



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 8f

**ACTION ITEM**

**Date of Meeting** September 14, 2021

**DATE:** August 27, 2021

**TO:** Stephen P. Metruck, Executive Director

**FROM:** Adrian Down, Environmental Program Manager, AV Environment and Sustainability  
Peter Lindsay, Operations Program Manager

**SUBJECT: Request to Amend Agreement with the National Renewable Energy Laboratory to Include Transportation Modeling**

**Amount of this request:** \$200,000

**Total estimated project cost:** NA

**ACTION REQUESTED**

Request Commission authorization for the Executive Director to amend the scope of an existing interlocal agreement (ILA) with the National Renewable Energy Laboratory (NREL) to include transportation modeling to support SEA's ground transportation goals and Century Agenda environmental goals.

**EXECUTIVE SUMMARY**

The Port has an existing ILA with NREL, a not-for-profit, federally funded agency. The ILA was approved by Commission on April 27, 2021. This action is for approval to amend this existing agreement with NREL to add \$200,000 of work to be carried out over an approximate 1-year period.

Airports and seaports look to NREL for decision support and actionable insights to inform their long-term facility, infrastructure, and energy planning efforts. NREL has helped other major transportation airports and seaports like Los Angeles World Airports, Dallas Fort Worth International Airport, the Port Authority of New York and New Jersey, and the Port of Long Beach understand the full range of options for achieving ambitious energy-saving goals, improving regional air quality, and optimizing the movement of people and goods.

**JUSTIFICATION**

This ILA amendment will allow the Port to work with NREL to develop transportation modeling essential for SEA's Ground Transportation Access Plan (GTAP) and help meet the Port's Century Agenda goals to reduce carbon emissions and objectives established in Commission's SEA ground transportation (GT) policy directive (Policy Resolution No. 3759).

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This partnership provides access to world-leading technology and transportation integration that isn't available elsewhere. In addition, NREL explicitly does not offer its services where commercial consultants or engineering firms can do the work.

The Port recognizes that the Policy Resolution goal of reducing low-occupancy private vehicle trips to the airport may require new approaches in SEA's GT operations, policies, and facilities, all of which can influence how passengers and employees chose to get to the Airport. Ground transportation initiatives can have complex tradeoffs between revenue generation, environmental performance, cost, and customer service. As a result of this complexity, NREL expertise is warranted to understand the range of ground transportation options and their potential impacts on Port revenue, emissions, and customer service.

### ***Diversity in Contracting***

Given that NREL is uniquely positioned to provide this service, we did not set aspirational goals but will leverage NREL's expertise to evaluate equity in the transportation analyses. NREL is committed to being a world-class leader in workforce diversity, equity, and continues to develop numerous studies that identify equitable and economic local solutions to the climate crisis. For example, their LA100 study demonstrates how the City of Los Angeles will meet its renewable electricity goals with specific environmental justice actions.

### **DETAILS**

If approved, this ILA modification will enable the Port to develop a partnership with NREL's Athena team. Athena specializes in using data-driven statistical modeling to help airports adapt to transformative technologies that support ambitious energy goals. Athena has worked with Dallas Fort Worth International Airport to develop sophisticated models of current and future mobility requirements.

The primary goal of this work with the Athena team is to create a model that predicts changes in passenger behavior in response to potential changes in the Port's GT operations, policies, and infrastructure. This model is essential for evaluating the potential implications of implementing access fees on private vehicles accessing SEA roadways, one of the key priority strategies identified in the GTAP report.

The resulting passenger mode choice model will also be used to identify impacts beyond access fees, such as:

- Analyzing the effects of potential changes to fee structures for parking or other GT products to maximize revenue
- Helping to identify opportunities to influence passenger behavior to achieve the goals included in Resolution 3759 and the Port's Century Agenda of limiting private vehicle curbside use to 30% of passengers and reducing greenhouse gas emissions from all sources, including GT, 50% by 2030.

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***Scope of Work***

The primary goal of this project is to create a price-based, ground transportation model that can predict SEA passengers’ mode choice changes in response to changes in pricing, travel time, or other aspects of airport trips. Passengers will be segmented into groups to account for differences in travel behavior between resident and non-resident travelers as well as business and leisure travelers. The model will initially be based on existing data sources, including SEA’s enplaning passenger survey, and will be updated as new information becomes available. The model will be structured so that it can easily be updated with additional survey information in the future if the Port chooses to conduct additional passenger surveys.

The scope will follow these general tasks and deliverables:

- (1) Data gathering and review
- (2) Model construction and testing
- (3) Develop policy evaluation tool
- (4) Analyze policy scenarios
- (5) Final report

***Schedule***

<b>Task/Deliverable</b>	<b>Date</b>
Commission ILA modification authorization	Q3 2021
Data Gathering	Q4 2021
Model construction and testing	Q4 2021-Q1 2022
Policy scenario analysis	Q2-Q3 2022
Final report	Q4 2022

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1** – Do not support an NREL partnership.

Cost Implications:     \$0

Pros:

- (1) Cost savings.

Cons:

- (1) If this model is not constructed, the Port will not be able to preemptively evaluate potential GT program options including access fees. This makes the risk of implementing new or modified GT programs much greater and reduces the likelihood of success.
- (2) The Port may miss opportunities to increase revenue that the model could identify
- (3) Port will not meet Century Agenda or Policy Resolution 3759 goals.

This is not the recommended alternative.

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**Alternative 2** – Work with a private consultant to construct a passenger mode choice model

Cost Implications: \$350,000

Pros:

- (1) Work could be completed under existing Port contracting mechanisms, although additional funding would still be required.

Cons:

- (1) Product may not be comparable and would not utilize NREL’s industry-leading expertise and innovative research background.
- (2) Likely higher cost than NREL alternative.
- (3) May require delaying model construction one or more years until additional passenger surveys can be conducted.

This is not the recommended alternative.

**Alternative 3** – Leverage the existing NREL partnership and expertise to conduct the work

Cost Implications: \$200,000

Pros:

- (1) This work will create a model that will analyze options for reducing vehicle trips and greenhouse gas emissions at SEA Airport and is essential for moving forward with other priority areas identified in GTAP.
- (2) Supports Century Agenda and Commission Policy Resolution 3759 goals
- (3) Potential to identify opportunities to increase non-aeronautical revenue

Cons:

- (1) Financial cost

***This is the recommended alternative.***

**FINANCIAL IMPLICATIONS**

***Annual Budget Status and Source of Funds***

The 2021 budget for the addition to the ILA requested here is \$75,000 and was approved as a contingent budget request in 2021. The remaining \$125,000 is requested as part of the 2022 Aviation Environment and Sustainability operating budget. The total for this project is \$200,000.

The budget for the existing, previously approved ILA (to analyze energy and technology alternatives for Port facilities) is \$127,000 from the Energy and Sustainability Committee Fund, and \$23,000 from the Environment and Sustainability Center of Expertise operating budget, for a total of \$150,000.

**ATTACHMENTS TO THIS REQUEST**

- (1) Cover page and appendices to be added to ILA

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- (2) Existing ILA signed by Commission on April 27, 2021
- (3) Presentation

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

April 27, 2021 – The Commission authorized the Executive Director to enter into an interlocal agreement with NREL to analyze energy and technology alternatives for both aviation and maritime facilities to help meet Century Agenda environmental and energy goals.