

SB-653-SD-1

Submitted on: 2/19/2019 9:46:23 AM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	Testifying for O`ahu County Committee on Legislative Priorities of the Democratic Party of Hawai`i	Support	No

Comments:



DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

DAVID Y. IGE
GOVERNOR

MIKE MCCARTNEY
DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
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Statement of
MIKE MCCARTNEY
Director

Department of Business, Economic Development, and Tourism
before the
SENATE COMMITTEE ON WAYS AND MEANS

Wednesday, February 20, 2019
10:05 AM

State Capitol, Conference Room #211

In consideration of
SB 653 SD1
RELATING TO ELECTRIC VEHICLES.

Chair Dela Cruz, Vice Chair Taniguchi, and Members of the Committees. The Department of Business, Economic Development, and Tourism (DBEDT) offers the following **comments** on bill SB 653 SD1 that requires certain new state building construction and county building construction projects to have at least twenty parking stalls that are electric vehicle (EV) charger ready and requires that all new state building construction and county building construction have at least two electric vehicle charger ready parking stalls.

DBEDT recognizes that EV charger-ready building codes can support the installation of charging stations. DBEDT understands discussions pertaining to EV charger readiness in state and county construction have been occurring within the State Building Code Council (SBCC) and DBEDT recommends that these SBCC discussions be allowed to continue to develop.

Thank you for the opportunity to testify.

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR

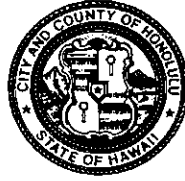
HONOLULU, HAWAII 96813

Phone: (808) 768-8480 • Fax: (808) 768-4567

Web site: www.honolulu.gov

LATE

KIRK CALDWELL
MAYOR



ROBERT J. KRONING, P.E.
DIRECTOR

MARK YONAMINE, P.E.
DEPUTY DIRECTOR

February 19, 2019

The Honorable Donovan M. Dela Cruz, Chair
The Honorable Gilbert S.C. Keith-Agaran, Vice Chair
and Members of the Committee on Ways and Means

The Senate
State Capitol, Room 211
415 South Beretania Street
Honolulu, Hawaii 96813

Dear Chair Dela Cruz, Vice Chair Keith-Agaran, and Members:

SUBJECT: Senate Bill No. 653
Relating to Electric Vehicles

The Department of Design and Construction (DDC) respectfully provides the following comments on Senate Bill No. 653, the purpose of which is to "...require that the infrastructure of new state or county building construction include an allocation of parking stalls for electric vehicle charging stations."

DDC supports the intent of the bill; however, in its present form there is one statement in the bill that needs further consideration. Section 5 states that, "This Act shall take effect upon its approval." This could result in adoption of a building code containing the new requirements shortly after enactment of the bill. Design of new buildings is typically a lengthy process, and a design nearing completion for building permit submittal would need to be redesigned to comply with the proposed requirements. This would result in unbudgeted costs and project delays. A more practical approach would be to delay building code implementation of the requirements for three years so the requirements could be incorporated into building projects in the preliminary design phases to avoid project delays and cost overruns. This should allow enough time to modify preliminary designs to include the needed electrical infrastructure in new projects. The additional time will also be needed to allow for the electric utility to

The Honorable Donovan M. Dela Cruz, Chair
and Members
February 19, 2019
Page 2

re-examine their facilities to see if they need to increase the capacity of their circuits to accommodate the additional load at the site of the new project.

Based on the above considerations, DDC recommends the bill be amended to address the issue raised in this letter.

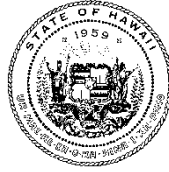
Thank you for the opportunity to provide our comments on this bill.

Very truly yours,

A handwritten signature in black ink, appearing to read "R. J. Kroning".

Robert J. Kroning, P.E.
Director

DAVID Y. IGE
GOVERNOR



CURT T. OTAGURO
Comptroller
AUDREY HIDANO
Deputy Comptroller

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES

P.O. BOX 119, HONOLULU, HAWAII 96810-0119

WRITTEN TESTIMONY
OF
CURT T. OTAGURO, COMPTROLLER
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
TO THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
FEBRUARY 20, 2019, 10:05 A.M.
CONFERENCE ROOM 211, STATE CAPITOL

S.B 653, S.D. 1
RELATING TO ELECTRIC VEHICLES

Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee, thank you for the opportunity to submit testimony on S.B. 653, S.D. 1.

The Department of Accounting and General Services (DAGS) supports the intent of the measure to revise Section 107-25, Hawaii Revised Statutes, to require infrastructure for electrical vehicle (EV) charging stations for new state or county buildings, and we offer the following comment:

Section 3 (b) defines “electric vehicle charger ready” as having sufficient wire, conduit, electrical vehicle charger capable of providing a minimum of 208- or 240-volt branch circuit. The definition should also include sufficient capacity of the electrical service and distribution systems as the bill will affect significant reconstruction and renovation projects of existing facilities.

Thank you for the opportunity to submit testimony on this matter.

**TESTIMONY BEFORE THE SENATE COMMITTEE ON
WAYS AND MEANS**

S.B. 653, SD1

Relating to Electric Vehicles

Wednesday, February 20, 2019
10:05 AM, Agenda Item #47
State Capitol, Conference Room 211

Brennon Morioka
Director, Electrification of Transportation
Hawaiian Electric Company, Inc.

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran and Committee Members,

My name is Brennon Morioka and I am testifying on behalf of Hawaiian Electric Company Inc. and its subsidiary utilities Maui Electric Company, Limited and Hawaii Electric Light Company, Inc. (“the Hawaiian Electric Companies”) in support of S.B. 653, SD1, Relating to Electric Vehicles. S.B. 653, SD1 proposes to require charging infrastructure at new state and county buildings. The bill seeks to support future growth of clean transportation by designating a portion of available parking stalls at new state and county facilities to be electric vehicle (“EV”) charger ready.

S.B. 653, SD1 takes the bold step of showing government leadership in supporting efficient and emissions free transportation. By requiring parking stalls to be prepared for future electric vehicle charging demand, the government takes an important step towards supporting and incentivizing the development of one of the crucial components of a clean transportation future. As a developer of electric vehicle charging infrastructure, the Hawaiian Electric Companies recognize that the robust availability of vehicle charging infrastructure is essential to reducing barriers to adoption

of electric vehicles. Studies have shown that the availability of public vehicle charging is a key factor when car buyers consider purchasing a new electric vehicle, even if the customer ultimately intends to charge solely at their residence.

Providing increased access to public EV charging at workplaces and commercial locations are key priorities identified in the Companies' *Electrification of Transportation Strategic Roadmap*. This bill will continue the tremendous progress that the state has made towards a cleaner and more sustainable transportation future.

As one of the leaders in the state's clean transportation efforts, the Hawaiian Electric Companies remain committed to an EV strategy that is sustainable and helps create a bridge to a cleaner future. Thank you for the opportunity to testify in support of S.B. 653, SD1.



ELEMENTAL EXCELERATOR

**Written Statement of Elemental Excelerator
before the Senate Ways and Means Committee
February 20, 2019**

**Written Statement of Elemental Excelerator
before the Senate Ways and Means Committee
February 20, 2019**

**In consideration of [SB 653 SD 1](#)
RELATING TO ELECTRIC VEHICLES**

Aloha Chair Dela Cruz, Vice-Chair Agaran, and Members of the Senate Ways and Means Committee:

Elemental Excelerator respectfully **submits comments in support of the intent of SB 653 SD 1**, which:

1. Requires certain new state building construction and county building construction projects to dedicate at least twenty per cent of its total projected amount of parking stalls to be electric vehicle charger ready.
2. Requires that all new state building construction and county building construction have at least two electric vehicle charger ready parking stalls.

Elemental Excelerator is a Honolulu-based growth accelerator program founded and operating in Hawai'i. We have awarded over \$30 million to 82 companies resulting in 56 demonstration projects in Hawai'i & Asia Pacific. Each year, we evaluate over 500 companies and look for innovative entrepreneurs from around the world to come to Hawai'i and find transformative solutions to help us achieve our 100% clean energy goals and solve our most pressing environmental problems. We select 15-20 companies annually that best fit our mission and fund each company up to \$1 million.

Fifteen percent of Elemental Excelerator portfolio companies focus on mobility, with companies such as Proterra, eMotorWerks, and Chargetrip which specifically support solutions that advance the electrification of transportation. Bills such as SB 653 SD1 that support the development of EV charging infrastructure readiness signal to the broader mobility innovation sector Hawai'i's commitment to growing its economy through innovation.

We respectfully support the intent of SB 653 SD 1 for the following reasons:

1. **It will build capacity for the projected EV use:** Currently, Hawai'i ranks second in the nation in electric vehicles per capita. *Hawaiian Electric's Electrification of Transportation Roadmap* projects that at least 55% of cars on the road in 2045 will be electric. Achieving these goals will require extensive collaboration between State, county, and

private actors to ensure adequate infrastructure, economic viability, grid optimization, and operational efficiency.¹

2. **It will align with each county's clean ground transportation goals:** In 2017, all four Hawai'i counties committed to 100% clean ground transportation by 2045. Development of charging infrastructure affirms and support the goals of the counties.²

We respectfully submit the following comment:

The City & County of Honolulu is currently in the process of updating their building codes to include requirements for commercial and residential EV charging. We encourage State and county building codes align to ensure clear direction and coordination.

Mahalo for the opportunity to provide testimony on this legislation.

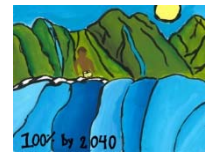
Sincerely,



Aki Marceau
Elemental Excelsior
Managing Director, Policy & Community - Hawai'i

¹ Electrification of Transportation (EoT) Strategic Roadmap. (n.d.). Retrieved from <https://www.hawaiianelectric.com/clean-energy-hawaii/electrification-of-transportation>

² Hawai'i's Mayors Commit to 100% Renewable Transportation. (2017, December 14). Retrieved from <http://www.hokulea.com/hawaiis-mayors-commit-100-renewable-transportation/>



SENATE COMMITTEE ON WAYS AND MEANS

February 20, 2019, 10:05 A.M.

Room 211

(Testimony is 2 pages long)

TESTIMONY IN SUPPORT OF SB 653 SD1

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the Committee:

Blue Planet Foundation supports but offers suggested amendments to Senate Bill (SB) 653 SD1, which requires that at least twenty percent of parking stalls for certain new state and county building construction projects be electric vehicle (EV) charger ready and requires that *all* new state and county building construction have at least two EV ready parking stalls. This bill will effectively decrease the cost of EV charging infrastructure retrofits for city and county agencies in the future by ensuring that all conduit and power capacity is installed upon initial construction and will increase the likelihood that state and county employees would be able to charge their EVs at work.

Since Hawaii's Mayors' set goals for 100% renewable ground transportation by 2045, many community members are looking to their local leadership to turn that commitment into action. This bill would provide some state and county employees with access to EV charging at work and save the state and county money on EV charger installation costs in the future.

Hawaii can expect more residents to choose EVs or gasoline vehicles as prices decrease. Battery costs have fallen precipitously over the past several years so that in many cases, the total cost of ownership for EVs is lower than for conventional vehicles. Experts expect battery prices to continue to fall and as automakers increase the number of models and volume of EVs in the next few years, the upfront cost of EVs is expected to reach upfront cost parity with conventional vehicles by 2024.¹

In part due to falling costs and increasing consumer demand, and in part due to government policies supporting EVs, nearly all of the world's leading automakers have announced aggressive strategies and investments in EVs during the past two years.

Yet, the lack of EV charging infrastructure locally in Hawaii is a significant barrier to EV adoption. Most EV owners primarily charge their vehicle at home, but many of Hawaii's residents reside in multi-unit dwellings (MUDs) where they cannot simply plug in their car in a garage. **This bill would expand charging options for residents that don't have the luxury of charging their EVs at home.**

¹ See Bloomberg New Energy Finance, <https://bnef.turtl.co/story/evo2018?teaser=true>.

Cost to Install EV Charging Infrastructure

The most challenging aspect of EV charger installation is the common lack of electrical capacity and distributed subpanels to support broad deployment of charging infrastructure. By choosing not to install EV charging infrastructure in new construction, the state and county would pay expensive retrofit costs to upgrade power capacity and install them later when their fleets have changed to EVs and their employees are driving EVs. **This bill is about future proofing our new state and county buildings.**

Studies have shown that installing EV infrastructure at the time of construction can be 91% less expensive than post-construction retrofits and per stall installation costs can be reduced through economies of scale, by deploying more stations at time of construction.² While this bill would not require the installation of the actual EV charging infrastructure, it would require that the power capacity and conduit be set up during construction, which would dramatically reduce retrofit costs at the time of installation, creating cost savings for the state and county.

Suggested Amendments

While EV-ready parking stalls in new state and county construction is a step in the right direction, it is wholly insufficient to break down barriers to EV adoption and address the expansive and urgent challenge of reducing greenhouse gas emissions from ground transportation in Hawaii.

To truly break down barriers to EV adoption in the state, this EV-ready law must extend to all new residential multi-family buildings and new commercial buildings.

Additionally, the numbers provided in this bill are not high enough to be impactful. As we move to 100% renewable ground transportation, these rates of EV-ready stalls will be insufficient to meet demand. ***The bill should be amended to require at least 25% of stalls to be EV-ready.***

If these amendments are made, this bill will ensure that the EV charging infrastructure network necessary to support the influx of EVs can be installed more efficiently and cost-effectively. It will provide new EV owners—particularly those that will live in MUDs—with the confidence that they will be able to access charging at home, at the workplace, and at public facilities.

We respectfully request that the committee pass SB 653 SD1 with these suggested amendments.

Thank you for the opportunity to testify.

² See <http://evchargingpros.com/wp-content/uploads/2017/04/City-of-SF-PEV-Infrastructure-Cost-Effectiveness-Report-2016.pdf>.

SB-653-SD-1

Submitted on: 2/19/2019 9:31:41 AM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Noel Morin	Testifying for Big Island EV Association	Support	No

Comments:

Aloha,

Please support SB653 SD!. This will allow our public facilities to be future-proofed. It will be more cost effective to introduce infrastructure or the foundation for one during the planning and construction process. For instance, conduits can be installed in anticipation of future charging station wiring.

While this is focused on public buildings, I recommend that a similar bill be raised for all construction, including residential homes.

Thank you,

Noel Morin

President - Big Island Electric Vehicle Association



TESLA'S TESTIMONY REGARDING SB 653, SD1

**being heard by the Senate Committee on Ways and Means
on Wednesday, February 20, 2019 at 10:05 AM
Room 211**

Aloha Chair Dela Cruz and Members of the Committees:

Thank you for the opportunity to provide testimony regarding SB 653, SD1, which would require certain new state and county buildings to include minimum levels of electric vehicle (EV) charging infrastructure. Tesla supports policies that seek to expand access to EV charging, recognizing the fundamental role it plays in driving EV adoption. By focusing on the deployment of EV infrastructure during initial construction, this measure recognizes the importance of “future proofing” the built environment to accommodate vehicle electrification, itself an important component of an overarching set of policies that are critical to Hawaii’s efforts to eliminate its reliance on fossil fuels. Although, Tesla supports the intent of this measure, and believes the amended version is an improvement over the measure as originally introduced, we believe further amendments are needed if the bill is to have any practical impact on EV adoption.

Tesla’s mission is to accelerate the world’s transition to sustainable energy. The electrification of the transportation sector is a critical part of this to the degree it represents among the most significant sources of greenhouse gas emissions through the combustion of fossil fuels. Nationally, the transportation sector accounts for almost 30% of GHG emissions.¹ By supporting efforts to transition to EVs, Hawaii can leverage its 100% renewable energy goals to greatly advance efforts to address climate change, reduce pollution and improve air quality, and enhance the state’s economic and energy security.

Access to charging represents one of the more fundamental challenges impairing demand for EVs. Without easy and convenient access to EV charging, drivers will be less inclined to choose an EV over a conventional vehicle. EV charging currently suffers from the “last mile” problem, or more realistically, the “last fifty feet” problem. Specifically, while the electrical grid is fairly ubiquitous, in order to support EV charging it needs to be expanded to bring the power to where EVs are actually parked. This typically requires incremental investments in infrastructure on the customer side of the meter including electrical panel capacity, conduit and wiring, in addition to, in the case of Level 2 charging, the charging station itself. As observed in the bill, the costs of deploying this infrastructure is quite modest if pursued as part

¹ US Environmental Protection Agency; see <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions>



of initial construction, with numerous studies indicating these costs are de minimus relative to total construction costs.²

The bill, as amended, would require all newly constructed state and county buildings of a certain size to make at least 20% of the parking stalls serving the building EV-ready. Tesla supports this amended provision as it provides a meaningful level of EV-readiness in these buildings and is consistent with EV-readiness requirements in other jurisdictions.

At this point, Tesla's primary concern with the bill is the very limited scope of buildings that would be subject to the EV-ready requirements. Tesla continues to encourage expanding the scope of the bill to cover all newly constructed buildings rather than focusing exclusively on state and county buildings. Tesla suspects that state and county projects represent only a small percentage of the overall share of newly constructed buildings and associated parking facilities. While promoting the deployment of EV-ready infrastructure in state and county buildings is laudable and important, it ignores the need to address new construction more generally and would not meaningfully increase the availability of EV charging for the vast majority of Hawaii residents who park in facilities that are not associated with state or county government. In particular, the most effective locations to deploy charging infrastructure, and where Tesla strongly believes state policy should focus, is in residential multi-unit dwellings and workplaces. In order for EV uptake to happen at scale, charging needs to be convenient – this means that it is located where people would park their vehicles anyway, like at home or at work.

In addition, Tesla recommends a technical modification to the definition of "EV charger ready," which would help ensure the language has its intended impact. Specifically, the language should be altered to incorporate the following (underline represents additions, ~~strikethrough~~ represent deletions):

As used in this section, "electric vehicle charger ready" means having sufficient wire, conduit/listed raceway, termination point and electric panel capacity to ~~electric vehicle charger~~ capable of provide a minimum of 40amp 208- or 240-volt branch circuit per EV space.

Tesla appreciates the opportunity to submit this testimony. Tesla supports this measure but believes that the amendments enumerated above are necessary if the bill is to substantively impact the availability of EV charging and meaningfully support the State's efforts to transition away from fossil fuels.

² See, for example, "Electric Vehicle Charging Infrastructure: Multifamily Building Standards" California Air Resources Board, April 13, 2018; p. 22. Available for download at <https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf>



SB-653-SD-1

Submitted on: 2/19/2019 10:06:48 AM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Michelle Matson	Individual	Support	No

Comments:

I support this measure - and it is important to extend this to ALL buildings, not simply government buildings.

SB-653-SD-1

Submitted on: 2/19/2019 9:15:12 AM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Stephanie Hall Morin	Individual	Support	No

Comments:

I fully support this bill. It's evident that EV adoption is climbing at a double digit percentage rate year over year. Proactively wiring new construction projects makes a lot of sense. It eliminates the downtime and costs of retrofitting. This also shows the people of Hawaii that the state is committed to reaching its goal of 100% sustainable transportation by 2045.

SB-653-SD-1

Submitted on: 2/19/2019 3:47:47 AM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Fernando L Alvarado	Individual	Support	No

Comments:

Ensuring that a certain number of parking spots are reserved for EVs is another low-cost way of signaling the significance that EVs play in the future or Hawaii. It perhaps should be a requirement of all parking structures and private lots of any size.

SB-653-SD-1

Submitted on: 2/18/2019 11:21:39 PM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Richard Michaels	Individual	Support	No

Comments:

Support transition to electric vehicles. Charging stations are a necessity.

SB-653-SD-1

Submitted on: 2/18/2019 10:42:45 PM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Nanette Vinton	Individual	Support	No

Comments:

Honorable Chairs and Committee Members,

I am writing in support of SB 653 SD1 which would require certain new state and county buildings to dedicate at least 20% of its parking stalls to be EV charger ready.

I have been an EV owner since 2013 and am happy to see the significant growth in the number of EVs over the past few years. However, it seems that the number of EV chargers/parking available has not grown at the same pace. We need to be prepared for the future EV growth as more EV models will be coming out over the next year or two.

I believe that having a proper charging infrastructure to support EVs at home, work and public places is key to continued EV adoption and to support the State's Clean Transportation goals. While this bill would better prepare Hawaii for future EV growth, I also believe that it should be expanded to include certain new residential and commercial developments as well.

Sincerely,

Nanette Vinton

SB-653-SD-1

Submitted on: 2/18/2019 10:28:32 PM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Cheryl Nakamura	Individual	Support	No

Comments:

Please push this bill as it is already difficult to find EV parking within government buildings, but it also needs to expand to all buildings. Thank you.

SB-653-SD-1

Submitted on: 2/18/2019 9:38:52 PM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Peter Forman	Individual	Support	No

Comments:

Dear Ways and Means Committee,

I urge you to support SB653 because it goes a long way to solve the needs of EV owners who either have round-trip range issues with their current EVs or live in buildings where their parking spots do not support EV charging. The way to charge an EVs battery without creating undo stress on the battery is through a low-to-moderate charging rate overnight while at home or during the day at work. Charging locations where people work during the day gives these EV drivers the opportunity to charge while solar energy creation is highest and it thereby will help our energy grid as it becomes more reliant upon solar energy. If Hawaii lacks the infrastructure to support EVs, we constrain the widespread adaption of EVs. Please help future EV owners by eliminating the charging bottleneck which is surely holding some back from making the move to clean, sustainable transportation.

Peter Forman

Kailua, HI

SB-653-SD-1

Submitted on: 2/18/2019 8:36:16 PM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Ronald FitzGerald	Individual	Support	No

Comments:

Please support this Bill to support people who want to move to change to electric cars and trucks. Since many of our electric cars have limited range with the technology, we need more access to recharging them. If we want a green future please support this Bill.

LATE

SB-653-SD-1

Submitted on: 2/19/2019 3:43:36 PM

Testimony for WAM on 2/20/2019 10:05:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Andrea Quinn	Individual	Support	No

Comments:

Dear Honorable Committee Members:

Please support SB653. Climate change is already occurring and Hawaii stands to lose a large portion of tourism dollars if sea levels continue to rise and coral reefs continue to die. Promoting the use of electric vehicles is an important step in mitigating global warming.

Thank you for the opportunity to present my testimony.

Andrea Quinn

Kihei



LATE

Subject: Support SB663 SD1

Dear Chair Donovan Dela Cruz, Vice Chair Gilbert S.C. Keith-Agaran and members of the Senate Committee on Ways and Means,

My name is Kari Benes and I am the Chair of the Hawaii Strategic Highway Safety Plan (SHSP). The Strategic Highway Safety Plan Core Committee has identified implementation of automated photo enforcement as a long-standing priority of the Strategic Highway Safety Plan.

Red-light running endangers all other road users and especially more vulnerable road users such as pedestrians and bicyclists. Nationwide, in 2016 811 individuals were killed in crashes involving a driver who ran a red light. Over half of those killed were pedestrians, bicyclists and people in other vehicles. Implementation of red-light running cameras have been studied for more than 2 decades and they have proven to be effective at reducing both crashes and reducing the number of overall violations.¹

SB663 SD1 provides a balanced and thoughtful approach to the implementation of a red-light running program. Most importantly, this measure permits, yet does not require, counties to explore implementation of a red-light running program.

The Hawaii Strategic Highway Safety Plan's vision is that all of Hawaii's road users arrive safely at their destinations. You can help us achieve our goal of reducing yearly fatalities, by supporting this measure.

To view the Strategic Highway Safety Plan, go to www.hawaiiishsp.com

Strategic Highway Safety Plan Mission

Save lives and reduce injuries on Hawaii's roadways through strategic partnerships and implementation of the Strategic Highway Safety Plan.

¹ <https://www.iihs.org/iihs/topics/t/red-light-running/qanda>



LATE

Email: communications@ulupono.com

SENATE COMMITTEE ON WAYS & MEANS
Wednesday, February 20, 2019 — 10:05 a.m. — Room 211

Ulupono Initiative Supports SB 653 SD 1, Relating to Electric Vehicles

Dear Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee:

My name is Murray Clay and I am the Managing Partner of Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable clean renewable energy; and better manage waste and fresh water resources.

Ulupono supports SB 653 SD 1, which requires certain new state building construction and county building construction projects to have at least twenty parking stalls that are electric vehicle charger ready, and all new state building construction and county building construction have at least two electric vehicle charger ready parking stalls, because it will increase the use of more efficient, cleaner forms of transportation and help to reduce Hawai'i's dependence on imported fossil fuels.

Electric vehicles (EVs) are an important avenue to address Hawai'i's pressing climate issues and align with the State's energy and environmental goals. While Hawai'i's electric power sector continues to make progress toward its 100 percent renewable portfolio standard (RPS) mandate, our transportation sector has received little attention.

EVs currently offer an effective option to progress clean renewable ground transportation and immediate benefits to Hawai'i.

- EVs can alleviate Hawai'i's high cost of living
- EVs provide immediate impact to reduce our dependence on fossil fuels and decrease greenhouse gas (GHG) emissions
- EVs are prime for market acceleration
- Hawai'i should be doing more to promote EVs and EV infrastructure

EVs Can Alleviate Hawai'i's High Cost of Living

EVs are an increasingly affordable option for all. For example, the 2019 Nissan Leaf's average MSRP is \$33,095. After the Federal tax credit is considered, the purchase price is

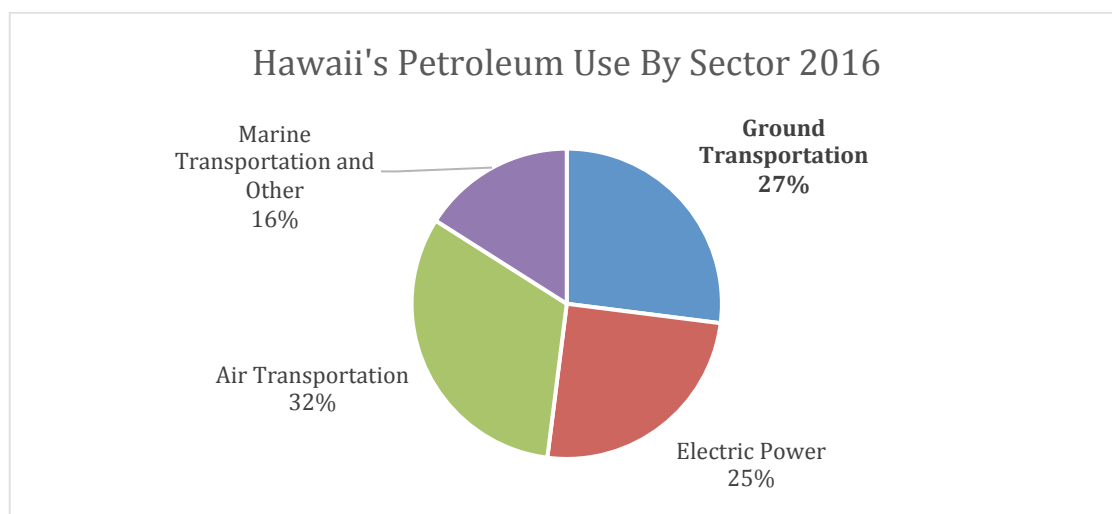
Investing in a Sustainable Hawai'i

\$25,595, which is less than the best selling sedan in the country, the 2019 Toyota Camry. Attachment A to our testimony compares the purchase price of non-luxury EVs with top-selling sedans and the Toyota Tacoma (the top selling vehicle in Hawai'i).

EVs are also cheaper to operate and maintain because they have less moving parts and are more fuel efficient. According to a recent study by the Union of Concerned Scientists, Honolulu drivers could save more than \$500 per year by switching to an EV.

EVs Provide Immediate Energy and Environmental Impact

Ground transportation alone utilizes more than a quarter of the state's imported petroleum. Electrifying ground transportation will reduce our demand for imported fossil fuels, keeping millions of dollars in the state and cutting harmful pollution.



Source: Hawaii State Energy Office – Hawaii Energy Facts & Figures

Converting from petroleum-based vehicles to EVs immediately reduces GHG emissions, helping combat climate change and its impacts on our islands. EVs produce zero-emissions at the tailpipe, and even when full lifecycle emissions (from manufacturing through disposal) are considered, EV emissions are approximately 50 percent lower than internal combustion engine (ICE) vehicles.

Furthermore, EVs can support the integration of more renewables on the electric grid with smart charging technology and rate structures. Thus, proliferating EVs throughout Hawai'i can help accelerate progress towards the State's 100 percent RPS goal, as well as contribute to the State's Paris Agreement commitments and carbon neutral goal.

EVs Are Prime For Market Acceleration

From a market perspective, EV adoption in Hawai'i has shown impressive growth, with the state ranking second in the nation behind California in the number of EVs per capita. As of

November 2018, there were more than 8,000 passenger EVs registered in Hawai'i, a 24 percent growth from the previous year. This progress is despite not having strong supporting policies as seen in other states, municipalities and countries.

Based on global and local trends, these adoption numbers are expected to increase exponentially by 2030. Major automobile manufacturers, from Volvo to Volkswagen, have revealed plans to offer electric versions of all their vehicle models. Even Ford announced it will build an all-electric F-150 pickup truck, the top selling vehicle in the country. Policies across the globe are further supporting this transition; in fact, Britain and France have committed to end sales of gas-powered vehicles by 2040.

Hawai'i Should Be Doing More

EVs are the future, but they currently only represent less than one percent of all passenger vehicles in the state. Hawai'i must encourage this still nascent market and be prepared with the necessary infrastructure.

Public EV charging stations are a vital component of the EV system. They provide access to charging for drivers who may not be able to charge at home, such as residents who live in multi-unit dwellings, and alleviate range anxiety for all EV drivers, a top-cited barrier to purchasing EVs. Similar to the benefits that community solar offers to renters and apartment residents, public chargers open up the opportunity and feasibility of owning an EV to more people, increasing equity and access.

Requiring qualifying facilities to be "EV ready" is smart and essential future proofing. As the bill states, installing EV infrastructure post-construction costs three times more than at the time of new construction, and it represents approximately less than one percent of total new construction project cost. Given that building construction has a ~30 year life, this bill is a fiscally prudent way to prepare the state for 2049 and beyond, when EVs are expected to be abundant and charging will be critical.

Other states and cities recognize the importance of EV infrastructure and already have policies that require public and private parking facilities to be built to support EV charging. Below are examples of leading state and city EV-ready requirements:

- California - 8 percent of parking stalls at nonresidential properties
- Vancouver - 100 percent of parking stalls at multi-unit residential and 10 percent of stalls at commercial properties
- New York City - 20 percent of parking stalls at parking facilities (open lots and garages)
- Atlanta - 20 percent of parking stalls at new commercial and multifamily properties
- San Francisco - 20 percent of new residential, commercial and municipal properties

If the State of Hawai'i is serious about the sustainability and resiliency of our communities,



it should encourage EVs and EV infrastructure. The State can set a strong example for the private sector with this bill, as the private industry often looks to the public sector to lead such impactful initiatives. Requiring state and county construction to be EV ready lays the foundation for additional policy to initiate the private sector and generates broad momentum to advance EVs and clean transportation.

As Hawai'i's energy issues become more complex and challenging, we appreciate these committees' efforts to look at policies that support clean ground transportation. Thank you for this opportunity to testify.

Respectfully,

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