contemplated as we move forward.

1 As far as third-party charging stations,
2 and sometimes we hear that the
3 infrastructure necessary to do that does not
4 make it profitable to install stations.

5 Do you see working with PECO, if we have
6 some infrastructure in place or using our
7 building code to determine the
8 infrastructure necessary, do you see that as
9 helping third-party charging stations get
10 involved in this process?

11 MR. MILLER: I think we are already
12 seeing third-party charging station find a
13 variety of different reasons to get
14 involved. One of the unique things about
15 having a decentralized business model like
16 ChargePoint does, is that we are not forcing
17 ourselves to try and make a buck off the
18 sale of electron. One of the things that we
19 have seen is by showing site hosts that they
20 have ways to augment their existing
21 operation or services with EV charging as a
22 new amenity, they are no longer try to
23 completely recoup the investment by -- with
24 each charged deliver.

1 So, you are able to allow a retail
2 store. And we have run numbers on this.
3 They have verifiably shown that by offering
4 EV charging, you are going to increase dwell
5 time and bring in new customers. Two out of
6 three folks who will come to a retail
7 location and plug in will stay at that
8 location for over two hours. And that's
9 based on the data on the 24 million charging
10 sessions that have taken place on our
11 network. So, we are able to make cases and
12 help new site hosts understand that they
13 can, again, augment their existing business
14 model to find a way to change the scope of
15 what profitability means.

16 How do we increase the value of this
17 investment to a range of different site
18 hosts? So by doing that, we are able to
19 bring in a range of different partners who
20 wouldn't otherwise immediately think that EV
21 charging would be the right approach for
22 them. And in most cases, there are strong
23 opportunities for any kind of site host.

24 COUNCILMAN SQUILLA: Thank you very

1 much. Is any other -- Councilman Domb.

2 COUNCILMAN DOMB: I have another direct
3 question. It's going to be an ask, okay,
4 Mr. Chairman. Put them on the spot if you
5 don't mind. This is for Tesla. I feel I
6 can ask this question.

7 Elon Musk went to the University of
8 Pennsylvania, a graduate from the Wharton
9 School I believe, right?

10 MR. WHITEMAN: I believe, yes.

11 COUNCILMAN DOMB: We educated him, the
12 Chairman of Tesla.

13 (Laughter)

14 MR. WHITEMAN: I see where this is
15 going.

16 COUNCILMAN DOMB: We have had a hundred
17 thousand Millennials move to Philadelphia in
18 the last ten years. And in the last year,
19 we have had the highest percentage growth in
20 Millennials in any major city in the
21 country. Based on that background, I want
22 you to find out if we can set up a meeting
23 with Tesla to consider opening a plant or
24 manufacturing facility in Philadelphia.

1 We are the perfect city. I know you are
2 coming out with a new Tesla \$35,000. We are
3 the perfect city to do that kind of
4 manufacturing. We have great workforce. We
5 have inexpensive housing.

6 Will you let us, the Chairman of the
7 Committee know who that person is that we
8 can talk to about that?

9 MR. WHITEMAN: I will take it home and
10 come back with something for you.

11 COUNCILMAN DOMB: Okay. Thank you. I
12 want to get your card, though, before you
13 leave.

14 MR. WHITEMAN: Certainly.

15 COUNCILMAN DOMB: Thank you. Thank you,
16 Mr. Chairman.

17 COUNCILMAN SQUILLA: Thank you,
18 Councilman Domb.

19 Councilman Oh.

20 COUNCILMAN OH: Thank you. I'd make a
21 joke, but we are being recorded.

22 In terms of some of the ideas that were
23 kind of thrown out, one of the ideas was
24 that in crowded areas like Center City where

1 we have, you know, two-hour, four-hour
2 parking areas, that some of those areas
3 might be Level Two charging sites for EVs.
4 And we can kind of strategically place some
5 of those. And you know, the issue is always
6 money. And so you know, as we have talked
7 to some various companies they, as you have
8 said, are willing to do public/private
9 partnerships, provide a level of support for
10 the City to install these types of
11 resources.

12 Does -- does that idea resonate with
13 you? Do you think that works? What kind of
14 resources -- I know you just said you would
15 be willing to give the City, for example, as
16 many Tesla charging stations as we may want
17 to install.

18 But you know, what exactly is that? How
19 do -- where are we in terms of
20 public/private partnerships?

21 MR. WHITEMAN: You want to take the
22 first?

23 MR. MILLER: Sure. I will take the
24 first stab, not at his offer -- the free

1 stations, I will let him take that one on.

2 I think there is a lot of really viable
3 and interesting opportunities to create
4 sustainable public/private partnerships.

5 Not necessarily in saying give the City free
6 services, but to what extent can the City
7 serve as convening authority to bring
8 together the right sorts of folks to address
9 some of these critical problems. One of the
10 problems we are involved with in New York
11 City that I mentioned previously, a program
12 that seeks to address the challenge of
13 providing access to workplace charging in a
14 dense urban environment where parking is at
15 a premium, and often, not necessarily
16 available.

17 So, by bringing together work places,
18 parking operators, folks like ChargePoint,
19 New York City was able to identify
20 coalitions that can come together to chip
21 away at different parts of the problem. I
22 don't think there's ever going to be a one
23 size fits all approach. But if you bring
24 folks together in that sense to provide

1 those types of innovative approaches to
2 increasing access to charging, that's where
3 some of the real value can be found.

4 MR. WHITEMAN: Yeah. I would agree with
5 that wholeheartedly. Every city is
6 different. That's one of the challenges
7 that we, as an industry, face. And
8 increasing access to EV infrastructure is
9 not going to be a one-size fits all
10 solution. And most importantly is having a
11 willing partner in every city we go to, to,
12 you know, not only have an interest in this
13 but to seek to pursue a final solution.

14 So, I mean number one, engaging with the
15 Parking Authority everywhere we go is step
16 number one. And finding out where we can
17 work together, who is willing to be making
18 or who is going to be willing to make an
19 investment. Can't promise you anything
20 sitting at this table today. But we are as
21 a company exploring every opportunity that
22 is put in front of us right now to kind of
23 crack this nut, so to speak.

24 MR. MILLER: And one other -- just to

1 underscore the fact that, again, one city's
2 solution isn't the same that's going to work
3 for another. So, having an open continuing
4 dialogue between public and private
5 stakeholders is extremely valuable. One of
6 the things that we are starting to do in
7 some other cities is identify, you know, if
8 you are already looking to electrify fleet
9 services, I believe Councilman Domb
10 mentioned leading by example, opportunities,
11 that the fleet is already going to be
12 electrified and there are investments that
13 are going to be made, how do you start to
14 bring in folks again like the charging
15 equipment and services folks, other private
16 fleets that could potentially have access to
17 that infrastructure at varying hours of the
18 day in which you can achieve with Smart
19 connected network infrastructure.

20 How do you spread those costs out from
21 the public sector to include private sector
22 fleets by having a shared operation and
23 ownership of the infrastructure?

24 Again, so there isn't that one Band-Aid

1 approach. But having a forum, a task force,
2 some kind of commission City-wide to obtain
3 those opportunities and continually create
4 new pilot programs by bringing together
5 standing City agencies, private industry,
6 the utility and a number of other
7 stakeholders at a regional level who all
8 have expertise and with whom you convened
9 today is just a wonderful workshop that can
10 be ongoing to provide some of those new
11 innovative solutions. And that we can get
12 some of these going within that 12-month
13 time frame to get real data and evaluate
14 what's working for Philly.

15 COUNCILMAN OH: All right. Thank you
16 very much. Thank you, Chairman.

17 COUNCILMAN SQUILLA: Thank you. I also
18 like to recognize Councilman Taubenberger
19 who is here at the hearing.

20 Councilman Green.

21 COUNCILMAN GREEN: Thank you, Mr. Chair.
22 We have spent most of this hearing
23 talking primarily about electric car
24 vehicles. But I'm curious about other type

1 of electric transportation, bikes, other
2 type of vehicles. I know there is a company
3 that I had a chance to meet with couple --
4 about two weeks ago that was focusing on
5 bicycles. I am curious from electric
6 vehicles, from that perspective from a
7 charging dynamic.

8 I know in Mt. Airy, there are electric
9 bikes people are familiar with. And I am
10 considering the nature of the City;
11 although, you know, cars is something that
12 we often use, but there are other types of
13 transportation concepts. There was actually
14 an article in this week's Inquirer in Sunday
15 edition talking about how City of
16 Philadelphia is so much about bike culture.

17 And I am curious from that perspective
18 from a charging or other type of electric
19 vehicles that could be using charging
20 technology either ChargePoint or Tesla.

21 MR. MILLER: Do you want to take that
22 first?

23 MR. WHITEMAN: Sure.

24 MR. MILLER: I couldn't agree more with

1 you, Councilman. EV charging is just one
2 part of the solution of Smart mobility and
3 of a Smart City's infrastructure. There
4 isn't one size fits all approach when it
5 comes to EV charging or to ensuring access
6 to clean transportation, be it powered by
7 your shoes or powered by bikes or powered by
8 public transit.

9 We have had the opportunity to partner
10 with Pittsburgh and number of other cities
11 that participated in the Smart City
12 Challenge last year to identify what is the
13 full range of opportunities and policies
14 that can be put into place. EV charging is
15 one of them. But ensuring that you are
16 increasing access to clean mobility
17 solutions and that that is caked into
18 planning in general, be it electric buses
19 and SEPTA is doing or increasing eBike
20 opportunities, you know, these are all key
21 features of a program. And I think there
22 are opportunities to electrify a lot of the
23 way people move.

24 MR. WHITEMAN: Yeah. As we look at, you

1 know, the prospect of adding for starters,
2 electric vehicle charging infrastructure to
3 possibly City right-of-ways, one thing that
4 is -- I, at least, find interesting about
5 charging electric vehicles is up until the
6 plug itself, the electricity is agnostic.
7 It doesn't care where it's going.

8 So if we are looking at adding charging
9 to a particular block for vehicles and, hey,
10 you have got a rack of -- I don't know what
11 we call them in Philadelphia, City bikes or
12 Bike Shares and we want to electrify that
13 fleet as well, bringing in the power is the
14 hard part. Oftentimes, you know, it's not
15 hugely long term, but it takes long time to
16 plan. Once you brought it in, it's not easy
17 to -- it's not particularly difficult to
18 kind of pull it off onto other things, as
19 well, so.

20 To my colleague's point, including it in
21 a comprehensive plan is a great place to
22 start. And Tesla, while we don't have those
23 types of product offerings, we are certainly
24 not going to stand in the way.

1 COUNCILMAN GREEN: But if another
2 company had those type of product offerings
3 and they decide to bring to market, would
4 the type of charging opportunity we are
5 discussing be available to them?

6 MR. WHITEMAN: Well, it's hard to say.
7 Because you know, for instance, if we're
8 talking about a fleet of electric bicycles,
9 you might want the chargers to be on kind of
10 the mounts where they go back in, which
11 aren't going to be accessible for someone
12 who is going to park a car halfway down the
13 block or even, you know, for an electric
14 City bus somewhere along the way. I think
15 importantly, what we can do is with every
16 new product that becomes available in the
17 electric mobility space, we take a look at
18 where there are synergies between them.
19 Where can we install charging to benefit as
20 many people as possible.

21 COUNCILMAN GREEN: Yeah. Because there
22 are newer companies looking at dock-less
23 charging locations especially for bikes as
24 opposed to the traditional. Like, we have

1 Indigo, which is a docking station. There
2 are newer companies that are looking at bike
3 share concepts without a docking station, so
4 that will be flexible. They will have a
5 fleet of electric vehicles or electric bikes
6 that would just need a location to charge.

7 MR. MILLER: Yeah. Again, having that
8 underlying infrastructure and having that
9 common discussion all at the same time
10 ensures that, as pointed to before, if
11 you're going to dig, let's try to dig once.
12 Let's not unduly increase the costs
13 associated with installing new innovative
14 mobility solutions. And ensure that as we
15 start to deploy and incentivize increased
16 access to infrastructure, that it be smart
17 connected and network.

18 Having, you know, a dock-less bike share
19 system hinges on knowing where the bike is.
20 And a lot of that has to do with, you know,
21 is it part of the internet of things? Are
22 we connected? What's the value in being
23 able to manage remotely and monitor the
24 operations and the maintenance of the

1 infrastructure that we're deploying? And
2 how do we make sure that we're getting the
3 value of the data and being able to
4 incentivize the highest utilization?
5 Perhaps by setting price signals to
6 incentivize folks to come in and then leave
7 once they're done charging.

8 So again, having the Smart connected
9 resources will, by definition, create more
10 opportunities to deliver value to the
11 citizens of Philadelphia.

12 COUNCILMAN GREEN: Thank you, Mr. Chair.

13 COUNCILMAN SQUILLA: Thank you. Thank
14 you very much for your testimony. And
15 looking forward to working with you as this
16 process moves forward.

17 Before we introduce the next panel, I
18 just wanted to go over people that we had
19 mentioned. And I am sure this is not going
20 to be the end. But as a possible task
21 force, we were looking at OTIS, Office of
22 Transportation Infrastructure Systems,
23 Fleet, L&I, Sustainability, the Parking
24 Authority, PECO, DVRPC, EV users,

1 manufacturers, Tesla, et cetera, third-party
2 chargers like ChargePoint, and parking
3 operators. And we would be willing to open
4 this up to other people who we think would
5 be very important to this process. Again,
6 knowing that coming up with a plan is not
7 going to be easy. But knowing that we had
8 the proper stakeholders involved is the most
9 important part, I think, to move forward.

10 So would -- I would ask you to do, for
11 anybody who did testify are here before we
12 move on when you -- for you to forward other
13 ideas of people you think should be involved
14 in the task force to us so that when we work
15 with the Administration to put this
16 together, we can have everybody necessary in
17 order to start the process.

18 Also, I wanted for the record, there was
19 some written testimony submitted by
20 Genevieve Cullen, President of Electric
21 Drive Transportation Association; Doede
22 Bardok, Project Manager, Public Charging
23 Infrastructure, City of Amsterdam, the
24 Netherlands; and Susan Anderson, Director of

1 Port -- Director of City of Portland, Oregon
2 Bureau of Planning and Sustainability. So,
3 we also have that testimony.

4 And, Matt, would you like to read the
5 next person testifying.

6 THE CLERK: Kathy Corby.

7 (Witness approaches Table.)

8 COUNCILMAN SQUILLA: Hi.

9 MS. CORBY: How do you do? Thank you
10 for this opportunity to speak to the
11 Council. I am here to represent informally
12 and in a self-appointed fashion, the two
13 important constituencies which I have heard
14 at least one of those constituencies
15 mentioned. I am a EV owner. And I am also
16 a retired family physician.

17 I moved to Philadelphia as my forever
18 City two years ago. I had a large --

19 COUNCILMAN SQUILLA: Excuse me, just
20 before -- just state your name again for the
21 record.

22 MS. CORBY: Yes. Kathy Corby,
23 K-a-t-h-y, C-o-r-b-y.

24 COUNCILMAN SQUILLA: Go ahead. Thank

1 you.

2 MS. CORBY: So, I had a number of
3 reasons for relocating, many of them
4 personal. Some of the reasons, I had heard
5 that Philadelphia was known to be a Green
6 City with a very advanced and
7 forward-looking perspective.

8 My personal reason or one of my personal
9 reasons for moving here, although I had a
10 number of choices, involved the fact that I
11 was able to negotiate with Toll Brothers,
12 the company that sold me my Center City
13 condominium, availability of EV charging for
14 my beloved Chevrolet Volt, which I bought
15 five years ago and with which I would never
16 part. Well, I would part with it to buy a
17 Model 3 Tesla. However, I don't think
18 that's going to happen.

19 So, I came from California. I expected
20 to find Philadelphia to be a very advanced
21 in its EV charging policies. And instead, I
22 unfortunately found it to be somewhat of a
23 laggard. The City that I moved from
24 provided free or at least subsidized EV

1 charging at all public venues. Solar roofs
2 were placed on parking facilities as well
3 refitting public parking lots with solar
4 panels or roofing, enabling local generation
5 of power to reduce grid reliance. And
6 multi-family units were routinely made
7 charging options available to renters and
8 purchasers.

9 So, I found that none of those or very
10 few of these appeared to exist in
11 Philadelphia. On this, in fact, I was
12 surprised about. So, I would like
13 personally to see a change in a number of
14 the policies that I believe we have actually
15 heard today discussed. I would like to see
16 them enabled for my own personal reasons and
17 on behalf of other EV users. However, I am
18 also here to speak of another issue of great
19 importance to Philadelphia residents.

20 You heard me mention that I am a retired
21 physician. I am a graduate of Stanford
22 University and practice family and emergency
23 medicine for 40 years. Certainly, it can
24 come as a surprise to no one that there are

1 grave consequences to urban air pollution.
2 And that internal combustion engines
3 contribute greatly to urban air pollution
4 and certainly contribute to our own air
5 pollution here in Philadelphia. This is
6 important -- these issues are important to,
7 asthma and COPD sufferers in the short run.
8 But poor air quality also contributes to
9 decreased cardiovascular health and cancer
10 risk, both lung cancer and other kinds of
11 cancer, as well.

12 There is adequate evidence that the
13 effects are both long and short term, and
14 that the cardiovascular adverse effects
15 actually begin in youth. It may be that
16 pregnancy outcomes are effected as well by
17 air quality and our urban environment. The
18 latest published estimate that I was able to
19 find from the World Health Organization
20 reported that in 2012, approximately
21 3.7 million people worldwide died from
22 outdoor urban and rural sources of air
23 pollution. The cause of deaths was broken
24 down as follows: Ischemic heart disease, 40

1 percent; stroke, 40 percent; chronic
2 obstructive pulmonary disease, 11 percent;
3 lung cancer, 6 percent; and acute lower
4 respiratory infections in children, 3
5 percent.

6 I have heard panelists even here refer
7 dismissively to the benefits of electric
8 vehicles as providing only reduced tailpipe
9 emissions. But I would like to submit that
10 this may be one of the most important
11 considerations to the Philadelphia residents
12 in the long run. And to submit that those
13 of who you represent Philadelphia residents
14 must take this into consideration as you
15 undergo your deliberations.

16 Does anyone here think that the internal
17 combustion engine will be the transportation
18 of the future? I certainly don't. And I
19 defy anyone here who does. We need to begin
20 preparations now with vigorous support of EV
21 policies to shape the City of the future,
22 our Philadelphia of the future.

23 I realize that Center City locations and
24 residential areas with limited parking

1 present special challenges, but I am
2 confident that the ways can be found and
3 constituents convinced that the City Council
4 is acting in the interest of all of its
5 citizens by supporting progressive policies.

6 Thank you very much.

7 (Applause.)

8 COUNCILMAN SQUILLA: Thank you, Doctor.
9 Very good. And appreciate your testimony
10 and knowing that is also very important to
11 us on Council and, I think, to a lot of the
12 clean air folks that we dealt with during
13 this process.

14 Is there anyone else -- any other
15 questions here?

16 COUNCILMAN TAUBENBERGER: I do have one.
17 Actually, if the doctor can come back just
18 for a quick second.

19 COUNCILMAN SQUILLA: Doctor, just come
20 up real quick.

21 COUNCILMAN TAUBENBERGER: I'm sorry if I
22 didn't catch this. Where were you from
23 originally?

24 MS. CORBY: I was born in the midwest.

1 I was educated -- I received my medical
2 degree from Stanford.

3 COUNCILMAN TAUBENBERGER: I heard that.

4 MS. CORBY: In 1981. And practiced in
5 California for most of my career -- for all
6 of my career.

7 COUNCILMAN TAUBENBERGER: You felt that
8 they were much more advanced than we are in
9 electric?

10 MS. CORBY: I am afraid I need to say
11 that, yes.

12 COUNCILMAN TAUBENBERGER: And what is
13 the one thing if you can wave a magic wand
14 that you wish we could do, what would that
15 be?

16 MS. CORBY: I think I would like to
17 support the efforts of a number of people
18 that have spoken to -- to making charging
19 facilities at least EV ready and available
20 for -- so that more purchasers would be
21 enabled to buy electric vehicles.

22 We are seeing the prices come down. We
23 are actually in a sort of a magical period,
24 I believe, because federal subsidies still

1 exist and federal tax credits and even
2 rebates are still available. But because a
3 number of equipment manufacturers are
4 becoming more aware of the benefits, a
5 number of potential purchasers have a much
6 wider choice. And the vehicles have
7 actually entered the -- a price range where
8 normal, middle class people can afford to
9 purchase them.

10 So, I think that the City ideally will
11 support those options and support those
12 choices. People aren't going to stop buying
13 private vehicles at least in the near
14 future. But I would like to see the City
15 encourage people to purchase private
16 vehicles that would be run on electricity.
17 That and, of course, solar-power generators
18 as well which I see as inseparable.

19 COUNCILMAN TAUBENBERGER: Understood.

20 Dr. Corby, thank you very much.

21 Mr. Chairman, thank you.

22 COUNCILMAN SQUILLA: Thank you. Thanks
23 again for your testimony.

24 Is there anyone else here to testify?

1 Seeing --

2 (Audience member raises hand.)

3 COUNCILMAN SQUILLA: Are you here to --
4 come on up.

5 SKWRAO: I hadn't planned to, but there
6 were two questions.

7 COUNCILMAN SQUILLA: Before you start,
8 just state your name for the record. And
9 then we can --

10 MS. RAVAL: Sure. I hadn't planned to,
11 but here I am. My name is Mennal Raval. I
12 have spoken here today. I want to say that
13 EVs are not just for the wealthy.

14 I own a Smart electric car, that is a
15 little two-seater, perfect for City parking.
16 It takes me 70 miles on a charge, which is
17 pretty much all over the City. Do all my
18 errands. And I leased it for 150 a month.
19 My fuel costs have gone from going to the
20 gas station to my electric bill, which has
21 halved. It used to be \$800 a year for my
22 Honda Fit. It's now about \$400 a year on my
23 electric bill. So, it is not just for the
24 affluent. I just wanted to lay that out

1 there.

2 The other is there was the question
3 about eBike charging. I own electric bike
4 shop in Mt. Airy that was referenced. Thank
5 you. And eBikes charge on a regular 110
6 outlet. So, pretty much the charging
7 infrastructure is already there wherever
8 coffee shops, wherever there is an outlet
9 available.

10 COUNCILMAN SQUILLA: Okay. Great.
11 Well, thank you so much for adding that to
12 the hearing.

13 Is there anybody else here to testify?

14 Seeing none, before we close, I would
15 just like, Matt, just if you want to read
16 real quickly the written testimony for the
17 record. And then we will close the hearing.
18 Thank you.

19 THE CLERK: This is the testimony of
20 Genevieve Cullen, President of the Electric
21 Drive Transportation Association to the
22 Joint Committee on Streets and Services and
23 Global Opportunities and the
24 Creative/Innovative economy regarding

1 Resolution 161039.

2 "The Electric Drive Transportation
3 Association, EDTA, is cross industry trade
4 association promoting the advancement of
5 electric drive technology and electrified
6 transportation. Our members represent the
7 entire value chain of electric drive
8 including vehicle manufacturers, battery and
9 component manufacturers, utilities and
10 energy companies and Smart grid and charging
11 infrastructure developers. Collectively, we
12 are committed to realizing the economic
13 national security and environmental benefits
14 of replacing oil with hybrid plug-in hybrid
15 battery and fuel cell electric vehicles.

16 "Oil provide 93 percent of the energy
17 used for transportation in the United
18 States. Around one third of the oil we use
19 is imported, costing our economy roughly
20 \$192 billion annually. Even with reduced
21 imports, our energy and economic security
22 continue to be threatened by oil dependence.
23 Our transportation sector is fueled almost
24 wholly by a single commodity whose price is

1 set by the global market and whose
2 availability is subject to significant
3 geopolitical uncertainty.

4 "On a microeconomic level, by using
5 electricity as an alternative fuel source,
6 Philadelphia families can benefit from
7 significant savings and be insulated from
8 volatile petroleum fuel prices that rise and
9 fall with the world oil market. Even when
10 the price at the pump is relatively low,
11 electricity costs are lower and more stable.
12 On average, driving on electricity cost the
13 equivalent of a dollar per gallon of
14 gasoline.

15 "Electric transportation also provides
16 public health and environment benefits by
17 reducing improving air quality and reducing
18 greenhouse gas emission. The Union of
19 Concerned Scientists studied the total
20 emission reductions of electric drive in
21 every region of the country. They concluded
22 that no matter where in the U.S. an EV is
23 charged and operated, electric drive
24 vehicles have fewer total well-to-wheel

1 emissions than the average gasoline powered
2 vehicle sold today.

3 "Purchase incentives: Increase
4 availability of work place charging, HOV
5 lane access and preferential parking are
6 examples of effective policies that are
7 speeding the adoption of electric
8 transportation in cities and states across
9 the country. We would recommend that City
10 Council's Joint Committee continue
11 Philadelphia's leadership in electrification
12 and accelerate the achievement of its
13 economic and environmental benefits for
14 Philadelphia's residents, businesses and
15 visitors.

16 "We thank you for the opportunity to
17 submit our testimony and look forward to
18 working with you to expand electric
19 transportation in Philadelphia."

20 And this is a memo addressed to Chairman
21 David Oh, Chairman Mark Squilla and Members
22 of the Joint Committee from Susan Anderson,
23 Director of the City of Portland Bureau of
24 Planning and Sustainability.

1 "Thank you for the opportunity to
2 provide testimony outlining Portland's
3 electric vehicle strategy. Portland has had
4 success with implementing some of our EV
5 work already and offering the suggestion as
6 Philadelphia moves forward with its EV
7 strategy.

8 "Portland's Climate Action Plan includes
9 goals to reduce local carbon emissions
10 40 percent by 2030 and 80 percent by 2050.
11 Transportation is responsible for 40 percent
12 of Portland's carbon emissions. Shifting
13 fuel sources from gasoline to diesel and
14 electricity is a key strategy to achieving
15 Portland's goals. City of Portland's staff
16 are working to encourage people's movement
17 instead of car movement by creating a
18 healthy connected city by prioritizing safe
19 and convenient walking, biking and transit
20 over automobile use.

21 "Portland's electric vehicle strategy
22 focuses on electrification of the public
23 transit system, shared vehicles and the
24 private automobiles that remain in use.

1 Encouraging the use of electric vehicles is
2 one of many strategies the city is taking to
3 reduce carbon emissions from the
4 transportation sector. Portland's strategy
5 also seeks to maximize the benefit of air
6 quality and affordability for low income
7 residents in areas of Portland that are the
8 most dependent on private vehicles.

9 "Low income people and communities of
10 color generally live outside of Portland's
11 central city and have less access to
12 Portland's public transit and bike lane
13 infrastructure. It's likely they drive less
14 efficient vehicles and drive longer
15 distances to access work and services.
16 Prioritizing electric vehicle access for low
17 income people and communities of color
18 improves access to affordable
19 transportation, improves economic
20 opportunity and reduces carbon emissions.

21 "The City of Portland does not currently
22 own or maintain public charging
23 infrastructure. We work with community
24 partners and local utilities to encourage

1 organizations to invest in public charging
2 infrastructure that serve our community.
3 Portland's local investor-owned utilities
4 have been directed by a State Senate Bill to
5 draft transportation and electrification
6 plans. Portland General Electric has
7 already invested in a Downtown Electric
8 Avenue, a publicly accessible electric
9 vehicle charging pod with four fast chargers
10 and two Level Two charges. Both of
11 Portland's electric utilities has future
12 plans to invest in additional electric
13 avenue charging pods, which will expand
14 access to electric vehicles charging
15 stations across the City.

16 "Portland is specifically working to
17 increase access to charging in multi-family
18 buildings and garage-free homes. Residents
19 in multi-family dwellings have significant
20 barriers to installing electric vehicle
21 charging stations. City staff are currently
22 exploring options to require new
23 construction multi-family buildings to be EV
24 ready.

1 "In preparation for the exponential
2 growth, the number of EVs that are expected
3 to be on the streets in the next five to ten
4 years, Portland's staff are all working on a
5 city-wide electric vehicle charging siting
6 siting strategy that prioritizes areas of
7 town that do not already have existing
8 charging stations, are close to multi-family
9 housing, people with high vehicle miles
10 traveled reside, have less access to
11 frequent public transit and bike routes, are
12 near commercial centers and corridors and
13 are near destination areas that people tend
14 to drive longer distances to access.

15 "Please, feel free to reach out to our
16 EV policy lead Ingrid Fisch if you would
17 like additional information or would like to
18 further discuss Portland's electric vehicle
19 strategy."

20 And finally from the City of Amsterdam,
21 with an attachment plan, "Electric City."

22 "Dear Chairman Squilla, Chairman Oh and
23 Members of the Joint Committee on Streets
24 and Services and Global Opportunities in the

1 Creative/Innovative Economy. Pursuant to
2 the aims of Resolution 161039, the City of
3 Amsterdam is pleased to provide "Planned
4 Amsterdam the Electric City," for Joint
5 Committee's reference.

6 "No city in the world is far ahead in
7 the transition to electric transport as
8 Amsterdam. Amsterdam's extensive public
9 network of EV charging points is the
10 backbone for the city's ambitions in
11 electric transport with high visibility
12 throughout the City and providing guaranteed
13 charging facilities to electric drivers. In
14 the city, it's crucial to have an effective
15 charge point infrastructure for electric
16 vehicles as more than 90 percent of
17 Amsterdam people do not have their own
18 parking space. The Council has to take its
19 responsibility.

20 "Amsterdam was the first Council in the
21 Netherlands to solve the chicken and egg
22 problem of whether to promote electric
23 transport by providing charging points or to
24 wait until there are actually electric cars

1 around to use them. Amsterdam chose not to
2 wait. On the contrary, as early as 2009,
3 the Council installed public charge points
4 with exclusive parking spaces for electric
5 cars around the City. This created a
6 snowball effect. The more charge points
7 were installed, the more electric cars
8 appeared in the city streets.

9 "Future owners of electric vehicles
10 could request a charge point near their home
11 or apply for subsidies to build a charge
12 point on their own premises. This
13 demand-driven approach raised confidence in
14 the electric revolution leading to increased
15 numbers of residents and businesses buying
16 electric vehicles. The Amsterdam approach
17 became a blueprint for many other cities in
18 the Netherlands as well as abroad.

19 "In the meantime, Amsterdam has been
20 preparing to accommodate charging facilities
21 for the increasing numbers of electric
22 vehicles and exploring how to fit these in
23 the public space. New technological
24 developments such as battery capacity and

1 charging times will have a large impact on
2 future charging solutions.

3 "As Philadelphia City Council discusses
4 the possibilities for EV charging structure,
5 it is invited to use 'Planned Amsterdam the
6 Electric City' as inspiration and an example
7 of global best practices. The City of
8 Amsterdam continues the successfully
9 encourage adoption of EVs and it supports
10 the City of Philadelphia's efforts to do the
11 same.

12 "Kind regards, Doede Bardok, Project
13 Manager, Public Charging Infrastructure on
14 behalf of Bart Bertelman, Program Manager at
15 Air Quality and Electric Mobility."

16 COUNCILMAN SQUILLA: Thank you. Thank
17 you so much. Again, thanks everyone for
18 attending today's hearing. We are going to
19 recess this hearing to the call of the
20 Chairs. And hopefully, have this task force
21 set up before our next hearing. And let you
22 know where we are and where we are going.

23 Thank you so much. Have a great day.

24 (Joint Committee recessed at 3:13 p.m.)

C E R T I F I C A T I O N

I, hereby certify that the proceedings and evidence noted are contained fully and accurately in the stenographic notes taken by me in the foregoing matter, and that this is a correct transcript of the same.

ANGELA M. KING, RPR
Court Reporter - Notary Public

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