



# Infrastructure Changes for Sustainable Aviation

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# Sustainable Aviation Critical Questions - Airport Perspective\*

- Airline aircraft investment plans
- Electrical infrastructure
- Federal Funding
- Development - Phasing/ Incremental needs



*\*This presentation presents a generalized North American airports' perspective on challenges and opportunities*

## Investments within Airport Priorities

- Competitive air service
- Managing cost-per-enplanement
- Airport Scope 1 and Scope 2 (control what you can control)
- Current top large-hub issues
  - TSA/CBP/ Airport staffing shortages
  - People experiencing homelessness
  - Accessibility
  - Rental cars/EV

# System-wide Challenges for US Airports

- Forecasting energy and electricity demands
  - Reasonability
  - Flexibility
- Aging infrastructure
  - Back-of-house infrastructure even more so
  - Electricity Grid
    - Increasing demands for electricity from all sectors
- Energy management/electrification
  - Infrastructure requirements
  - Vehicle electrification
  - Facility management issues
  - Legal/Regulatory considerations
  - Stakeholder engagement
  - New kinds of staffing skills and knowledge needed

# Funding Challenges

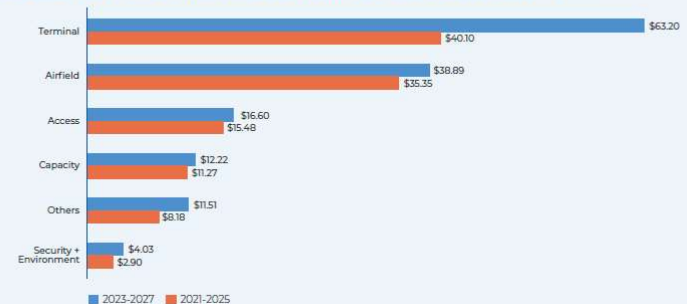
- \$151 Billion in unmet infrastructure needs over the next 5 years
- Regulatory and contractual parameters
  - Grant Assurances
  - PFC cap
  - Rates & Charges process/ MII



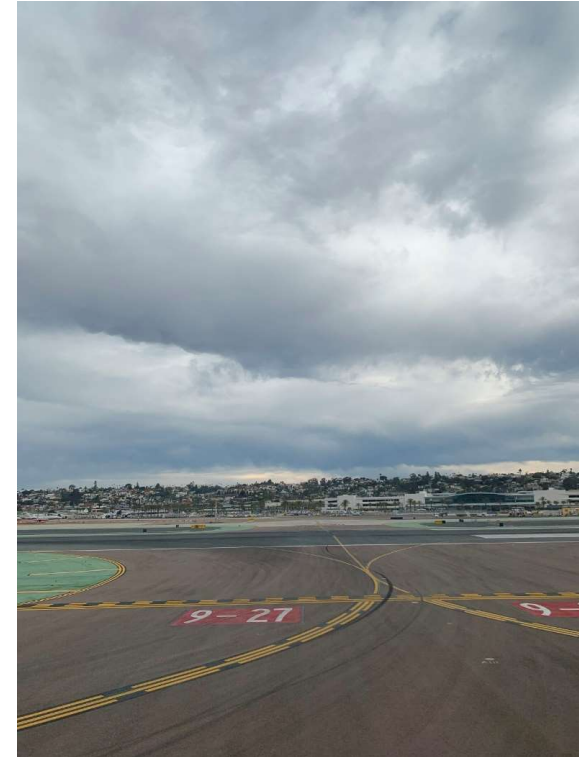
Table 2  
**Large Hubs Still Account for the Largest Share of Total Infrastructure Needs, Medium Hubs Represent the Fastest Growing Infrastructure Needs**  
 (Billions of Current Year Dollars)

| Airport Category | 2021-2025      | 2023-2027      | Percent Growth |
|------------------|----------------|----------------|----------------|
| Large            | \$63.9         | \$79.3         | 24.1%          |
| Medium           | \$16.9         | \$28.0         | 65.2%          |
| Small            | \$12.4         | \$15.4         | 24.5%          |
| Non-Hub          | \$6.6          | \$8.1          | 22.9%          |
| Other            | \$15.6         | \$20.3         | 29.8%          |
| <b>Total</b>     | <b>\$115.4</b> | <b>\$151.1</b> | <b>30.9%</b>   |

Figure 5  
**Infrastructure Needs by All Project Types Increase from 2021-2025 to 2023-2027** (in billions)



# Complex Operations in Space-Constrained Envelopes



Three famously constrained airports – LHR, LGA, SAN

# Specific Airport Issues to be Considered



- Space available
  - Terminal area
  - Overall, including Fuel Farm
- Phasing
  - Building for future technologies within busy and complex operating environments
- Local Priorities and Business Model
  - Dominant airline fortress hub?
- Community concerns
  - What will communities surrounding airports accept?



# Aircraft Fly to Different Airports

→ What will be the critical mass of airports able to support aircraft of the future?





# Sustainable Aviation Critical Questions

- Airline aircraft investment plans
- Electrical infrastructure –overall grid considerations
- Federal Funding
- Phasing/ Incremental Steps



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