REPORT OF THE COMMITTEE ON TRANSPORTATION

Voting Members

Joey Manahan, Chair; Ann H. Kobayashi, Vice-Chair,
Brandon J.C. Elefante, Ron Menor, Kymberly Marcos Pine

Committee Meeting Held
May 19, 2016

Honorable Ernest Y. Martin
Chair, City Council
City and County of Honolulu

Mr. Chair:

Your Committee on Transportation, to which was referred Resolution 16-136:

> "AUTHORIZING THE DIRECTOR OF TRANSPORTATION SERVICES OR THE DIRECTOR'S DESIGNEE TO APPLY FOR AND ENTER INTO A GRANT AGREEMENT WITH THE FEDERAL TRADE ADMINISTRATION (FTA) FOR FEDERAL TRANSPORTATION ASSISTANCE AUTHORIZED BY 49. U.S.C. CHAPTER 53, TITLE 23, UNITED STATES CODE, AND OTHER FEDERAL STATUTES ADMINISTERED BY THE FTA,"

as transmitted by Departmental Communication D-332, dated May 12, 2016 from the Department of Transportation Services (DTS), and introduced on May 13, 2016, reports as follows:

The purpose of this Resolution is to authorize the DTS Director or the Director's designee to apply for and enter into a grant agreement with the FTA for federal transportation financial assistance authorized by Title 49, Chapter 53 of the United States Code.

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ADOPTED ON JUN 0 1 2016

COMMITTEE REPORT NO. 191

REPORT OF THE COMMITTEE ON TRANSPORTATION

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DTS Director Michael Formby provided testimony in support of the Resolution and requested that the Committee approve the Resolution. Director Formby noted that the application request is for $3,427,500 in Title 49 U.S.C. Section 5339(c) funds for a Low or No Emission Bus Program (the "Project"). If DTS receives the grant, Project funds will be used to purchase zero-emission electric buses, which will be used to provide service on Routes 7 and 16 in Kalihi Valley. There was no public testimony.

Your Committee has prepared a CD1 version of the resolution that makes the following amendments:

A. In the BE IT RESOLVED clause, provides that the FTA Grant Application attached as Exhibit A is consented to and approved.

B. Marks the attached Application as Exhibit A.

C. Makes miscellaneous technical and non-substantive amendments.

Your Committee on Transportation is in accord with the intent and purpose of Resolution 16-136, as amended herein, and recommends its adoption in the form attached hereto, as Resolution 16-136, CD1. (Ayes: Anderson (temporary voting member), Kobayashi, Manahan – 3; Noes – None; Excused: Elefante, Menor, Pine - 3.)

Respectfully submitted,

JOEY MANAHAN
Committee Chair

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ADOPTED ON JUN 0 1 2016

COMMITTEE REPORT NO. 191

CITY COUNCIL

CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

No. 16-136, CD1

RESOLUTION

AUTHORIZING THE DIRECTOR OF TRANSPORTATION SERVICES OR THE DIRECTOR'S DESIGNEE TO APPLY FOR AND ENTER INTO A GRANT AGREEMENT WITH THE FEDERAL TRANSIT ADMINISTRATION FOR FEDERAL TRANSPORTATION ASSISTANCE AUTHORIZED BY 49 U.S.C. CHAPTER 53, TITLE 23, UNITED STATES CODE, AND OTHER FEDERAL STATUTES ADMINISTERED BY THE FEDERAL TRANSIT ADMINISTRATION.

WHEREAS, Chapter 1, Article 8, Revised Ordinance of Honolulu 1990 ("ROH"), provides that any intergovernmental agreement or any amendments thereto that place an obligation upon the City or any department or agency thereof require prior City Council consent and approval; and

WHEREAS, ROH Chapter 1, Article 8, also provides that, when carrying out the provisions of any intergovernmental agreement, all applications and/or amendments thereof, statistical data programs, reports or other official communications that support the application and are required to be provided by the City or its component departments to any other governmental or quasi-governmental agency must first be presented to the City Council for its review and approval prior to their transmittal; and

WHEREAS, the Federal Transit Administration ("FTA") is an operating administration of the United States Department of Transportation; and

WHEREAS, the Federal Transit Administrator has been delegated authority to award Federal financial assistance for transportation projects; and

WHEREAS, the grants or cooperative agreements for Federal financial assistance will impose certain obligations upon the City, and may require the City to provide the local share of project costs; and

WHEREAS, the City's Application for a FTA Grant, a copy of which is attached hereto as Exhibit A and by reference made a part hereof, requests $3,427,500 in Title 49 U.S.C. 5339(c) funds for the Low or No Emission Bus Program; and

WHEREAS, the Director of the Department of Transportation Services ("DTS") desires to submit the Application to the FTA on behalf of the City; and

WHEREAS, if the FTA, following the receipt and review of the Application, approves the Application, the FTA will then offer the City $3,427,500 or an amount substantially equal to $3,427,500 in Title 49 U.S.C. 5339(c) funds for the Low or No Emission Bus program; and

RESOLUTION

WHEREAS, the FTA's offer will be in the form of a standard document entitled "Grant Agreement" (FTA G-20, October 1, 2013), which becomes Part 9 of the Application, and the combined documents will comprise the complete agreement upon execution of the Grant Agreement form by the City; and

WHEREAS, the Grant Agreement form from the FTA incorporates by reference and makes a part of the agreement the following, which set forth obligations of the City:

(1) Federal Transit Administration 2016 Master Agreement, dated October 1, 2015;

(2) The 2016 Certifications and Assurances provided to the FTA by the City; and

(3) Any Award notification containing special conditions or requirements, if issued;

NOW, THEREFORE, BE IT RESOLVED by the Council of the City and County of Honolulu that the Application for FTA Grant, attached hereto as Exhibit A, for Federal assistance authorized by Title 49 U.S.C. Chapter 53, Title 23, United States Code and other Federal statutes administered by the FTA, is hereby consented to and approved; and

BE IT FURTHER RESOLVED that the DTS Director or the Director's designee is authorized to submit the Application to the FTA on behalf of the City and County of Honolulu in substantially the form attached hereto as Exhibit A; and

BE IT FURTHER RESOLVED that if the FTA approves the Application and transmits the Grant Agreement form (Part 9) to the City, the DTS Director or the Director's designee is authorized to execute the Grant Agreement form on behalf of the City if the only obligations of the City are those set forth on the FTA Master Agreement and Certifications and Assurances described in (1) and (2) above; and

BE IT FURTHER RESOLVED that the DTS Director or the Director's designee is authorized to:

1. Execute any incidental or related agreements in furtherance of the above Grant Agreement, provided that such agreements and documents do not incur additional obligations on the part of the City; and

2. Make minor or editing changes, provided that no substantive additions or deletions are made; and

BE IT FURTHER RESOLVED that if the FTA's subsequent offer to the City for the Grant is made subject to any conditions, requirements, or obligations other than the above-described FTA Master Agreement and Certifications and Assurances, the DTS Director shall submit the Grant Agreement for prior consent and approval by the Council pursuant to ROH Chapter 1, Article 8; and

BE IT FINALLY RESOLVED that a copy of this Resolution be transmitted to the DTS Director at 650 South King Street, 3rd Floor, Honolulu, Hawaii 96813.

INTRODUCED BY:

Ernest Martin (BR)

DATE OF INTRODUCTION:

May 13, 2016
Honolulu, Hawaii

Councilmembers

V1.2

Low or No Emission Bus Program (5339(c))

Applicant and Proposal Profile

Is this a resubmission due to an invalid/error message from FTA? ○ Yes ◉ No

Section I. Applicant Information

Organization Legal Name: City and County of Honolulu, Department of Transportation Services

FTA Recipient number ID Number: 1703

Applicant Eligibility:
- ◉ Direct or designated recipient
- ○ State
- ○ A Federally-recognized Native American Tribe

Population Served:
- ◉ Urbanized Area
- ○ Rural

Description of services provided and areas served.

The service area encompasses the entire island of Oahu. The City and County of Honolulu is a consolidated municipal and county government. Technically, Hawaii has only one level of local government; namely, counties. Hawaii has no incorporated municipalities. Oahu is the third largest of the Hawaiian Islands and most populous of the islands in the State of Hawaii. Approximately 75 percent of the State's population resides on Oahu. Honolulu is also the state capital of Hawaii.

Oahu has a total land area of 596.7 square miles (1,545.4 km2), making it the 20th largest island in the United States. The length of the shoreline is 227 miles (365 km). The island is the result of two separate shield volcanoes: Waianae and Koolau with a broad "valley" or saddle (the central Oahu plain) between them. Apart from this central plain, most urbanization has occurred close to the coastline creating a linear city.

The island of Oahu includes the Honolulu urbanized area and the Kaneohe-Kailua urbanized area and a significant area not in either designated urbanized areas. There are 53 Census designated places on the island.

Service is provided to all urbanized and rural areas of the island of Oahu. The City and County operates a fixed route bus network of 105 routes. One route pair, 40/40A, operates 24 hour per day, 365 days per year service. Most other bus service is provided weekdays from approximately 3:30 a.m. to 1:30 a.m. and on Saturdays and Sundays from approximately 4:00 a.m. to 1:00 a.m. Complementary paratransit service is available during the same hours of operation as fixed-route service. The fixed route fleet size today is 541 heavy duty buses and 180 paratransit vehicles. Honolulu has no all electric heavy duty buses.

The City and County has eight transit centers and five designated park-and-ride lots. Bus and vans are maintained at four maintenance facilities located in Kalihi and in Pearl City.

Section II. Project Information/Evaluation Criteria (This section repeats per project)

About the Project

Project Title: (Descriptive title of this project) Incremental cost of obtaining 10 zero emission all-battery buses and 4 charging stations.

Project Executive Summary:

The project funds will be used to upgrade 10-40' buses to be procured in FY2017 from clean diesel to zero-emission battery buses. These vehicles will be the first all-electric buses to be operated in the Honolulu fleet. The vehicles will be used to provide service on Route 7, Kalihi Valley and Route 16. The Kalihi Valley route has very high concentrations of minority and disadvantaged population. The route is adjacent to our largest transit facility where recharging stations will be installed.

Project Type:
- ☒ Vehicle
- ☒ Facilities
- ☐ Other

If Other, specify:

Technology:
- ☒ Battery electric
- ☐ Diesel-electric hybrid
- ☐ CNG
- ☐ Hydrogen fuel cell
- ☐ Other

If Other, specify:

Is this application a partnership between an eligible applicant and one or more private section partners? (•) Yes ( ) No

If yes, please list the partners and describe the qualifications of each.

Hawaiian Electric Company (HECO) a public utility on the island of Oahu the island's single source of electricity. The City and County of Honolulu a local municipality.

Address each of the evaluation criteria as described in the Notice of Funding Opportunity.

Demonstration of Need

The project will result in the replacement of 10 older buses that have exceeded FTA's minimum service criteria both on the basis of age and accumulated vehicle mileage and install 4 charging stations in TheBus Kalihi Maintenance Garage.

Honolulu anticipates the development of zero-emission fleet of urban circulator buses in the 2019-2023 time frame as older buses are retired. This project is slated to be the first acquisition of all-electric battery buses. The project will not impact the current spare ratio which is within FTA's guidance. The project will allow TheBus to gain experience in the operation of zero-emission battery buses. The City has a plan to establish a major electric-bus circulator system in the 2019-2022 time frame in conjunction with the development of the Honolulu High Capacity Rail Project. This project will allow the transit system to gain experience for a period of 2 years prior to the time that the larger circulator system is implemented. The project will provide new bus amenities to an area with a high minority and low-income population. Ultimately, the two routes will connect with the Honolulu High Capacity Rail System at the Middle Street Station.

The project will help the State of Hawaii realize the goal of 100% renewable energy production, by utilizing a full fleet of zero-emission battery buses. The bus operation will be designed to complement the utility's renewable generation profile, so that the City would be recharge the electric buses at times when renewable energy production is the highest and will be on the road when peak electricity demand is at its highest. On Oahu, the peak electricity demand period is roughly between 5:00pm and 9:00pm. The peak ridership demand period for the the two routes is between 4:30am and 8:00am and between 2:30pm and 7:00pm. With this utilization profile, buses can be scheduled to recharge several times a day rather than once a day or at the end of each trip, which is the current practice for EV buses. This approach would enable the maximum number of buses to be in service during peak ridership times. EV buses can be scheduled to charge during off-peak times and during the night, enabling approximately 5 to 7 hours of range between charges. Taking advantage of the burgeoning renewable energy market presents both a challenge and an opportunity for Hawaii. Due to the large amount of solar energy production, there is a growing need to align economic incentives to encourage energy usage during daytime hours, when solar energy production is the highest. Doing so would enable increased energy cost savings for consumers while enabling more renewable energy to be procured moving forward.

The transportation sector is also a critical component in the State's clean energy roadmap to reduce fossil fuel dependence. Ground transportation currently makes up 28% of petroleum use in Hawai'i, therefore, reducing petroleum dependency and lowering tailpipe emissions is a critical strategy to achieve the State's clean energy goals.

Demonstration of Benefits

The project will result in the replacement of 10 older buses that have exceeded FTA's minimum service criteria both on the basis of age and accumulated vehicle mileage and install 4 charging stations in the Kalihi Maintenance Garage. The average bus age for Honolulu's fleet was 9.1 years of age in 2013. The department anticipates the development of zero-emission fleet of urban circulator buses in the 2019-2023 time frame as older buses are retired. This project is slated to be the first acquisition of all-electric battery buses for the City and County of Honolulu. The project will not impact the current spare ratio which is within FTA's guidance and documented in the FTA TrAMS for fleet status.

The buses are planned to be used in the Kalihi-Palama neighborhood which is adjacent to the Kalihi-Palama bus facility. The bus routes serve the County's largest concentration of public housing including the Towers at Kuhio Park, the Kalihi Valley Homes, and the Kamehameha Homes. The area has the highest incidence of poverty in the State. The Linapuni Street Census tract in Kalihi had the highest concentration of poverty in the state, with 69 percent of residents living below the poverty line. By comparison, the state's poverty rate overall was 11.3 percent. The new buses will traverse directly on to the property of some of the public housing areas and noise complaints have been frequent.

Being an isolated island State, Hawaii is more dependent on fossil fuels than any other State. Nationally, less than 1% of electricity in the nation is generated using oil. Hawaii, on the other hand, relied on oil for 70% and on coal for 14% of its electricity generation. However, the State is now committed to breaking the link between fossil fuels and energy usage. Currently, on Oahu, about 17.2% of electric energy is provided through renewable sources. The Hawaii State Legislature has passed a law requiring Hawaii generate 40% of its electricity through renewable forms of energy by 2030 and 100% by 2045.

Hawaii is the ideal location for some forms of renewable energy such as solar, wind and biomass. In fact, Hawaii has some of the highest per-capita generation of electricity from rooftop solar in the Nation. During daylight hours, the amount of electricity generated by rooftop solar reduces the daytime minimum load to close to the night time minimum load. The project buses will be recharged at times when there is surplus renewable energy available and will be on the road when peak electricity demand is at its highest. On Oahu, the peak electricity demand period is roughly between 5:00pm and 9:00pm. The peak demand period for the Kalihi route buses is between 5:00am and 8:00am and between 2:30pm and 6:00pm. With this energy profile, buses can be scheduled to be recharged several times a day rather than once a day or at the end of each trip which is the current practice for EV buses. Since the Kalihi bus facility is adjacent to the planned route, buses can return to the bus and change out during the off-peak hours. During daily peak travel periods, the maximum number of buses will be in service. At off-peak times, and during the night, the EV buses can be scheduled for recharging. Using this concept of operations, EV buses will need a range between 5 and 7 hours between charges. This should allow a vehicle with fewer batteries than a vehicle with a range between 12 and 14 hours of service. Since all power for the buses will be from renewable sources, the vehicles will truly be zero emission and will reduce greenhouse gas and particulate emission by 100%. Over the life of the project, the EV vehicles will allow us to save 610,000 gallons of diesel fuel and reduce GH gases by 6,202 tons.

The replacement all-electric buses will be substantially quieter and will meet the Department of Health night-time noise standards. The new buses will also allow the transit system to reduce fuel costs and use 100% renewable energy.

Planning and Local/Regional Prioritization

The City and County of Honolulu in conjunction with the electric power utility company Hawaiian Electric Co. is pushing for more electric vehicles to reduce emissions by Honolulu's bus fleet as evidenced by the partnership required to submit Honolulu's 2016 Tiger Grant request to FTA.

"Hawaii should be the EV capital of the world," said Alan Oshima, HECO president and CEO, in an editorial board meeting with the Honolulu Star-Advertiser on Tuesday, April 12, 2016. The high price of gasoline in the islands and the short distances, especially on Oahu, make Hawaii an ideal location for the expansion of electric vehicles.

HECO is working to increase EV adoption by installing electric vehicle charging stations and partnering with the city to add electric buses. Oshima said HECO is also in talks with the military to get more electric vehicles and charging stations on Hawaii bases. Increased use of EVs gives electrical utilities a new market and could help replace lost demand due to rooftop solar and greater energy efficiency.

"EVs will fundamentally change how electric utilities do business," said Silver Spring Networks, a California smart-grid company, in a 2013 white paper. "Utilities taking an active role in planning and implementing an EV charging management solution will be well positioned to benefit from the coming massive change in transportation."

HECO's Oshima said, "Any additional revenues we get all boils down to customer savings. It reduces rates." HECO's rates go down as total electricity use increases.

The HECO electrical utility included EV predictions in the 30-year power plans it submitted to state regulators at the end of March 2016. In its power supply plans, HECO said sales to power EVs could make up 14 percent of total customer power sales by 2045. Electric vehicles are currently 0.5 percent of the utility's customer sales. The state has a goal of reaching 100 percent renewable electric power generation by 2045.

Purchase of replacement buses has been identified as a local priority. A multi-year procurement program ($132 million over six years) has been listed in both the TIP and the City's six-year CIP Budget plan. See FEDERAL FISCAL YEARS 2015-2018 Transportation Improvement Program, As of Revision #9, April 2016, http://www.oahumpo.org/?wpfb_dl=1027

Local Financial Commitment

Honolulu will commit to the local financial matching requirements of this grant at the level required to carry out this award of 15% for the buses purchased and 10% for the charging stations.

See Proposed City and County of Honolulu CIP Budget. Pg. 333, Bus and Handi-Van Acquisition Program, pg 33. For Fiscal Year 2017, the Capital Improvement Budget provides $21,698,000 including $4,652,000 in local matching funds.
Web Link: http://www4.honolulu.gov/docushare/dsweb/Get/Document-177567/dspage05260370266917822645.pdf

See six year projection of funding. See City and County of Honolulu. The Executive Program and Budget, Fiscal Year 2017, Volume 2. Capital Program and Budget, pg. 543. $132,095,000 is programed for bus acquisition. That amount includes an estimated $28,791,000 in local matching funding.

Web Link: http://www.honolulu.gov/rep/site/bfs/bfs_docs/FINAL_Volume_2_Capital_Program_and_Budget_FY_2017.pdf

Project Implementation Strategy

The buses are planned to be used in the Kalihi-Palama neighborhood which is adjacent to the Kalihi-Palama bus facility. The bus routes serve the County's largest concentration of public housing including the Towers at Kuhio Park, the Kalihi Valley Homes, and the

Kamehameha Homes. The area has the highest incidence of poverty in the State. The Linapuni Street Census tract in Kalihi had the highest concentration of poverty in the state, with 69 percent of residents living below the poverty line. By comparison, the state's poverty rate overall was 11.3 percent. The new buses will traverse directly on to the property of some of the public housing areas and reduce frequent complaints of noise from diesel buses. From grant award to implementation of the award the strategy is to have buses on the streets of the selected geographic area with 22 months. The purchase of the electric buses will be accomplished through a competitive Request for Proposal process. Bids will be advertised no later than April 1, 2017.

If selected, can this project be obligated within 12 months from the time of award? (•) Yes ( ) No

Technical, Legal, and Financial Capacity

The City has the technical capacity to implement the project in accordance with the grant application, FTA Master Agreement and all applicable laws and regulations, using sound management practices. The grant will be administered by the Public transit Division.

The City was also one of the early adapters of production hybrid-electric buses and has substantial experience in their operation. The first HEV fleet was acquired in 2002 and the City currently operates 92 HEVs in its fleet including both 40-foot buses and 60-foot articulated buses and series and parallel ssytems. The City has also tested various electric bus components such as roof-mounted all-electric A/C systems and electric fan drive systems.

The City has modern repair facilities including the State's only large vehicle chassis dynamometer system. Oahu Transit Services has a highly-qualified staff of vehicle technicians and is known to operate a comprehensive preventative maintenance program. Maintenance records are computerized allowing individual vehicle analysis of maintenance performance and costs.

All city buses are equipped with a GPS system which includes on-board computers. All new vehicles are also equipped with automatic passenger counters (APCs) allowing for the collection of detailed boarding and alighting statistics. These systems can compute passenger miles of travel (PMT) which is an important variable in a cross-fleet evaluation of performance.

Project Budget

Description	QTY	Federal Amount	Local Match	Total Cost
Standard 40 ft Battery Electric Buses	10	293,250	51,750	3,450,000
Charging stations	4	123,750	13,750	550,000
Total:		3,427,500	572,500	4,000,000

Project Scalability

Is Project scope scalable? (•) Yes ( ) No

If Yes, specify minimum Federal Funds necessary: 1,781,250

Provide explanation of scalability with specific references to the budget line items above.

Minimum quantity of 5 battery electric buses and 2 charging stations and installation of a 220V electric line.

Matching Funds Information

Matching Funds Amount: 572,500

Source of Matching Funds.

Honolulu Capital Improvements Budget FY2017-2018 and Honolulu Oahu MPO STIP FFY2016-2017. Matching funds committed by Honolulu to acquisition of 10 battery electric buses is $1,378, 500 less the incremental match of $517,500 provided by this grant. Incremental Matching Funds amount of $517,500 is for the additional cost of 10 battery electric buses. Matching funds amount for 4 charging stations with installation $40,000. Matching funds amount for 220V electric line $15,000.

Supporting Documentation of Local Match.

See attached letter from Department of Transportation Services Director Michael M. Formby and Department of Budget and Fiscal Services Director Nelson K. Koyanagi Jr.

See attached letter from Brian Gibson Oahu MPO.

Project Timeline

Timeline Item Description	Timeline Item Date
STIP Revision November 2016	11/31/2016
Bus Acquisition Budget Honolulu FY2017-2018 Capital Budget	2/28/2017
Award Notification	3/31/2017
RFP for Buses and Charging Stations	4/1/2017
Contract Awards for Buses and Charging Stations	7/1/2017
1st Bus Delivered and charging stations in place	8/31/2018
Last Bus Delivered	11/1/2018
Bus testing and acceptance of buses	1/31/2019

Congressional Districts (Place of Performance)

Congressional District	Congressional Representative
HI-All	[Adds/Removes all districts in this state]
HI-001	Hanabusa, Colleen W.
HI-002	Gabbard, Tulsi