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HONOLULU, HAWAII 96809

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**Testimony of
Leah Laramee
Coordinator, Hawai'i Climate Change Mitigation and Adaptation Commission**

**Before the Senate Committee on
TRANSPORTATION AND CULTURE AND THE ARTS**

**Tuesday, February 7, 2023
3:00 p.m.**

State Capitol, Conference Room 224 & Videoconference

**In consideration of
SENATE BILL 965
RELATING TO GREEN TRANSPORTATION INFRASTRUCTURE**

Senate Bill 965 establishes green infrastructure objectives and policies for transportation systems, infrastructure, and projects. Establishes the Green Transportation Infrastructure Task Force to examine, evaluate, and develop policies for the design, implementation, and maintenance of green transportation infrastructure. **The Climate Change Mitigation and Adaptation Commission (Commission) supports this bill.**

The Hawai'i Climate Change Mitigation and Adaptation Commission consists of a multi-jurisdictional effort between 20 different departments, committees, and counties. According to the Intergovernmental Panel on Climate Change's 2022 report, nature-based or "green" infrastructure and ecosystem services provide significant benefits when installed in urban and infrastructure systems. While several nature-based solutions have the ability to innately adapt to rising sea levels, commonly used man-made materials or "gray" strategies to protect coastal infrastructure that rely on hardening shorelines may not be adaptable or must be specifically designed to adapt to rising sea levels, which can be costly. Gray solutions can also have unintended consequences, such as increased erosion or deposition, along other parts of the coastline. Nature-based solutions that rely on existing or enhanced landscapes help improve roadway resiliency by reducing impacts to coastal roads from hazards such as rising sea level, storm surge, and "nuisance" flooding (such as high tide or windblown flooding). Often these "green" strategies are both more effective and less costly than traditional engineering or gray solutions on their own.

Nature-based solutions also provide a natural aesthetic and other benefits. In addition, research suggests that trees may improve driving safety. One study found a 46% decrease in crash rates across urban arterial and highway sites after landscape improvements were installed.¹ Another study found that placing trees and planters in urban arterial roadsides reduced mid-block crashes

by 5% to 20%.ⁱⁱ Increasing tree canopy can reduce heat island effect, provide shade to encourage walking and biking, and provide storm water mitigation and sequester carbon. Recent instances such as the HDOT lighting project along sections of the Moanalua Fwy, which removed *Nerium Oleander* plantings on sections of the Moanalua Fwy in Halawa indicate that this has not been a priority. Restoration of native coastal plants along shorelines makes those shorelines less susceptible to erosion from high storm waves. The native plant root systems hold the sand and soil in place, and plants such as naupaka, hala, pohuehue, and anapanapa are able to withstand vigorous wave action without breaking and separating from their roots. Intensive native coastal plant restoration makai of coastal roads may extend road longevity. Creating a strategy to increase the number of nature-based solutions and green infrastructure including trees and native plant restoration would support the State's ability to both mitigate and adapt to climate change.

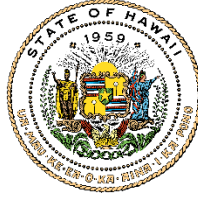
Mahalo for the opportunity to testify in support of this measure.

ⁱ Lee, J., and F. Mannering. 1999 (December). *Analysis of Roadside Accident Frequency and Severity and Roadside Safety Management*. Washington State Department of Transportation, Olympia, WA, 137 pp.

ⁱⁱ Naderi, J.R. 2003. Landscape Design in the Clear Zone: Effect of Landscape Variables on Pedestrian Health and Driver Safety. *Transportation Research Record* 1851:119-130.

JOSH GREEN, M.D.
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA

P.O. BOX 621
HONOLULU, HAWAII 96809

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LAND
STATE PARKS

Testimony of
DAWN N. S. CHANG
Chairperson

Before the Senate Committee on
TRANSPORTATION AND CULTURE AND THE ARTS

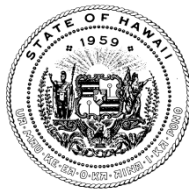
Tuesday, February 7, 2023
3:00 PM
State Capitol, Conference Room 224

In consideration of
SENATE BILL 965
RELATING TO GREEN INFRASTRUCTURE

Senate Bill 965 proposes to establish green infrastructure objectives and policies for transportation systems, infrastructure, and projects, and establishes the Green Transportation Infrastructure Task Force to examine, evaluate, and develop policies for the design, implementation, and maintenance of green transportation infrastructure. **The Department of Land and Natural Resources (Department) supports this measure.**

This measure is aligned with the mission of the Department's Kaulunani Urban and Community Forestry Program. The Kaulunani Program builds capacity in our communities to plan for, establish, manage, and protect green infrastructure including street-trees, urban forests, green spaces, bioswales and related natural areas where we live, work, and play. The urban tree canopy is declining, and with it, the benefits provided by urban green infrastructure as stated in the bill. This measure would help reverse that trend.

Mahalo for the opportunity to provide testimony in support of this measure.



TESTIMONY BY:
EDWIN H. SNIFFEN
DIRECTOR

Deputy Directors
DREANALEE K. KALILI
TAMMY L. LEE
ROBIN K. SHISHIDO
JAMES KUNANE TOKIOKA

LATE

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

February 7, 2023
3:00 P.M.

State Capitol, Conference Room 224 & Videoconference

S.B. 965
RELATING TO GREEN TRANSPORTATION INFRASTRUCTURE

Senate Committee on Transportation and Culture and the Arts

The Department of Transportation (DOT) **supports the intent** of this bill which establishes green infrastructure objectives and policies for transportation systems, infrastructure, and projects. However, the DOT has the following comments and concerns.

The DOT uses best management practices to address stormwater runoff. These practices include vegetative swales, plantings, and buffers to reduce runoff and absorb stormwater.

The DOT has a noise policy which evaluates when noise walls are needed. Although thick rows of trees can be a natural sound barrier, the state right-of-way along highways are limited in size and cannot accommodate rows of trees. Road safety is also compromised when trees are close to the roadway as it may infringe on the clear zone and reduce sight distances on curves. Routine watering, tree maintenance, and road repairs from root damage will require an additional \$60,000 per centerline mile, per year. Further, federal funds for sound mitigation are limited.

Visual and sound barriers should not block vehicle, bicycle, and/or pedestrian sight distances at intersections, crossings, and/or merging areas between different modes of travel. Blocking sight distances increases the potential for crashes in addition to more potential crashes involving the barrier.

Thank you for the opportunity to provide testimony.



Written Testimony before the

SENATE COMMITTEE ON TRANSPORTATION AND CULTURE AND THE ARTS

Tuesday, February 7, 2023

Conference Room 224

RE: SB965 RELATING TO GREEN TRANSPORTATION INFRASTRUCTURE

Chair Lee, Vice Chair Inouye, Members of the Committee on Transportation & Culture and the Arts:

Trees for Honolulu's Future ("TFHF") is a nonprofit organization with a vision for a tree-filled island that preserves and enhances our quality of life, especially in the face of climate change.

We strongly support the above-referenced Bill, which establishes green infrastructure objectives and policies for transportation systems, infrastructure, and projects as well as the Green Transportation Infrastructure Task Force ("Task Force").

This Bill has an important accountability aspect by requiring the Task Force, to submit reports to the legislature making recommendations for implementing the green infrastructure objectives, policies, and priority guidelines established by this measure prior to disbanding. We do wonder if there is a typo in Section 4, item 4(e) since the prior line requires reports for the 2024 and 2025 regular sessions, so wouldn't dissolution logically occur no sooner than June 2025?

We are confident that if transportation planning focuses on green infrastructure actions as much as "traditional" infrastructure, the policies/actions outlined in this Bill will help to mitigate climate change and have positive impacts for Hawaii. TFHF believes that trees create multiple benefits well documented by research and noted in this Bill's preamble. Trees create shade and use evapotranspiration to lower temperature. Trees also recharge groundwater and decrease surface runoff protecting our reefs. Trees trap pollutants and store CO2. Trees calm traffic. Sadly though, Honolulu has been losing urban tree canopy over the past years.

We urge this Committee to amend the Bill as noted above and send it to the Committee on Ways & Means for further review and action.

Thank you.

Daniel Dinell, President

HONOLULU is HOT TREES are COOL

Visit us: www.TreesForHonolulu.org Contact us: info@TreesForHonolulu.org Voice/Fax/Text: 808-707-6353

P.O. Box 12051, Honolulu, Hawaii 96828

Painting Industry of Hawaii Labor Management Cooperation Trust Fund

Hawaii Tapers Market Recovery Trust Fund

Hawaii Glaziers, Architectural Metal Glassworkers Local Union 1889
AFL-CIO Stabilization Trust Fund

and

Carpet, Linoleum and Soft Tile Local Union 1926 Market Recovery Trust Fund

February 6, 2023

Senator Chris Lee, Chair
Senate Committee on Transportation and Culture and the Arts
415 South Beretania Street
Honolulu, Hawaii 96813

Re: Senate Bill 965 (Relating To Green Transportation Infrastructure)
Hearing date: February 7, 2023
Time: 3:00 p.m.

Chair Lee and Members of the Committee:

Thank you for this opportunity to submit testimony on behalf of the Painting Industry of Hawaii Labor Management Cooperation Trust Fund, Hawaii Tapers Market Recovery Trust Fund, Hawaii Glaziers, Architectural Metal Glassworkers Local Union 1889 AFL-CIO Stabilization Trust Fund, and Carpet, Linoleum and Soft Tile Local Union 1926 Market Recovery Trust Fund **in support** of Senate Bill 965. The aforesaid organizations are labor management cooperation funds between the Painters Union, Tapers Union, Glaziers Union, and Carpet and Soft Tile Layers Union and their signatory contractors.

This measure will promote the employment of green strategies and technologies including, among other things, painting infrastructure to blend in with Hawaii's natural environment.

We are particularly excited about the opportunity to contribute our knowledge and expertise toward the preservation and enhancement of Hawaii's scenic beauty through the visual improvements envisioned by the bill. Aesthetic treatment of our state's infrastructure can only improve the quality of life in Hawaii, improve its attractiveness as a tourist destination, and benefit our local economy.

Thank you again for this opportunity to voice our **support** for this measure.



**International Union of Painters and Allied Trades
District Council 50**

2240 Young Street
Honolulu, HI 96826

Phone
808.941.0991

Fax
808.955.9091

Email
info@dc50.org

Website
www.dc50.org

PAINTERS
808.941.0991

GLAZIERS,
ARCHITECTURAL
METAL AND
GLASSWORKERS
808.946.3329

CARPET, LINOLEUM
AND SOFT TILE
808.942.3988

DRYWALL TAPERS,
FINISHERS
808.946.6621

TO THE SENATE COMMITTEE ON TRANSPORTATION AND
CULTURE AND THE ARTS
REGULAR SESSION OF 2023

TIME/DATE: TUESDAY, FEBRUARY 7, 2023, 3:00 PM, ROOM 224

**TESTIMONY IN SUPPORT OF SENATE BILL 965 – “RELATING TO GREEN
TRANSPORTATION INFRASTRUCTURE.”**

**TO CHAIR LEE AND MEMBERS OF THE SENATE COMMITTEE ON
TRANSPORTATION AND CULTURE AND THE ARTS:**

The International Union of Painters and Allied Trades, District Council 50, Painters Local Union 1791, appreciates the opportunity to testify in SUPPORT to Senate Bill No. 965 – “RELATING TO GREEN TRANSPORTATION INFRASTRUCTURE.” My name is Lorna Woo, Director of Government Affairs, District Council 50.

This measure establishes green infrastructure objectives and policies for transportation system, infrastructure and projects; and it establishes the Green Transportation Infrastructure Task Force. We appreciate the importance of incorporating green strategies into existing structures such as highways, buildings, concrete barriers, etc., which not only helps the environment, but dramatically enhances the natural esthetics of our communities. These green strategies will visually improve the urban core and surrounding areas and will also preserve and protect the environment.

For these reasons, we strongly urge the committees to support the proposals in Senate Bill No. 965. Thank you for the opportunity to testify in support of this measure.



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Helping to keep Hawai'i
clean, green, beautiful,
livable and sustainable
since 1912

February 6, 2023

RE: FULL SUPPORT OF SB965 Relating to Green Transportation Infrastructure

Dear Senators,

The Outdoor Circle STRONGLY SUPPORTS SB965 Relating to Green Transportation Infrastructure for the many benefits listed in the introduction of the bill that discuss the physical, mental, economic, visual beauty and cooling shade benefits provided by plants and trees. We must rededicate ourselves with efforts to green and beautify our state to improve the quality of life for residents and visitors alike.

Thank you for your support of this bill,

Winston Welch
Executive Director

SB-965

Submitted on: 2/3/2023 8:00:10 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Andrew Crossland	Individual	Oppose	Written Testimony Only

Comments:

I oppose this Bill.

SB-965

Submitted on: 2/4/2023 11:40:26 AM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Caroline Azelski	Individual	Support	Written Testimony Only

Comments:

Stong support. Thank you.

SB-965

Submitted on: 2/5/2023 11:42:12 AM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Shannon Rudolph	Individual	Support	Written Testimony Only

Comments:

Support

SB-965

Submitted on: 2/5/2023 1:38:58 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Will Caron	Individual	Support	Written Testimony Only

Comments:

Sustainable design concepts for public infrastructure incorporate green vegetation and trees to decrease urban temperatures, reduce carbon emissions, improve air quality, and capture water to replenish the water table. The effects of climate change have made the implementation of sustainable design concepts more critical, as each passing year has seen increased temperatures and other impacts from climate change.

People who live in areas that have more trees and green space are less likely to develop acute respiratory symptoms and die of heart disease or respiratory disease. Studies have also found that green vegetation, trees, and properly designed and well—maintained infrastructure can also produce significant improvements to mental health and have positive psychological and quality of life benefits in a community. Please support SB965.

SB-965

Submitted on: 2/5/2023 2:40:59 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Paul Bernstein	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Lee, Vice Chair Inouye, and members of the TCA committee:

I'm writing in strong support of SB965 because it helps with our holistic approach to reducing our greenhouse gas emissions and impact on the environment. Please pass this bill out of your committee.

Respectfully,

Paul Bernstein

SB-965

Submitted on: 2/5/2023 6:38:13 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Dylan Ramos	Individual	Support	Written Testimony Only

Comments:

Aloha,

I am testifying in strong support of SB965. Green infrastructure is the future -- if we want a future, that is. Whether we're talking about the economy, public health, the climate crisis, environmental justice, community resilience, or anything else, green infrastructure supports sustainability, flexibility, and preparedness.

Mahalo,
Dylan Ramos
96816

SB-965

Submitted on: 2/5/2023 7:32:14 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Fatima	Individual	Support	Written Testimony Only

Comments:

I am in support of this bill.

SB-965

Submitted on: 2/6/2023 6:24:22 AM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Virginia Tincher	Individual	Support	Written Testimony Only

Comments:

Chair Lee, Vice Chair Inouye and members of the Transportation and Culture and the Arts Senate Committee,

Mahalo Chair Lee and others for introducing SB965 in support of green transportation infrastructure.

Care of the land and water are very important to me and our family and that is why I'm in strong support of this bill.

All of the areas included in this bill bring visibility and focus to green infrastructure that has many benefits to the aina and the people most importantly improving the health of people, flora and fauna through improved air and water quality.

Establishing the Green Transportation Infrastructure Task Force brings groups together who can collaborate and contribute to solutions.

Virginia Tincher

Aina Haina, Oahu

Member of Hawaii Environmental Change Agents (HECA)

SB-965

Submitted on: 2/6/2023 1:00:31 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Manahel Al-hozail	Individual	Oppose	Written Testimony Only

Comments:

I oppose this and do not support this tax.

SB-965

Submitted on: 2/6/2023 1:29:14 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Marcus Tanaka	Individual	Oppose	Written Testimony Only

Comments:

Oppose

February 5, 2023

Aloha

I wanted to submit testimony in support for Testimony Request for SB 965, and companion HB1278 , These bills are extremely for Hawaii's current and future economic, social, and environmental future in establishing green infrastructure objectives and policies for transportation systems, infrastructure, and projects. Specifically addressing Green Transportation Infrastructure Task Force to examine, evaluate, and develop policies for the design, implementation, and maintenance of green transportation infrastructure.

These bills are extremely important especially given the recent acts of HDOT lighting project along sections of the Moanalua Fwy, with the removal of the *Nerium Oleander* plantings on sections of the Moanalua Fwy in Halawa for the HDOT lighting work. The removal of the plants seems to be permanent as they are filling and capping off the medium with cement! With the Governor's, as well as Mayor Blangiardi focus on combating climate change, and making Oahu, and Hawaii as a whole more resilient to its effects, removing these plants and replacing them with concrete seems to be adding to the negative effects of climate change and urbanization in Hawaii instead of countering it.

I have heard that HDOT's response is that the removal of the plants were "*poses a visibility hazard and maintenance concerns*" Yet specifically, *Nerium Oleander* varieties such as 'Dwarf Red', 'White Sands', 'Petite Salmon' and 'Petite Pink,' grow approximately 4 -6' tall and 3-5' wide, unlike the standard varieties, which some of the plants that were removed, which can grow 6-12'tall and as wide. So incorporating these dwarf, drought tolerant, low maintenance, and extremely aesthetic highway vegetation species should not cause any visibility hazards or maintenance concerns! Of the many urban transportation corridors on Oahu, this strip of the freeway provided not only an aesthetic respite for drivers, but all the environmental benefits of vegetation along roads provide such as decreasing glare, filtering pollution, aiding in storm water management, and reducing the urban heat island effect are now absent in these sections of the freeway.

Additionally, research has indicated that vegetation along roads and highways reduces drivers stress levels and increases alertness, etc. (cited references upon request). Specifically, roadside vegetation benefits also includes: Ecosystem Services such as: Improved air quality, temperature regulation, carbon sequestration/storage, pollutant removal, surface water runoff avoidance/water cycling, biodiversity/habitat corridors, bioindicators for the health of the area. Social/Cultural/Health Benefits: Noise reduction, food supplies, psychological benefits, health benefits, psychological benefits (aesthetics), areas for heritage trees to exist and provide their known benefits, produce a "sense of place" for the area. And Economic Benefits: Maintenance savings, improved retention of tourism, greater willingness-to-pay for services that have nearby roadside vegetation, increased property values.

Driving along this section the Moanalua Fwy in Halawa the past couple of weeks with the plants now removed with the bright, freshly poured concrete curing in the daytime, along with the headlight glare from oncoming traffic at night, has changed this vegetative vehicular corridor respite into truly a devastating experience on many social/psychological and environmental levels.

For the future, SB 965, and companion HB1278 is extremely important for Hawaii, as there needs to be direct policy in addressing Hawaii's current and future economic, social, and environmental future by establishing green infrastructure objectives and policies for transportation systems, infrastructure, and projects.

Mahalo for your consideration,

Andy Kaufman

Andy Kaufman, ASLA, MLA, Ph.D.

SB-965

Submitted on: 2/6/2023 10:37:53 PM

Testimony for TCA on 2/7/2023 3:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
james pirtle	Individual	Oppose	Written Testimony Only

Comments:

I oppose this bill.

SB-965

Submitted on: 2/7/2023 1:24:29 AM
Testimony for TCA on 2/7/2023 3:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
jaerick medeiros-garcia	Individual	Oppose	Written Testimony Only

Comments:

I'm in opposition to SB965 it's not infrastructure I'm worried about it's the intent.

SB-965

Submitted on: 2/7/2023 2:28:54 AM
Testimony for TCA on 2/7/2023 3:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
Terry Murakami	Individual	Support	Written Testimony Only

Comments:

I oppose SB965. I believe we need to prioritize reducing the cost of living in Hawaii and crime reduction. If we don't address these problems first what is the point of trying to clean up the enviroment here?

SB-965

Submitted on: 2/7/2023 3:37:20 AM
Testimony for TCA on 2/7/2023 3:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
Luis Ma	Individual	Oppose	Written Testimony Only

Comments:

Oppose

SB-965

Submitted on: 2/7/2023 9:41:44 AM

Testimony for TCA on 2/7/2023 3:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
Chloe S	Individual	Oppose	Written Testimony Only

Comments:

I ***STRONGLY*** oppose this bill!