

MOU SCHEDULE NO. 2 – ZERO-EMISSION SHUTTLE BUS PROGRAM

This MOU Schedule No. 2 is based on the Authority's AQIP SIP creditable measure for zero-emission buses at BUR.

- I. PROGRAM DESCRIPTION – Replace 50% and 100% of BUR-owned and operated or BUR airport contracted buses with electric buses by January 1 of 2023 and 2031, respectively.

- II. PROGRAM TIMEFRAME – Upon execution through 2032.

- III. AIRPORT OBLIGATIONS – The Authority agrees to:
 - A. Replace or require shuttle buses to meet the specified targets.
 - B. Beginning in 2021, provide the following information to South Coast AQMD on an annual basis by June 1 for each preceding calendar year:
 1. List of shuttle buses operating at BUR with the following information:
 - a. Vehicle Identification Number
 - b. Vehicle model year
 - c. Gross Vehicle Weight Rating
 - d. Fuel type
 - e. Odometer reading
 - f. Annual vehicle miles travelled
 2. An emission inventory for shuttle buses, including methodology and calculations.

- IV. SOUTH COAST AQMD OBLIGATIONS – South Coast AQMD agrees to:
 - A. Verify emission reductions from the implementation of this SIP creditable AQIP measure by the Authority in order to determine actual emission reductions.
 - B. Ensure that any emission reduction data related to this AQIP measure and other pertinent information are accessible to the public and the USEPA.

MOU SCHEDULE NO. 2 – III.B.1. Shuttle Bus List

List of shuttle buses operating at BUR with the following information: a. vehicle identification number; b. vehicle model year; c. gross vehicle weight rating; d. fuel type; e. odometer reading; f. annual vehicle miles travelled.

2022 Hollywood Burbank Airport Shuttle Bus Equipment Inventory

Vehicle Identification Number (VIN)	Vehicle Model Year	Gross Vehicle Weight Rating	Fuel Type	Odometer Reading	Annual Vehicle Miles Traveled
1FDFE4FS8GDC03972	2016	14,500	Natural Gas	181,847	42,139
1FDFE4FS3GDC03975	2016	14,500	Natural Gas	155,225	22,203
1FDFE4FS7GDC03977	2016	14,500	Natural Gas	184,694	34,957
1FDFE4FS9GDC03978	2016	14,500	Natural Gas	172,043	23,424
1FDFE4FS8GDC03986	2016	14,500	Natural Gas	151,150	21,891
1FDFE4FSXGDC05495	2016	14,500	Natural Gas	177,553	32,969
1FDFE4FSXGDC05500	2016	14,500	Natural Gas	185,504	27,285
1FDFE4FS9GDC05505	2016	14,500	Natural Gas	128,559	15,126
1FDFE4FS1GDC05501	2016	14,500	Natural Gas	167,418	30,526

MOU SCHEDULE NO. 2 – III.B.2. Emission Inventory

An emission inventory for shuttle buses, including methodology and calculations.

2022 Hollywood Burbank Airport Shuttle Bus Emission Inventory

Fleet Mix		Fleet Emissions (tons per year; metric tons for CO ₂ e)						
Electric	Natural Gas	CO	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO ₂ e
0 (0%)	9 (100%)	14.31	0.03	0.14	0.03	0.01	0.00	650

Methodology - Collection of Data

In February 2023, the data required under MOU Measure 2.III.B.1. was requested from the currently contracted Hollywood Burbank Airport shuttle bus operator for equipment operating at the airport. All requested data was received by the end of March.

Methodology - Emission Calculations

Shuttle bus operating emissions were estimated using California regulatory standard emissions model EMFAC2017, developed by CARB. For each shuttle bus, a representative equipment type was identified from the EMFAC2017 model. Emission factors from the model were queried for the Los Angeles (South Coast) region for calendar year 2022, assuming all adopted rules for exhaust controls. Emission factors were assigned to each reported shuttle bus based on the buses representative EMFAC category and the vehicle's model year from the applicable fuel types within the EMFAC model.

Emission factors from the EMFAC model were verified against emission factors calculated using base factors available in applicable CARB's engine certifications.

Annual emissions for each shuttle bus were calculated by multiplying emission factors (in grams per mile) by annual reported vehicle miles traveled (VMT).