

Presented to:
South Coast Air Quality Management District

2023 MOU PROGRESS REPORT

Presented by:
Melinda McCoy
Sr. Airport Manager
Environmental

November 18, 2025

JOHN WAYNE AIRPORT
ORANGE COUNTY

John Wayne Airport, Orange County

Annual Report Requirements

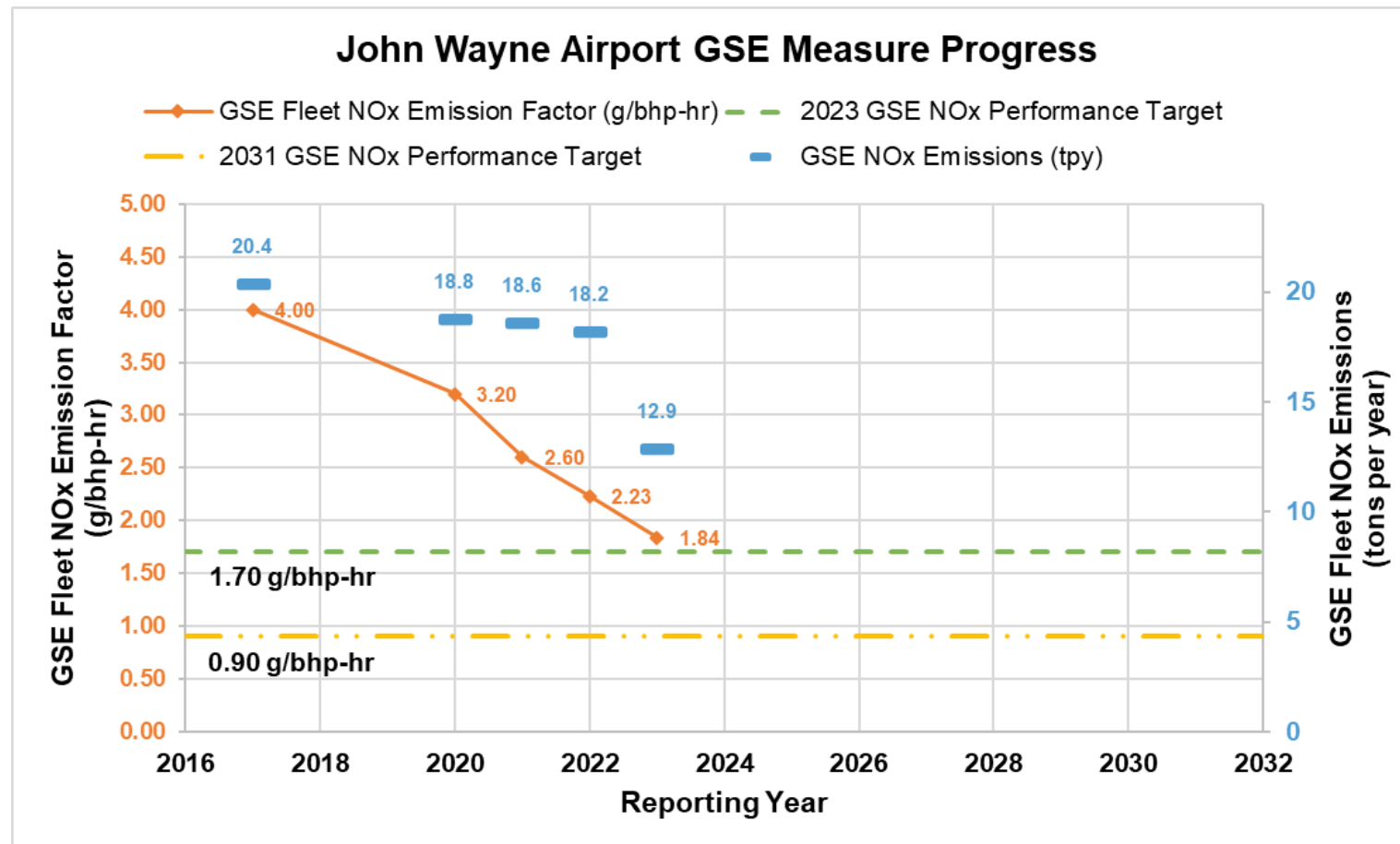
MOU Airport Obligation:

- Report on an annual basis by June 1 for previous calendar year
- Provide information to AQMD as listed in the MOU
- Beginning in 2021, ending 2032
- Three MOU Measures:
 - 1 - Ground Support Equipment
 - 2 - Jet Fuel Delivery Trucks
 - 3 - Parking Shuttle Bus Electrification



MOU Measure 1

Reduce GSE Emissions



- 37% decrease in Total NOx emissions from 2017 Baseline
- 54% decrease in Fleet NOx emission factor from 2017 Baseline
- 3% from 2023 target

GSE Measure 1 Fleet Improvements

GSE changes since 2017 Baseline year:

- Removed 26 older diesel
- Removed 6 older gasoline
- Added 49 electric

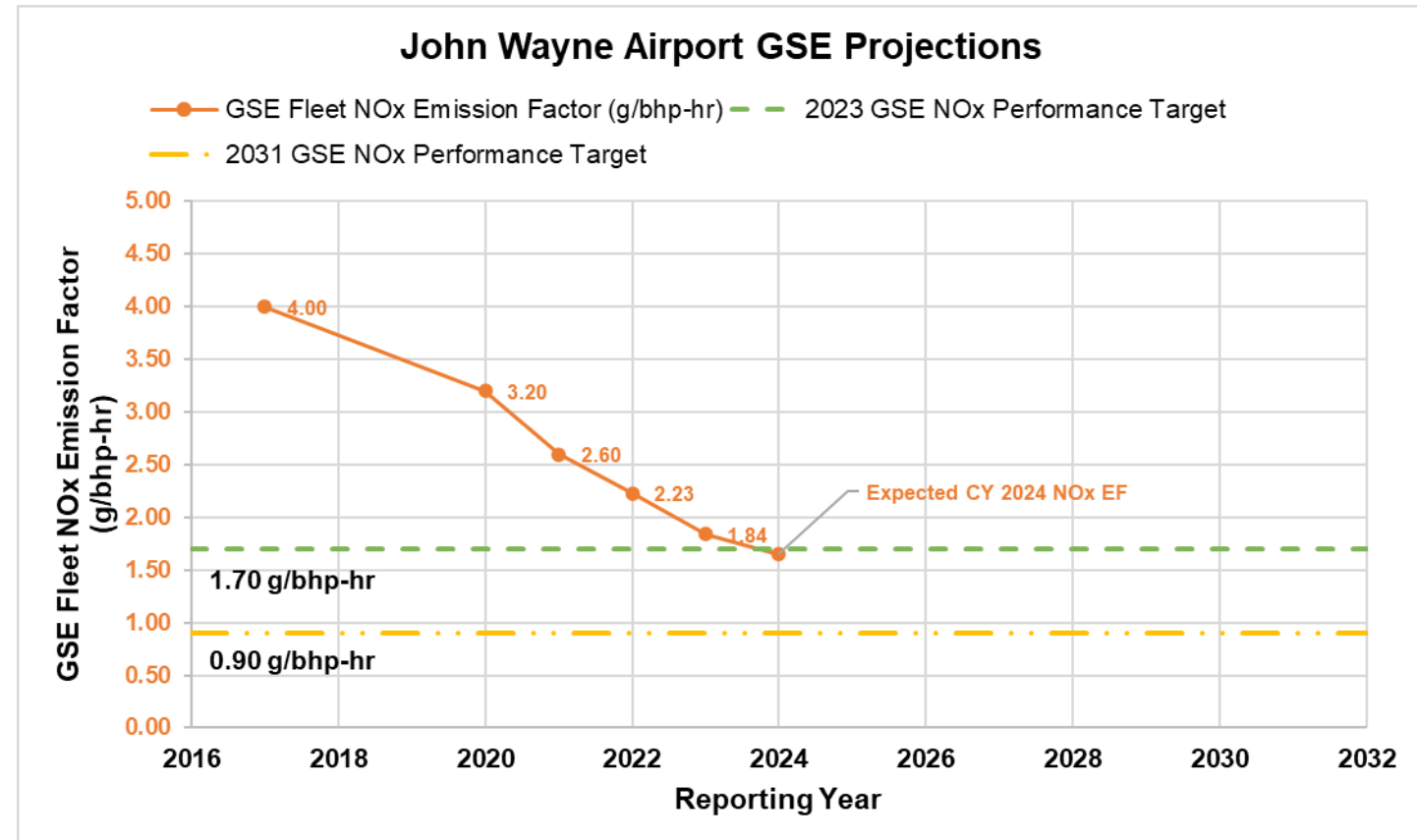
Type	Breakdown	2017	2020	2021	2022	2023	2023 vs 2017
Diesel	Tier 0	11	4	3	4	3	-8
	Tier 1	21	20	20	11	7	-14
	Tier 2	4	5	5	4	1	-3
	Tier 3	7	6	6	6	6	-1
	Tier 4 Interim	3	5	5	5	4	+1
	Tier 4 Final	11	19	37	36	50	+39
TOTAL		57	59	76	66	71	+14
Gasoline	MY <2001	12	8	10	7	6	-6
	MY 2001-2006	2	2	2	2	2	0
	MY 2007-2009	1	3	4	1	4	+3
	MY >= 2010	16	28	29	35	37	+21
TOTAL		31	41	45	45	49	+18
TOTAL							
Electric	TOTAL	96	99	133	147	145	+49 (+51%)
TOTAL All EQUIPMENT		184	199	254	258	265	



JOHN WAYNE AIRPORT
ORANGE COUNTY

MOU Measure 1 GSE Targets and Performance Level Projections

- Engaged with operators to target the oldest GSE, resulting in the removal of 18 older GSE with MY 2010 and older between CY 2023 and 2024.
- Newly upgraded electric panels at four gates facilitating installation of new chargers to aid in meeting the target.
- Calculations for CY 2024 indicate that the 2023 MOU target has been met:
✓ 1.65 g/bhp-hr





CERTIFIED PASSENGER

AIRLINE LEASE

_____Dated

Between

County of Orange

And

MOU Measure 1

Airline GSE Commitments

- Lease Agreements:
 - MOU emission requirements have been incorporated into each airline lease.
 - Each lease has been executed.
 - Flow down provisions to GSE operators through airline lease.
- Airlines have developed GSE improvement plans and submitted to JWA.
- Many airlines have purchased fast charger systems and are installing upon completion of associated JWA infrastructure upgrades.

JOHN WAYNE AIRPORT
ORANGE COUNTY

MOU Measure 1

Gate Electrification for GSE

Capital Improvement Program

- Existing system-wide Airport electrical infrastructure > 35 years old. While all bridge-gates originally installed with electric for aircraft to plug in and to support GSE electric charging, renovations are required.
- New GSE charger systems require increased electrical capacity to support additional GSE charging.
- Airport implementing phased capital improvements targeting GSE charging needs.



MOU Measure 1

Gate Electrification Improvements

Phase 1 – Electrical upgrades (Year 2023-2024):

- Electrical infrastructure upgrades completed at four gates.
 - Gates that had enough electrical capability and had high emission GSE (older Tiered units).
- GSE operators installed DC Fast chargers
- Allowed retirement of older diesel GSE and operation of electric replacements.

Phase 2 – Upgrades for remaining gates

- Funded as part of the Board of Supervisors Approved Airport Capital Improvement Program.
- Design in progress. Construction scheduled for 2026.
- Subset of a larger \$90M+ project to renovate the Airport's Central Utility Plant and entire electrical capacity/distribution system including a microgrid battery storage and renewable energy.
- Will allow JWA GSE operators to meet 2031 target

MOU Measure 2

Eliminate/Reduce Jet Fuel Delivery by Tanker Trucks

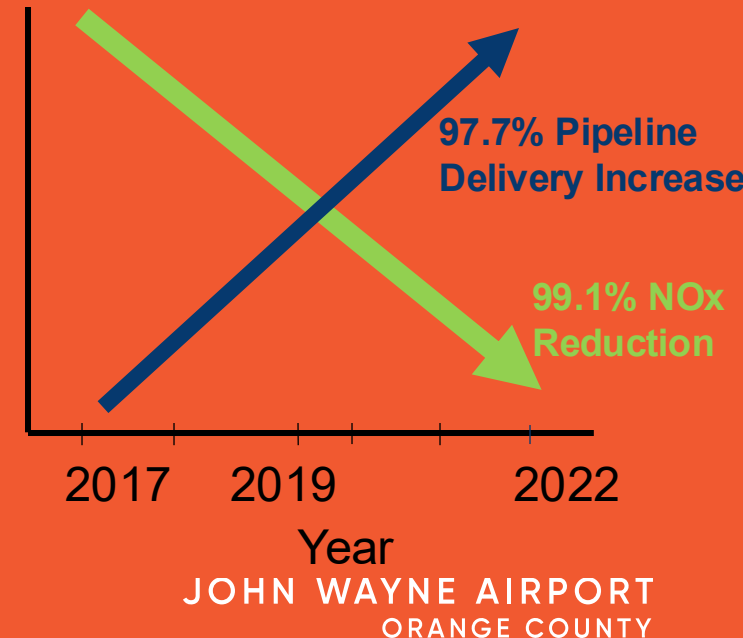
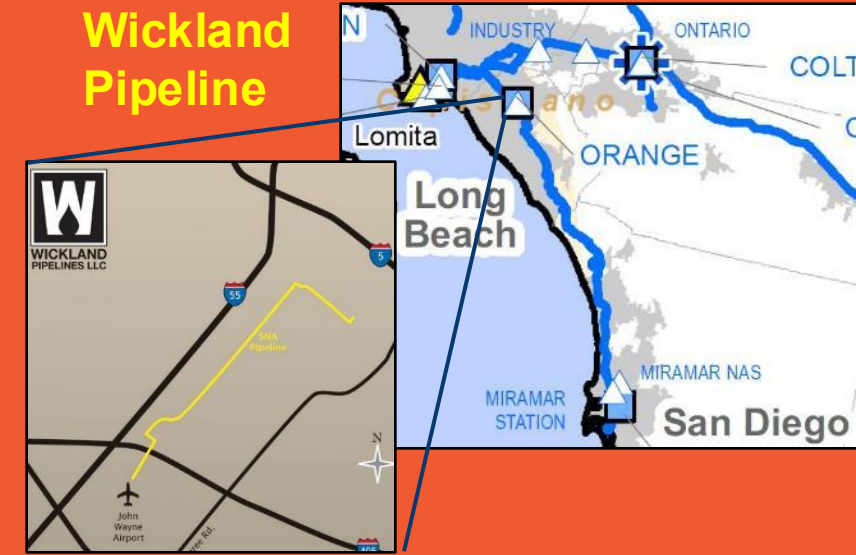
- Jet fuel pipeline operational as of October 2019.
- The majority of jet fuel now delivered via pipeline.
- Some jet fuel delivery trucks may continue beyond January 1, 2023 due to:
 - existing contracts with a fixed-base operator (FBO) which serves a commercial service airline.
 - emergency fuel deliveries to airlines.
 - pipeline maintenance outages.
- JWA continues to work with the FBO to transition to pipeline deliveries as feasible.



MOU Measure 2

Eliminate/Reduce Jet Fuel Delivery by Tanker Trucks

- **Fuel delivery by pipeline has remained high** each year since the pipeline became operational in 2019.
 - **96%** (2020)
 - **98%** (2021)
 - **98.9%** (2022)
 - **97.7%** (2023)
- **NOx emissions from fuel delivery trucks in 2023 reduced 99.1%** from 2017 estimates.
- **Reduction of 7,314 lbs/yr NOx and 308 lbs/year ROG** in 2023 compared to 2017 estimates.
- A nominal increase in fuel delivery trucks was observed in 2023 due to necessary pipeline maintenance activities.



MOU Schedule 3

Electric Shuttle Buses

MOU - Replace 50% of 10 existing CNG buses with electric buses by 2023

- ✓ Five electric buses and associated charging equipment purchased and onsite prior to 2023
- ✓ Bus chargers pending installation
 - JWA design of charger system complete
 - Require new power feed from SCE - Awaiting SCE final power feed upgrades (supply chain delays)
- ✓ Temporary charging installed and began operation in May 2025.

Maintenance and operation of electric buses continues to be challenging due to bankruptcy of bus manufacturer.

JOHN WAYNE AIRPORT
ORANGE COUNTY



For more information:

OCAIR.COM



@johnwayneairport



@johnwayneair



@johnwayneair