

Charlotte A. Carter-Yamauchi
Director

Shawn K. Nakama
First Assistant

Research (808) 587-0666
Revisor (808) 587-0670
Fax (808) 587-0681



LEGISLATIVE REFERENCE BUREAU
State of Hawaii
State Capitol, Room 446
415 S. Beretania Street
Honolulu, Hawaii 96813

Written Comments

HB2274 HD1

RELATING TO THE ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Charlotte A. Carter-Yamauchi, Director
Legislative Reference Bureau

Presented to the House Committee on Finance

Wednesday, February 28, 2018, 12:00 p.m.
Conference Room 308

Chair Luke and Members of the Committee:

Good afternoon Chair Luke and members of the Committee, my name is Charlotte Carter-Yamauchi and I am the Director of the Legislative Reference Bureau. Thank you for providing the opportunity to submit written comments on H.B. No. 2274, H.D. 1, Relating to Electric Vehicle Charging Infrastructure.

The purpose of this measure is to strengthen the State's electric vehicle charging requirements by:

- (1) Requiring parking facilities to provide electric vehicle supply equipment to at least one parking space per one hundred parking spaces to be designated exclusively for electric vehicles;
- (2) Creating a ratio to calculate the total number of electric vehicle stalls that a parking facility with more than one hundred public parking spaces must have, beginning July 1, 2021;
- (3) Authorizing the Director of Transportation to fine properties that are not in compliance with electric vehicle parking space requirements;
- (4) Establishing a working group within the Department of Business, Economic Development, and Tourism to:

- (A) Address the installation of electric vehicle supply equipment at apartments, condominiums, cooperative housing corporations, and planned community associations; and
 - (B) Examine the issues regarding the installation of electric vehicle supply equipment and develop solutions for providing parking spaces with electric vehicle supply equipment without relying on funding from ratepayers or other tax revenues, including possible establishment of a tariff by the Public Utilities Commission to fund charging infrastructure over a period of time; and
- (5) Requiring the Legislative Reference Bureau to assist the working group with its final report and draft proposed legislation that are to be submitted to the Legislature no later than twenty days prior to the convening of the 2019 Regular Session.

The Bureau takes no position on this measure, but submits the following comments for your consideration.

As an initial matter, we note that Act 164, Session Laws of Hawaii 2015, established a nearly identical working group with the same purpose. Since it does not appear that significant changes to the installation of electric vehicle supply equipment have occurred since the 2015 working group issued its report in December 2015, the purpose of this working group is unclear. The Committee may wish to consider directing the bill's proponents to clarify this issue.

As a more general matter, we note that the working group established in this measure contains few members of the Legislature relative to the overall membership of the task force, and will be situated in the Department of Business, Economic Development, and Tourism, an executive branch agency. The Bureau is statutorily directed to use its resources and services to assist the Legislature and its members, unless otherwise directed by the Legislature.

Accordingly, we have some concerns with how the measure is currently drafted with respect to the work requested of the Bureau. The language of the measure requires the Bureau to assist the working group with its final report and draft proposed legislation. As currently drafted, the scope of assistance required of the Bureau is unclear and does not provide a specific deadline for the working group to submit its requests for service to the Bureau. Absent a specified deadline, the services requested could have an adverse impact on the services the Bureau provides to the Legislature and its members.

If the Committee decides to recommend the passage of this measure and desires to keep the Bureau involved, we respectfully request that the measure be amended to specifically clarify that the working group provide the Bureau with a draft of its final report and request to draft proposed legislation by no later than September 1, 2018, so that work on the

report and legislation would not adversely impact our ability to provide our core services to the Legislature for the upcoming Regular Session.

If the measure is amended to address the concerns noted above to have the Bureau assist with finalizing the report and proposed legislation, the Bureau believes that the services requested under the measure would be manageable and that the Bureau will be able to provide the services in the time allotted; provided that the Bureau's interim workload is not adversely impacted by too many other studies or additional responsibilities, such as conducting, writing, or finalizing other reports, drafting legislation, or both, for other state agencies, task forces, or working groups that may be requested or required under other legislative measures.

Thank you again for your consideration.

DAVID Y. IGE
GOVERNOR

RODERICK K. BECKER
COMPTROLLER



An Agency of the State of Hawaii

ROSS I. YAMASAKI
CHAIRMAN, STADIUM AUTHORITY

SCOTT L. CHAN
MANAGER

RYAN G. ANDREWS
DEPUTY MANAGER

TESTIMONY
OF
SCOTT L. CHAN, STADIUM MANAGER
STADIUM AUTHORITY
TO THE
HOUSE COMMITTEE
ON
FINANCE
ON
February 28, 2018

H.B. 2274, H.D. 1

RELATING TO ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Chair Luke, Vice Chair Cullen, and members of the Committee, thank you for the opportunity to testify in the form of comments on H.B.2274, H.D. 1

The Stadium Authority (Authority) supports the intent of H.B. 2274, H.D. 1 and appreciates the Legislature's foresight and impetus in transforming vehicular transportation in Hawaii. While we do agree with the intent of the bill, we have concerns specifically as it relates to the negative financial impact, utilization rate, and the operational and logistical challenges that would result in an unfeasible and operationally challenging project for the special funded Authority.

HB 2274, H.D. 1 seeks to establish an electric vehicle supply equipment (EVSE) installation schedule and ratio of one (1) charging station to every 100 vehicles by July 1, 2012 and increases the EVSE ratio in subsequent years.

CONCERNS:

- The Authority has significant concern over the proposed ratio requirement. The Aloha Stadium maintains an approximate capacity of 7,000 – 7,600 total parking spaces that essentially must be available on event days and/or these spaces are also used as an area to host events. At 7,000 total spaces, this bill requires the Authority to initially install a minimum of 70 charging stations at an approximate cost of \$4,000 to \$6,000 per installed commercial EVSE. Using a total estimated cost of \$6,000 per commercial pedestal unit (installed), this would cost the Authority approximately \$420,000 initially and an additional \$420,000 for each incremental ratio increase, costing the Authority a total of \$1.2 million by July 1, 2024 as an unfunded-unbudgeted project. We believe this will be extremely difficult for the Authority to absorb from within its existing self-sufficient special funded budget. As a self-sufficient operation, the Authority relies solely on funds generated through various business revenue streams to address its recurring operating expenses. H.B. 2274, H.D. 1 imposes a significant unfunded/unbudgeted, non-revenue generating financial hardship on the Authority’s operating budget.
- It is also important to note that the Aloha Stadium parking lot is also used as a venue to host events such as large and small-scale fairs, car shows, concerts, driver training, swap meet, etc. Events held in the parking lot could operationally and/or logistically render the EVSE stations inaccessible due to an event’s layout and its operational and safety requirements.
- Further, it should be noted that the Aloha Stadium parking lot is not a site that is open 24 hours a day/seven days a week. Its priority and program objective is to provide a venue for sporting and entertainment events. While not hosting an event in

the bowl or in its parking lot, the property is secured and closed to the public to ensure public safety and to minimize property damage, vandalism, and theft.

Respectfully, we believe that it is not the intent of the Legislature to include the Authority in this bill. Based on the foregoing, the Authority is clearly an “outlier” and ask that the committee strongly consider providing the Authority with a full exemption from HB 2274, H.D. 1 given the critical operational and logistical factors that influence utilization, feasibility, practicality, and cost.

Thank you for the opportunity to testify on this matter.



TESTIMONY REGARDING HB 2274, HD1

**being heard by the House Committee on Finance
on Wednesday, February 28, 2018 at 12:00 p.m. in Room 308**

Aloha Chair Luke and Members of the Committee:

Tesla supports HB 2274, HD1, and proposes several amendments described below to improve the bill's efficacy in achieving its intended aims.

HB 2274, HD1 recognizes that a significant barrier to greater adoption of electric vehicles (EVs) is the availability of charging locations. Particularly in localities where many prospective EV drivers do not live in single family detached housing, which lends itself to the deployment of dedicated EV charging infrastructure, there is an unambiguous need to support deployment in parking facilities, workplaces and multi-unit buildings to ensure potential EV drivers are confident that they will be able to conveniently recharge their vehicles. This bill would take an important step in supporting Hawaii's efforts to expand adoption of EVs by updating requirements for the minimum number of parking spaces that provide EV charging capabilities in publicly accessible parking facilities.

Tesla's mission is to accelerate the world's transition to sustainable energy through electric vehicles, including light duty and now heavy duty with the Tesla Semi, as well as through sustainable energy products. Tesla supports this legislation as currently drafted, and we recommend the Committee adopt the following changes.

First, the bill should implement the requirement of three parking stalls per 100 spaces from the outset, rather than ramping the requirement over time. While ramping up the requirement may be premised on scaling EV charging infrastructure investments as a function of EV adoption, this approach overlooks the reality that the availability of charging infrastructure is a key driver of EV demand. In other words, if the State wishes to electrify the transportation sector, it should proactively invest in EV charging infrastructure, not wait for EV adoption to occur.

Second, the bill should be amended to clarify the type of charging capability that needs to be deployed to achieve compliance. Specifically, the bill should clarify that compliance requires the deployment of Level 2 charging capabilities, defined as charging infrastructure, including the charging unit itself (sometimes referred to as the "electric vehicle service equipment") that allows a vehicle to charge at 240 volts/40 amps.

Third, the compliance date should be moved forward to July 1, 2019. This will ensure the bill results in near-term charging availability, helping to drive EV adoption in the near term.

Fourth, Tesla observes that the building code should also be updated to help drive the deployment of EV charging infrastructure at scale. The lowest cost means of deploying EV charging infrastructure is at the time of facility construction rather than as a retrofit. A study conducted by Energy Solutions and



Northern California utility Pacific Gas & Electric Company prior to adopting building standard changes in San Francisco identified that installing EV infrastructure at the time of construction can be 64-75% less expensive than post-construction retrofits.¹ For this reason Tesla recommends modifying the State's building code to require some minimum level of EV charging infrastructure be deployed in all newly constructed or significantly renovated parking facilities serving multi-unit residential buildings, workplaces or commercial entities. For example, requiring the greater of one parking stall or 20% of all parking stalls in a facility be equipped with "EV-ready" infrastructure (which includes all of the wiring, conduit and breaker capacity necessary to charge an EV at 240 volts/40 amps, but excludes the charging port) would ensure that all newly constructed parking facilities are designed and built with EVs in mind.

Finally, the utilities have an important role to play in supporting investments in EV charging infrastructure. For example, in California the largest investor owned utilities are in process of implementing multi-year plans pursuant to legislation through which they are making significant investments in charging infrastructure to address the current gap in the amount of infrastructure necessary to both catalyze and support the Governor's goal of having 5 million EVs on the state's roads by 2030. Tesla encourages the Legislature, the Hawaii Public Utilities Commission and the state's utilities to consider establishing a similar program, for example, by establishing a goal of deploying sufficient EV charging infrastructure to support 250,000 EVs on Hawaii's roads by 2045. This would provide a basis to determine the level of investment in charging infrastructure needed to facilitate the State's interest in driving mass adoption of EVs to electrify the transportation sector and help achieve climate, clean transportation, and clean air goals.

Thank you for the opportunity to submit this testimony.

¹ Energy Solutions & Pacific Gas and Electric (November 2016), "Plug-in Electric Vehicle Infrastructure Cost-Effectiveness Report for San Francisco."

HB-2274-HD-1

Submitted on: 2/27/2018 11:48:28 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	OCC Legislative Priorities Committee, Democratic Party of Hawai'i	Support	No

Comments:



Email: communications@ulupono.com

HOUSE COMMITTEE ON FINANCE
Wednesday, February 28, 2018 — 12:00 p.m. — Room 308

Ulupono Initiative Supports the Intent of HB 2274 HD 1, Relating to Electric Vehicle Charging Infrastructure

Dear Chair Luke, Vice Chair Cullen, and Members of the Committee:

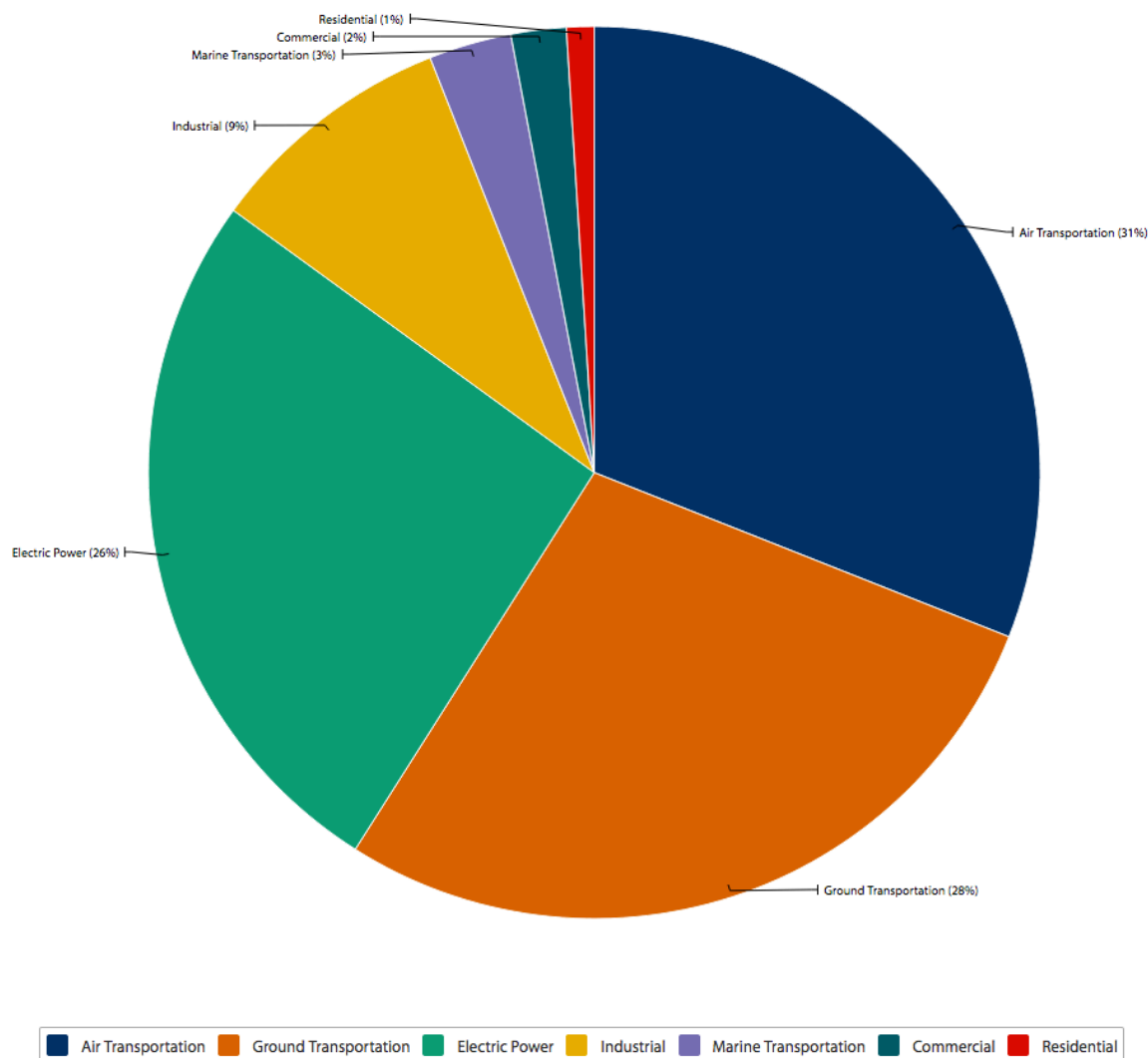
My name is Murray Clay and I am Managing Partner of the Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable, clean, renewable energy; and better management of waste and fresh water. Ulupono believes that self-sufficiency is essential to our future prosperity and will help shape a future where economic progress and mission-focused impact can work hand in hand.

Ulupono supports the intent of HB 2274 HD 1, which expands the State's existing electric vehicle charging requirements for parking lots in multi-unit buildings and workplaces and creates a point system for compliance.

Ulupono is supportive of a parking requirement that recognizes that faster charging stations provide better support to EV drivers and should therefore obtain more credit towards compliance than with the existing parking requirement law.

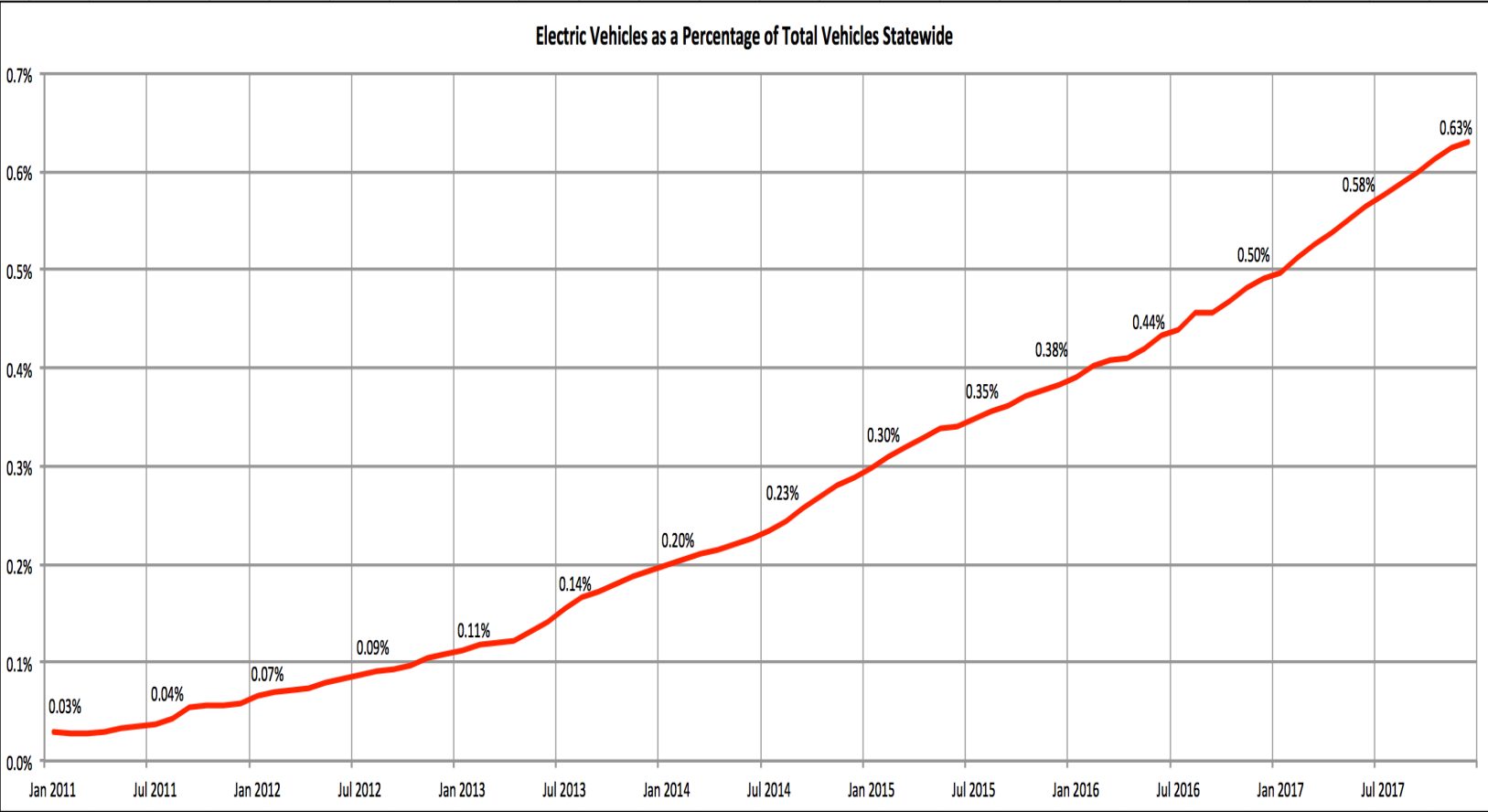
In Hawai'i, while ~25 percent of electricity generation is renewable energy, less than 1 percent of energy use in transportation is renewable. Meanwhile, the transportation sector requires more energy than the electricity sector. Furthermore, about 28 percent of the state's primary energy usage is due to ground transportation, such as cars and trucks, which rely almost exclusively on imported fossil fuels for its energy. Electrifying ground transportation is presently the most efficient and impactful way to move transportation toward more renewable energy.

Investing in a Sustainable Hawai'i



This bill would create greater demand for electric vehicle charging infrastructure, a precursor to making electric vehicle ownership more appealing by reducing range anxiety. More electric vehicle charging stations would have the additional benefit of providing the potential to add battery storage capacity and/or demand response capacity to the electric grid.

Hawai'i ranks second in the nation behind California in the number of electric vehicles registered as a percentage of vehicles. As of December 2017, electric vehicles represented 0.63 percent of all registered vehicles. In 2017, electric vehicle registrations increased by 31 percent while gasoline vehicle registration only increased by 1 percent. Electric vehicles are only going to grow in market share of vehicles and therefore this bill takes a reasonable proactive approach to support new technology.



Source: DBEDT Figures





Yet even as electric vehicle ownership is growing in Hawai'i, public electric vehicle charging infrastructure is not keeping up. In October 2015, there were 8.43 electric vehicles for every public level 2/3 charger in Hawai'i. Yet, in March 2017, there were 10.40 electric vehicles for every public level 2/3 charger in Hawai'i.

Thank you for this opportunity to testify.

Respectfully,

Murray Clay
Managing Partner

HB-2274-HD-1

Submitted on: 2/26/2018 9:40:54 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Richard Emery	Associa	Support	No

Comments:

I support HB 2274 and the testimony of CAI.



P.O. Box 976
Honolulu, Hawaii 96808

February 23, 2017

Honorable Sylvia Luke
Honorable Ty J.K. Cullen
Committee on Finance
415 South Beretania Street
Honolulu, Hawaii 96813

Re: HB 2274 HD1 SUPPORT

Dear Chair Luke, Vice-Chair Cullen and Committee Members:

This testimony is submitted on behalf of the Community Associations Institute ("CAI"). CAI supports the goal of achieving energy independence.

CAI supports HB 2274 HD1 for reasons stated herein. Prior concerns have been addressed in the current version of the bill. Part I of HB 1874 HD1 no longer applies to CAI's constituency.

Part II contains the proposal to establish within the department of business, economic development, and tourism, for administrative purposes, a working group to address the installation of electric vehicle supply equipment at apartments, condominiums, cooperative housing corporations, and planned community associations. Two representatives of the Community Associations Institute would participate as working group members.

The proposed working group would continue work referenced in the December 2015 Department of Business, Economic Development and Tourism Report to the Hawaii State Legislature (Act 164 Working Group). HB 1874 HD1, however, directs that the new working group shall examine the issues regarding the installation of electric vehicle supply equipment and develop solutions for providing parking spaces with electric vehicle supply equipment without relying on funding from ratepayers or other tax revenues, including possible establishment of a tariff by the public utilities commission to fund charging infrastructure over a period of time.

Honorable Sylvia Luke
Honorable Ty J.K. Cullen
February 23, 2018
Page 2 of 2

The Act 164 Working Group had considered pursuit of a funding mechanism via the public benefits fee. See, HRS §269-121. HB 2274 HD1 directs that a different solution be developed. That will take study because, as the Act 164 Working Group reported:

The Working Group finds that each request to install an EV charging system within an existing building is unique and is often associated with complicated issues and challenges that require flexibility in addressing installation solutions.

The Working Group understands that there is no single solution that addresses the myriad of financial, structural, or organizational concerns relating to the installation of EV charging systems at existing MUDs. The Working Group further recognizes that due to the unique nature of each EV charging system's installation process, any installation request should be met with flexibility and an understanding of the complexities of installation challenges.

Report at 16.

CAI favors collaborative approaches to problem solving and welcomes the opportunity to participate in a further study of how to effectively address the "complicated issues and challenges" associated with requests for installation of an EV charging system within an existing building. CAI, therefore, supports HB 2274 HD1 in its current form.

Community Associations Institute, by

Philip Nerney

For its Legislative Action Committee



To: The House Committee on Finance
From: Brodie Lockard, 350Hawaii.org, 808-262-1285
Date: Tuesday, February 28, 2018

In strong support of HB 2274 HD1

Dear Chair Luke, Vice Chair Cullen and Committee members,

I am a founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org strongly supports HB 2274 HD1.

As of January 2018 there were 6,748 passenger electric vehicles in the state, out of 1,062,518 total registered passenger vehicles, or an anemic 0.64 percent [1]. We should be doing everything we can to increase that percentage.

As the number of (zero-emissions vehicles (ZEVs) inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. Large parking areas are especially important because ZEV drivers cannot just park "next door" where there might be a parking space and supply equipment point available.

The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii [2]. This bill will help reduce Hawaii's greenhouse gas emissions by helping to make parking and charging ZEVs a non-issue.

Please support HB 2274 HD1. It will help pave the way for our clean energy goals.

Thank you for the opportunity to testify.

[1] http://files.hawaii.gov/dbedt/economic/data_reports/energy-trends/Energy_Trend.pdf

[2] <https://www.eia.gov/state/analysis.php?sid=HI>

Brodie Lockard
350Hawaii.org



**TESTIMONY OF TINA YAMAKI
PRESIDENT
RETAIL MERCHANTS OF HAWAII
February 28, 2018**

Re: HB 2274 HD1 Relating to Electric Vehicle Charging Infrastructure

Good afternoon Chairperson Luke and members of the House Committee on Finance. I am Tina Yamaki, President of the Retail Merchants of Hawaii and I appreciate this opportunity to testify.

The Retail Merchants of Hawaii (RMH) is a statewide not-for-profit trade organization committed to supporting the retail industry and business in general in Hawaii. The retail industry is one of the largest employers in the state, employing 25% of the labor force.

Retailers continue to be concerned about our aina and have supported many initiatives that preserve and protect our environment. However, The Retail Merchants of Hawaii does not support HB 2274 HD1 Relating to Electric Vehicle Charging Infrastructure. This bill would increase the number of charging stations and parking spaces designated specifically for electric vehicles.

We believe that the market and customers should be the influencers in business trends and operations and not government mandates. Taking away more open public parking stalls and turning them into reserved EV stalls would hurt businesses, especially on weekends when many go to the malls and stores to shop and turn away when they can't find a stall. Retailers and shopping malls already provide these "reserved parking spaces" with a FREE charging station for electric vehicles. These stalls for EV will come at a cost to businesses for the installation, upkeep and electricity. It is not that easy sometimes to install when there is electricity that needs to be pulled in.

Many of our members have found EV drivers in the surrounding neighborhood and condominiums come to plug into the retailers charging stations to avoid increasing their electric bill at home or because their complex does not have the ability to charge the EV. Furthermore, these residents leave their cars charging AND are not shopping in the stores while their batteries are being recharged. Thus these residents are taking away the EV stall from customers coming to shop. And the money that is spent in the stores in turn supports our family, friends and neighbors who work in the stores.

We would also like to point out that with the advancement of technology, the newer model Electric Vehicles can travel further distances. There are also other cars being developed that uses alternatives to traditional gas-powered car like that of hydrogen fuel cell. We are concerned that government will begin to mandate "reserved parking stalls" for all of the various types alternative gas powered vehicles and that businesses with large parking lots would just become a reserved parking charging station for the public and not able to offer convenient parking for the customers that actually shop in the stores.

Government mandates like this does drive up the cost of doing business that in turn drives up the cost of living in Hawaii. We urge you not to impose another government mandate on business and ask that you hold this measure.

Mahalo for this opportunity to testify.





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HAWAIIAN DREDGING
CONSTRUCTION CO. INC.

ADDRESS:
94-487 AKOKI STREET SUITE 213
WAIPAHU, HAWAII 96797
P 808.847.4666
F 808.440.1198
E INFO@BIAHAWAII.ORG

Testimony to the House Committee on Finance
Wednesday, February 28, 2018
12:00 pm
State Capitol, Room 308

RE: HB 2274 HD1 – Relating to Electric Vehicle Charging
Infrastructure

Chair Luke, Vice-Chair Cullen, & members of the Committee:

My name is Gladys Quinto-Marrone, CEO of the Building Industry Association of Hawaii (BIA-Hawaii). Chartered in 1955, the Building Industry Association of Hawaii is a professional trade organization affiliated with the National Association of Home Builders, representing the building industry and its associates. BIA-Hawaii takes a leadership role in unifying and promoting the interests of the industry to enhance the quality of life for the people of Hawaii.

BIA-HAWAII is in strong opposition to H.B. 2274, HD 1, which proposes to expand the State's existing electric vehicle charging requirements to include parking lots for multi-unit buildings and workplaces. Beginning July 1, 2021, a parking facility with more than one hundred total public parking spaces shall be required to achieve **two** electric vehicle supply equipment for every one hundred public parking spaces. Beginning July 1, 2024, a parking facility with more than one hundred total parking spaces shall be required to achieve **three** electric vehicle supply equipment for every one hundred public parking spaces. Allows the director of transportation to fine properties not in compliance with the electric vehicle parking requirements.

BIA Hawaii has consistently opposed "unfunded government mandates" such as what is being proposed in this bill. The proposed bill mandates that for all parking lots with 100 stalls or more, the number of stalls required to accommodate electric vehicles will double from the current requirement of one (1) in July of 2021 and triple in July of 2024. The cost to restripe and install the necessary equipment for charging electric vehicles is to be borne by the owner/operator of the parking lot.

Rather than providing incentives for parking lot owners/operators to install more electric vehicle stalls and charging equipment, as is the case in most instances, the Legislature arbitrarily "MANDATES" compliance.

We are in strong opposition to H.B. 2274, HD 1, and appreciate the opportunity to express our views on this matter.

Testimony for
House Committee on Energy & Environmental Protection
Tuesday, February 13, 2018, 8:30 a.m. Room 325

Representative Chris Lee, Chair
Representative Nicole E. Lowen Chair

HB 2274 Relating to Electric Vehicle Charging Infrastructure

Dear Chair Lee and Members of the Committee:

This testimony is in **SUPPORT** of HB 2274 to expand the State's requirement for electric vehicle charging stations to include multi-unit buildings and workplaces, beginning July 1, 2021.

I am Lynn McCrory, Senior Vice President of Government Affairs for Pulama Lanai. Pulama Lanai is the entity that was set up by Larry Ellison to work with the community and government as we move the island of Lanai toward sustainability.

Pulama Lānaʻi has in its vehicle fleet over 100 electric vehicles for use on the island of Lānaʻi. We have charging stations at multiple facilities, and are experiencing the positive difference that electric vehicles have on the environment. While Lānaʻi has some of the higher rates in our State for both gasoline and electricity, there is a savings with electricity and reduced maintenance costs with the electric vehicles.

The placement of charging stations in more facilities will encourage the purchase of electric vehicles. The exemption language should cover the situations whereby the required installation is detrimental to the existence of the facility, and they can opt out.

If we want our environment to not be dependent on foreign fuels, we need to provide the infrastructure that allows as many people as possible to easily fuel their vehicles. This is one of the more important components of having a sustainable Hawaiʻi.

We humbly ask that you SUPPORT HB 2274. Mahalo!

Me ke aloha pumehana
With warm aloha,

Lynn P. McCrory
Senior Vice President of Government Affairs

HB-2274-HD-1

Submitted on: 2/23/2018 7:56:01 PM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Kat Culina	Individual	Support	No

Comments:

HB-2274-HD-1

Submitted on: 2/24/2018 6:16:35 PM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Patricia Blair	Individual	Support	No

Comments:

HB-2274-HD-1

Submitted on: 2/25/2018 9:26:51 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Meredith Buck	Individual	Support	No

Comments:

As of January 2018 there were 6,748 passenger electric vehicles in the state, out of 1,062,518 total registered passenger vehicles, or an anemic 0.64 percent [1]. We should be doing everything we can to increase that percentage.

As the number of ZEVs inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. Large parking areas are especially important because ZEV drivers cannot just park "next door" where there might be a parking space and supply equipment point available.

The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii [2]. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a non-issue.

[1] http://files.hawaii.gov/dbedt/economic/data_reports/energy-trends/Energy_Trend.pdf

[2] <https://www.eia.gov/state/analysis.php?sid=HI>

HB-2274-HD-1

Submitted on: 2/25/2018 10:40:05 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Taurie Kinoshita	Individual	Support	No

Comments:

As of January 2018 there were 6,748 passenger electric vehicles in the state, out of 1,062,518 total registered passenger vehicles, or an anemic 0.64 percent . We should be doing everything we can to increase that percentage.

As the number of ZEVs inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. Large parking areas are especially important because ZEV drivers cannot just park "next door" where there might be a parking space and supply equipment point available.

The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a non-issue. Thank you for your consideration.

HB-2274-HD-1

Submitted on: 2/25/2018 10:34:52 PM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Janet Graham	Individual	Support	No

Comments:

I support this bill for the following reasons.

As of January 2018 there were 6,748 passenger electric vehicles in the state, out of 1,062,518 total registered passenger vehicles, or an anemic 0.64 percent [1]. We should be doing everything we can to increase that percentage.

As the number of ZEVs inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. Large parking areas are especially important because ZEV drivers cannot just park "next door" where there might be a parking space and supply equipment point available.

The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii [2]. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a non-issue.

Thank you for allowing me to submit testimony on this topic.

HB-2274-HD-1

Submitted on: 2/26/2018 12:40:54 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Joan Gannon	Individual	Support	No

Comments:

HB-2274-HD-1

Submitted on: 2/26/2018 5:49:19 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
A Denys	Individual	Support	No

Comments:

HB-2274-HD-1

Submitted on: 2/26/2018 9:58:37 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Sarah Toole	Individual	Support	No

Comments:

Hello,

My name is Sarah Toole. I am a UH Manoa political science student and a citizen of the Salt Lake area.

I support this measure.

Showing citizens that we are preparing for a fossil-free future in our infrasturctures will help everyone take the 2045 goal seriously!

Thank you.

HB-2274-HD-1

Submitted on: 2/26/2018 3:01:16 PM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Severine Busquet	Individual	Support	No

Comments:

Hi:

As the number of ZEVs inevitably grows, the number of designated parking spaces and supply equipment points must grow to accommodate them. Large parking areas are especially important because ZEV drivers cannot just park "next door" where there might be a parking space and supply equipment point available.

The transportation sector uses almost two-thirds of all petroleum consumed in Hawaii. This bill will help reduce Hawaii's greenhouse gas emissions by making parking and charging ZEVs a non-issue.

For these reasons, I support HB 2274 HD1.

Thanks for your attention

Severine

HB-2274-HD-1

Submitted on: 2/25/2018 10:43:24 AM

Testimony for FIN on 2/28/2018 12:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Mendez-Alvarez	Individual	Support	No

Comments:

DAVID Y. IGE
GOVERNOR



Testimony by:
JADE T. BUTAY
INTERIM DIRECTOR

Deputy Directors
ROY CATALANI
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:

LATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

February 28, 2018
12:00 p.m.
State Capitol, Room 308

**H.B. 2274, H.D. 1
RELATING TO ELECTRIC VEHICLE CHARGING INFRASTRUCTURE**

House Committee on Finance

The Department of Transportation (DOT) **supports** H.B. 2274, H.D. 1 with concerns.

This bill seeks to strengthen the State's electric vehicle charging requirements. However, the jurisdiction and responsibility of providing compliance oversight and establishing a working group should not rest with the Director of the DOT.

Ideally, charging infrastructures should be generating its electricity from a renewable energy source.

Thank you for the opportunity to provide testimony.



“Advancing the Commercial Property Management Industry through Education, Networking and Advocacy”

Testimony to the
House Committee on Finance
February 28, 2018
12:00 P.M.
State Capitol - Conference Room 308

LATE

RE: HB 2274 HD1 Relating to Electric Vehicle Charging Infrastructure

Aloha Chair Luke, Vice Chair Cullen and members of the committee:

We are testifying on behalf of the Building Owners and Managers Association of Hawaii. BOMA Hawaii supports energy efficient alternatives in transportation but opposes inflexibility in regulations. We offer the following comments:

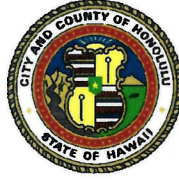
It has been estimated that more than 100,000 electric vehicles are now on the road in the United States, and this is only expected to grow. As plug-in cars have become more visible on the nation’s highways and local streets, there has also been a corresponding need for electric vehicle charging stations. This emerging need is creating a marketplace demand. Many building owners have installed EV charging stations and have successfully used it as a profit center as well as an amenity to attract new business and/or new tenants. Others are reluctant to take on the cost (installation cost, lost revenue from lost parking spaces, etc.), ongoing maintenance and management responsibilities, and liability. Where building owners are able to balance the benefits and potential draw backs, and where it makes economic sense, property owners will move forward to meet the need, without federal, state or local mandates. If this bill advances, we request to be a part of the dialogue concerning its impacts on the community and economy.

Thank you for the opportunity to testify.

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 3RD FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 768-8305 • Fax: (808) 768-4730 • Internet: www.honolulu.gov

KIRK CALDWELL
MAYOR



WES FRYSZTACKI
DIRECTOR

JON Y. NOUCHI
DEPUTY DIRECTOR

February 27, 2018

LATE

The Honorable Sylvia Luke, Chair
and Members of the House
Committee on Finance
State Capitol, Room 308
415 South Beretania Street
Honolulu, Hawaii 96813

Dear Chair Luke and Members of the Committee:

SUBJECT: Testimony on House Bill No. 2274, H.D.1
Relating to Electric Vehicle Charging Infrastructure

The Department of Transportation Services, on behalf of the City and County of Honolulu ("City"), expresses concern regarding the passage of House Bill No. 2274, H.D. 1, Relating to Electric Vehicle Charging Infrastructure.

Since 2012, subject to the availability of funds, the City has installed charging stations at seven public parking facilities. The City will need to plan to program capital funds and contract for the design and installation of the electric vehicle charging stations in our remaining City parking facilities. The bill provides for relief through the facilities exemption for some or all the requirements if documented cost estimates for construction, equipment, and installation costs exceed the greater of \$200 multiplied by the number of parking spaces within the parking facility.

There is existing mobile charging infrastructure technology that may satisfy this requirement. Mobile charging infrastructure can remotely be directed to the vehicle, rather than current infrastructure that requires a vehicle to drive and park next to the charging station. Mobile stations can be recharged within the parking facility. The City intends to conduct a pilot project of the mobile charging stations at one of our facilities in the near future.

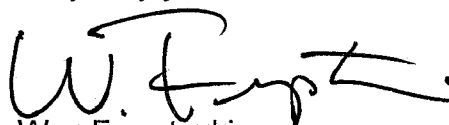
The Honorable Sylvia Luke, Chair
and Members
February 27, 2018
Page 2

Lastly, although the bill covers charging equipment, the City and the contracted public parking operators are losing monthly parking revenues due to the exemption from parking fees for electric vehicles in Act 168, Session Laws 2012. A balance will need to be struck between the incentives to encourage electric vehicle use and decreasing parking revenues.

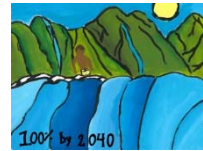
While the City is committed to providing electric vehicle charging stations in our public parking facilities, we have strong concerns with the parking fee exemption and the effect on decreasing revenues in the City public parking facilities.

Thank you for the opportunity to submit this written testimony.

Very truly yours,

A handwritten signature in black ink, appearing to read 'W. Frysztacki', with a stylized flourish at the end.

Wes Frysztacki
Director



HOUSE COMMITTEE ON FINANCE

February 28, 2018, 12:00 P.M.

Room 308

(Testimony is 6 pages long)



TESTIMONY IN STRONG SUPPORT OF HB 2274 HD1

Aloha Chair Luke, Vice Chair Cullen, and Committee members:

Blue Planet Foundation **strongly supports** HB 2274 HD1, which updates our current statute (HRS §291-71) regarding the state’s electric vehicle (EV) charging requirements and, beginning in 2021, expands the requirements for EV charging.

Blue Planet Foundation is a local, mission-driven nonprofit committed to clearing the path for 100% clean energy in Hawaii. We believe that EVs will play a pivotal role in helping to eliminate fossil fuel use for both the ground transportation and the electricity sector. EVs are better for the environment, can lower household transportation costs, and can help Hawaii’s electric utilities achieve 100% renewable electricity while lowering household electric bills.

The volume and model types of battery electric vehicles coming onto the market are expected to dramatically increase in the next five to seven years due to falling costs and EV-supportive policies from nations around the world, particularly those of China, the world’s largest vehicle market.

The longer driving ranges, lower costs, and larger selection of models will make it possible for many of Hawaii’s residents to lower their carbon footprints and take advantage of the economic benefits that EVs offer. However, the availability and accessibility of charging facilities will likely become a significant barrier in coming years, particularly for those living in apartments and condominiums.

Over the past year, Blue Planet Foundation did an extensive study of the existing public charging network in the state and compliance with the state’s existing charging requirements. We found that compliance with the requirements is low—around 25%--and that the public charging network is already under strain in some areas due to the growth in EVs sales. We anticipate that with the tremendous influx of new EVs coming onto the market in the next few years with lower prices and longer driving ranges, the current charging requirements will not be sufficient to accommodate the charging needs of the state, even if compliance levels were much higher.

House Bill 2274 aims to tackle this problem by increasing the charging requirements and expanding the opportunities for EV charging.

Electric Vehicle Environmental and Cost Benefits

Electric vehicles produce less carbon than conventional vehicles, even when the electricity used to power them comes from fossil fuels. And with the State's 100% renewable portfolio standard, EVs will be essentially carbon-free by 2045.

In addition to the environmental benefits, EVs also present a number of economic benefits to Hawaii residents. Due to lower fuel and maintenance costs, EVs tend to be significantly less expensive to operate than conventional vehicles.

Falling Prices and More Models

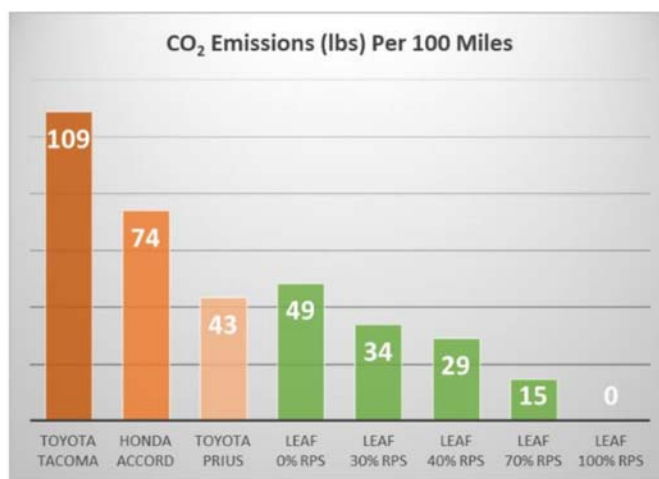
Battery costs have fallen precipitously over the past several years so that in many cases, the total cost of ownership for EVs is lower than for conventional vehicles.

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 2025.¹

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 electric vehicles during the past year.

Perhaps the biggest single factor contributing to this dramatic strategic shift towards electric is the fact that the world's largest auto market, China, has announced that it is working on a policy that would ban internal combustion engine vehicles outright as soon as 2030.²



Assumes \$3.00 per gallon gasoline and HECO's Residential Interim Time of Use Rates and charging during mid-day off peak period (\$0.128/kWh).

¹ Bloomberg New Energy Finance. <https://about.bnef.com/blog/electric-cars-reach-price-parity-2025/>

² The Economist. "China moves towards banning the internal combustion engine" <https://www.economist.com/news/business/21728980-its-government-developing-plan-phase-out-vehicles-powered-fossil-fuels-china-moves>

Major Automaker Commitments to EVs

Group	Brands	EV Plans/Commitments
Toyota	Toyota, Lexus, Daihatsu, Isuzu	10 all electric models by early 2020s. Investing \$13.3B on R&D for EVs and batteries by 2030.
Volkswagen	VW, Audi, Bentley, Bugatti, Lamborghini, Porsche	To spend up to \$84B to bring 300 EV models to market by 2030. hybrid or electric version of every model car they offer by 2030. 80 new electric vehicle models by 2025. \$40B from 2017-2022 (five years) to develop battery powered vehicles, autonomous-driving features, and ride-hailing systems
Hyundai	Hyundai, Kia	Eight EVs by 2022, dedicated EV platform.
General Motors	Buick, Cadillac, Chevy, GMC	Two new electric crossovers by mid 2019, 20 new electric models by end of 2022, 1 million units by 2026 GM "believes the future is all-electric"
Ford	Ford, Lincoln	\$11B investment, 40 electrified vehicles (16 full BEVs) by 2022.
Nissan	Nissan, Infinity	Partnering with Nissan to launch 12 ZEVs by 2022.
Honda	Honda, Acura	Two-thirds of all vehicles electrified by 2030.
Renault	Renault	Partnering with Nissan to launch 12 ZEVs by 2022.
Groupe PSA	Peugeot, Citroen, Opel	To offer an all-electric vehicle by 2019, four by 2021, and 3 new plug-in hybrids To offer 40 EV models by 2025, and plans to sell vehicles in the US within 10 years
Suzuki	Suzuki	Partnering with Toyota to produce small electric car for India by 2020.
SAIC	MG, Roewe	To invest 20 billion yuan in new energy vehicles, release more than 30 new models , and work to meet a sales target of 600,000 units by 2020.
Daimler	Mercedes-Benz, Smart	Electric versions of all models by 2022, Smart fully electric.
BMW	BMW, Rolls-Royce, Mini	To offer 25 electrified vehicles in its lineup by 2025. 12 of those fully electric—to have useable range of up to 435 miles.

Compliance with State Requirements

Frustration over the lack of information on the current and potential impacts of state charging requirement found in HRS §291-71 led to Blue Planet Foundation undertaking a study to assess compliance with the statute and evaluate the overall policy approach. We found that there was very low compliance with the existing law and that charging ports were spread too thin, among other findings.

Low Compliance

As was expected based on the absence of enforcement mechanisms, our research found that compliance with HRS §291-71 is quite low, with just over 25.1% of the 752 obligated properties statewide complying with the statute.

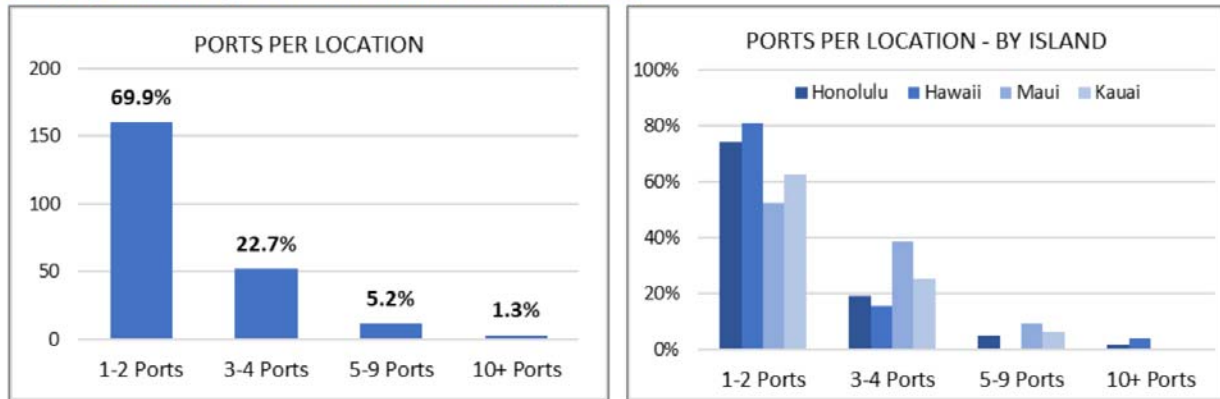
Compliance with State Charging Requirements

Island/County	Properties Obligated to Install EVSE		
	Obligated	Compliant	Compliance %
Honolulu	466	121	26.0%
Hawai'i	96	20	20.8%
Maui	134	34	25.4%
Kauai	56	14	25.0%
Total	752	189	25.1%

Charging Ports Spread Thin

Our research also found that although the policy has led to the development of a fairly large number of charging ports, the deployment of those ports has been spread very thinly over a large number of properties. Of the 229 locations identified as having public charging, 69.9% had only one or two ports and only 6.6% had five or more ports.

Charging Locations by No. of Ports - Statewide and by County



This thin deployment of charging ports makes the network less reliable than it would be if the same number of ports were deployed among fewer locations. One of the major weaknesses of the current statute is that it encourages a large number of charging locations with very few ports, and therefore encourages a public charging network that is not as reliable as it could be.

Conclusion

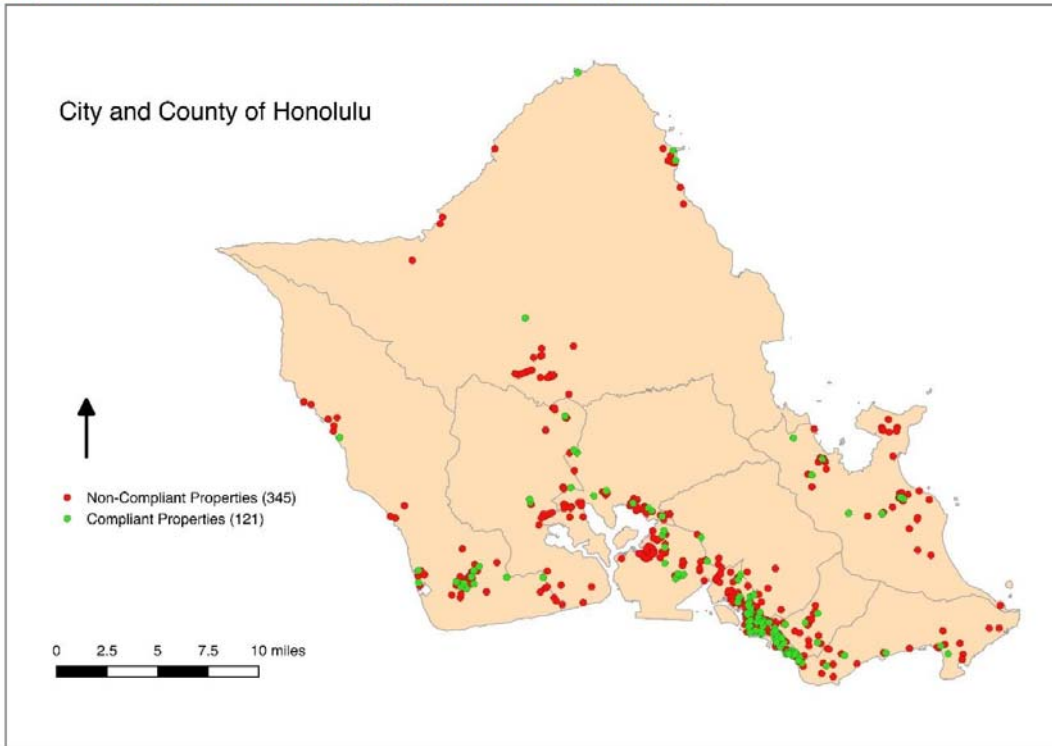
Electric vehicles are better for the environment and the economy, and can help Hawaii's electric utilities achieve 100% renewable electricity. Hawaii's public charging network is already under strain in many areas due to the increase in EV registrations. The large influx of new EVs coming onto the market in the next few years with lower prices and longer ranges mean that access to public charging could severely limit the number of Hawaii residents who will be able to take advantage of the environmental benefits and lower ownership costs of those vehicles.

We believe that this bill will help to expand the supply and reliability of public charging facilities and thereby expedite the uptake of EVs, thereby lowering Hawaii's environmental footprint and household transportation costs.

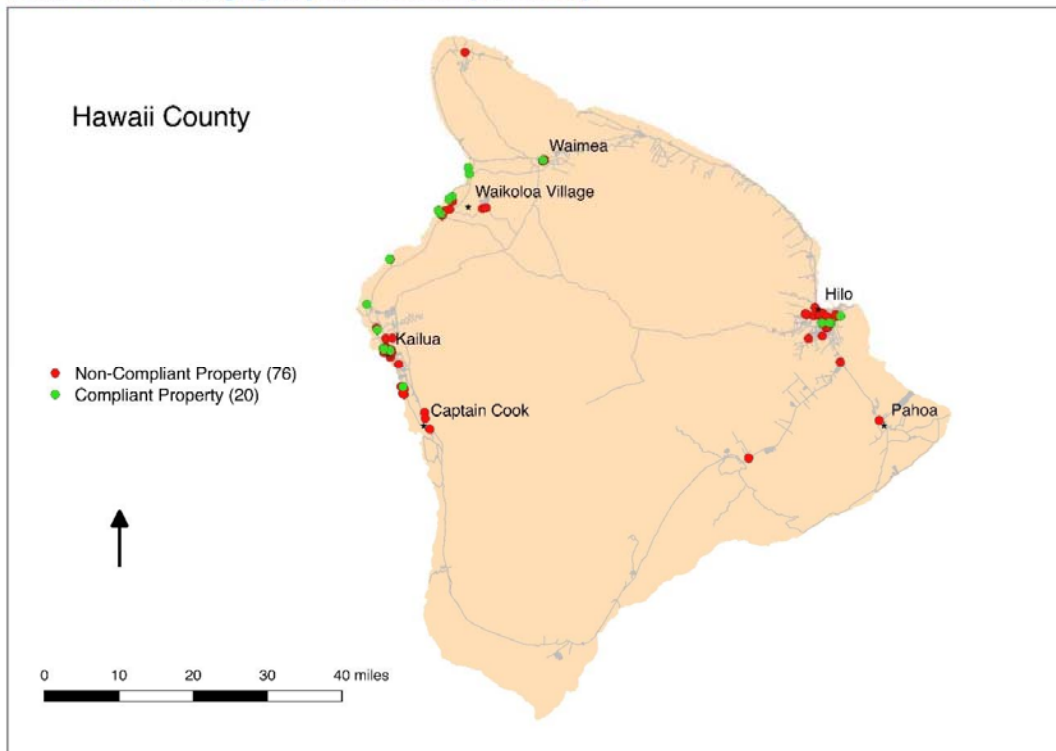
Thank you for the opportunity to testify.

The following two pages include maps showing compliance with state electric vehicle charging requirements on Oahu, the Big Island, Maui, and Kauai.

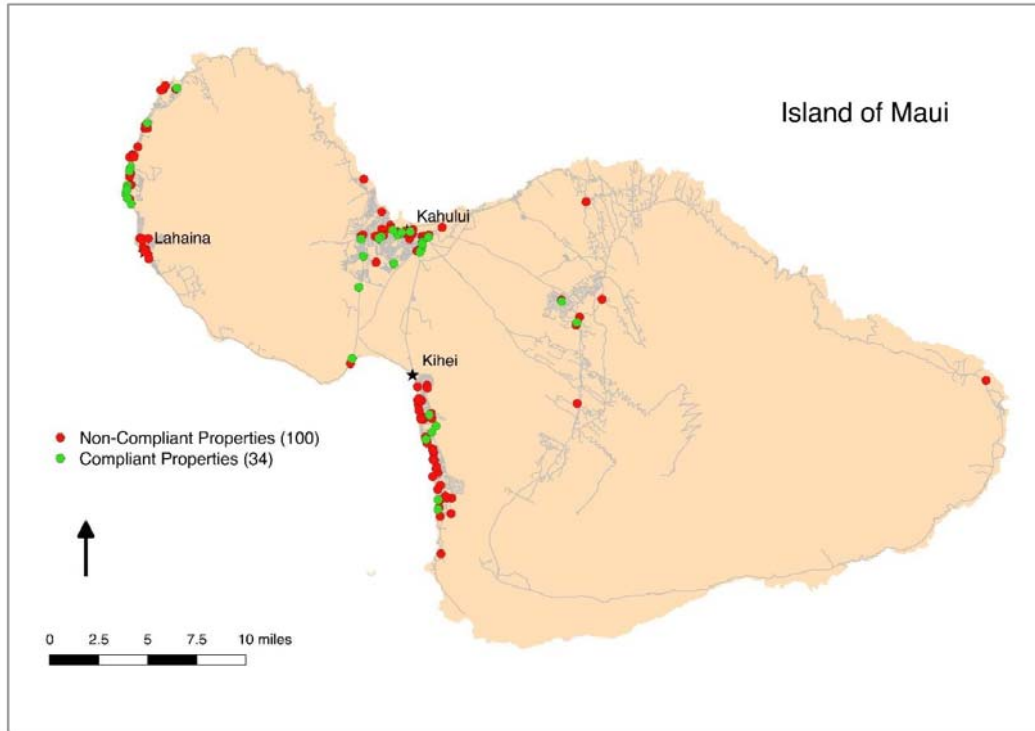
City and County of Honolulu – Charging Requirements Compliance Map



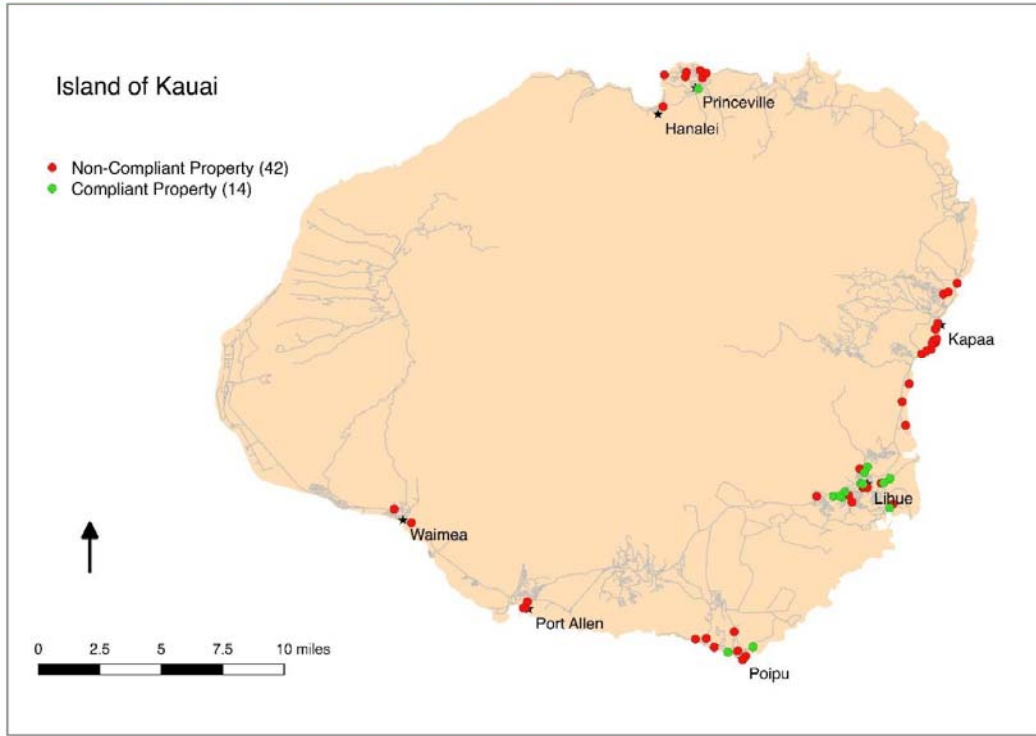
Hawaii County – Charging Requirements Compliance Map



Island of Maui – Charging Requirements Compliance Map



Island of Kauai – Charging Requirements Compliance Map



Testimony before the House Committee on Finance

**Wednesday, February 28, 2018
Agenda #2, 12:00 pm**

LATE

**By Brennon Morioka
General Manager, Electrification of Transportation
Hawaiian Electric Company, Inc.**

House Bill 2274 HD1 – Relating to Electric Vehicle Charging Infrastructure

Chair Luke, Vice Chair Cullen, and Members of the Committee:

My name is Brennon Morioka and I am testifying on behalf of Hawaiian Electric Company and its subsidiary utilities, Maui Electric Company and Hawai'i Electric Light Company (collectively, the "Hawaiian Electric Companies").

House Bill 2274, HD 1 seeks to expand the State's existing electric vehicle charging requirements to include parking lots for multi-unit buildings and workplaces, and sets goals for implementing increased electric vehicle charging at public facilities and workplaces.

The Hawaiian Electric Companies support the intent of this bill. Charging infrastructure will play an important role in the adoption of electric vehicles, but we do share concerns about potential financial impacts significant retrofits or upgrades may have on existing and older parking structures or facilities. The Hawaiian Electric Companies are also concerned about the removal of language from the original bill requiring design and installation of electric vehicle supply equipment to be in compliance with Article 625 of the National Electrical Code. This bill continues to support the adoption of electric vehicles through strong initiatives that send a clear message that the State supports clean transportation. The Hawaiian Electric Companies applaud the proposal's acknowledgment of the value and challenges associated with installing higher capacity charging facilities for public use by providing greater credits in the bill for fast charging facilities. This will lead to more efficient utilization of limited public space and support burgeoning high-capacity charging technologies. Numerous studies have shown that increased availability of electric vehicle charging infrastructure is the true linchpin for the adoption of electric vehicles, and will become increasingly necessary as more residents and visitors choose electric vehicles as their primary mode of transportation.

However, placing this requirement on existing multi-unit buildings and older parking structures where the cost to provide such infrastructure upgrades may be difficult and focus should perhaps be placed instead on charging requirements for new construction. Secondly, there are potential permitting and safety issues with the removal of National Electrical Code requirements for the design and installation of electric vehicle supply equipment. We therefore recommend reinstating this language.

In recent years, the Hawaiian Electric Companies have undertaken several efforts to support the adoption of electric vehicles, such as the development of a growing DC Fast Charger network, with over 12 locations across the Companies' service territory. The Companies currently have time-of-use rates for home electric vehicle charging, and are developing a strategy filing with the Public Utilities Commission to explore and expand our participation in Hawaii's transition to electrified transportation. Likewise, HD1 of this bill inserts language that establishes a working group to address the installation of electric vehicle supply equipment at apartments, condominiums, cooperative housing corporations, and planned community associations. The proposed amendment calls for a designated representative from Hawaiian Electric Companies to serve on this working group, and we appreciate being included to discuss and formulate workable solutions within this forum.

In short, this bill supports the momentum and progress already achieved in transforming Hawaii's ground transportation to electric vehicles. To support the State's efforts in eliminating dependence on fossil fuel, it is important that electric vehicles have the support of robust charging infrastructure investment.

Thank you for the opportunity to testify.