



**South Coast Air Quality Management District**

**Airports Mobile Source Working Group**

**Meeting No. 6 – May 7, 2024**



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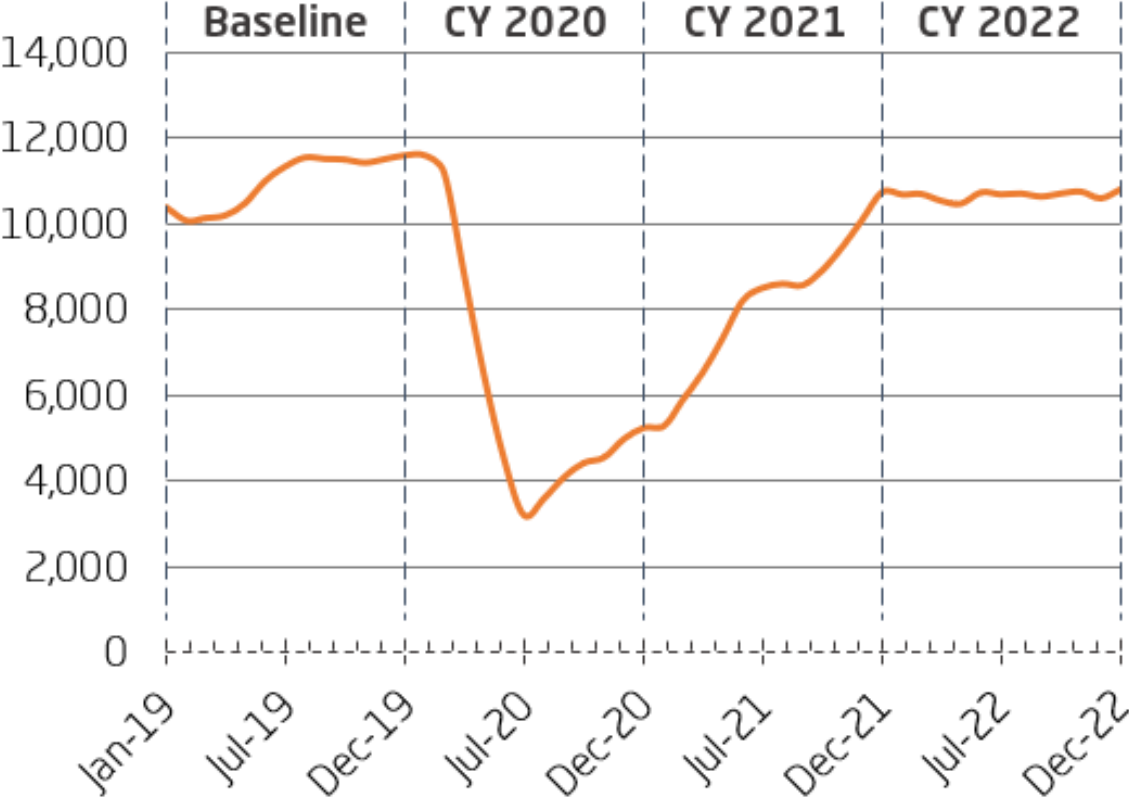
# Annual Report Requirements



- MOU includes one schedule:
  - Ground Support Equipment
- LGB provides annual reports by June 1<sup>st</sup> for the previous calendar year commencing with Calendar Year 2021 through Calendar Year 2032
  - Performance relative to MOU targets
  - Emission inventories
  - Legacy equipment phase-out status

# COVID-19 Recovery

## LGB Air Carrier Operations



### Calendar Year 2021

- Commercial operations continued to pick up throughout this period
- GSE fleet continued to contract to 182 pieces of in-use equipment

### Calendar Year 2022

- Commercial operations mostly leveled out to just below 2019 levels
- GSE fleet expanded slightly to 186 pieces of in-use equipment



# Schedule No. 1 GSE Performance



## Airport-wide GSE Emission Factor Trends

- 2017 Baseline – 1.50 grams per horsepower-hour (g/hp-hr)
- 2020 – 1.23 g/hp-hr
- 2021 – 0.96 g/hp-hr
- 2022 – 0.90 g/hp-hr
- 2023 MOU Target – 0.93 g/hp-hr  
✓ Achieved in CY 2022



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# Schedule No. 1 GSE Emissions



## Airport-wide GSE Emissions Trends

- 2017 Baseline – 22.1 tons of NO<sub>x</sub>
- 2020 – 15.6 tons of NO<sub>x</sub>
- 2021 – 7.7 tons of NO<sub>x</sub>
  - ✓ 65% reduction vs baseline
- 2022 – 7.5 tons of NO<sub>x</sub>
  - ✓ 66% reduction vs baseline



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# Schedule No. 1 – GSE Fleet Composition

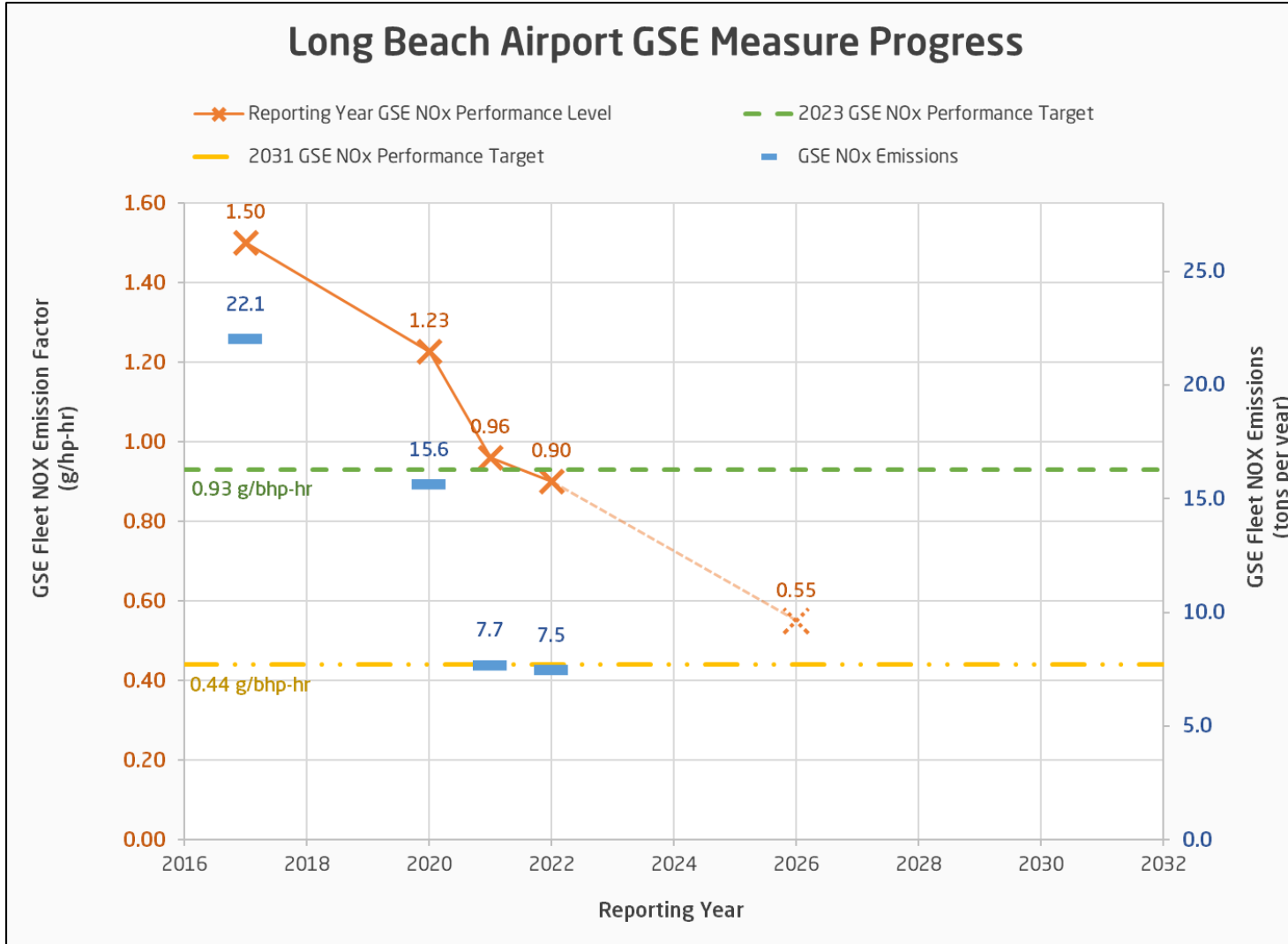
2022 GSE Fleet (In-Use, ≥ 25 Horsepower equipment only)  
 (Difference as compared to MOU Baseline [CY 2019])

Year	Gasoline		LPG/Propane		Diesel				Electric	Total Fleet
	Legacy	2010+	Legacy	2010+	Legacy	Tier 3	Tier 4	Onroad		
2017	36	13	15	3	84	3	11	0	155	320
2020	27	29	12	3	32	16	32	9	109	269
2021	6	21	11	3	12	10	29	2	88	182
2022	6	23	9	2	11	8	28	3	96	186

The use of legacy GSE at LGB has decreased dramatically since MOU inception (78% reduction).

- CY 2021 – 48% of in-use fleet electrified
- CY 2022 – 52% of in-use fleet electrified

# Schedule No. 1 – Looking Forward



## Scenario Analysis

- Airport maintains active dialogue with operators to accelerate equipment replacement
- Coordination with operators indicate that legacy GSE will continue to be removed
  - Performance to begin to approach 2031 target as early as 2026

# Commercial Tenant Updates



- COVID-19 impacts have forced airports, airlines, and GSE operators to reevaluate capital plans and allocation of resources
  - Acquisition of electric vehicles and support equipment have been delayed by supply chain challenges
- Changes since Working Group Meeting #5
  - FedEx departure (2021)
  - American Airlines departure (2023)
  - Vacated flight slots filled by Southwest Airlines, which operates predominantly electric GSE at LGB





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