DEUSA Fleet Success Stories: Delta Airlines & United Airlines

Location: Indianapolis, Indiana
Fleet type: Medium-duty electric vehicles

Narrative: Drive Clean Indiana (DCI) supported Delta Airlines and United Airlines for the deployment of electric ground service tractors at the Indianapolis International Airport, as part of an ongoing effort to advance fleet electrification across Indiana's transportation sector. This initiative reflected a practical and results driven approach to reduce emissions and aviation, ground operations aligning with Delta airlines, sustainability, mission, and improving operational efficiency in the workplace conditions.

The project demonstrated that airport ground support equipment is a viable and strategic entry point for electrification. Through collaboration, planning, infrastructure, coordination, and operational integration, electric ground tractors were successfully introduced into daily service with measurable, environmental and operational benefits.

The implementation process began with a comprehensive review of fleet, utilization patterns, and operational cycles. Through this assessment, they confirmed that electric tractors could meet daily performance demands without disrupting service reliability. DCI worked alongside Delta and United ground operation teams and airport facilities to evaluate electrical capacity, identify optimal, charging locations, and ensure compliance with airport safety standards.

Following the infrastructure preparation, the electric tractors were introduced via a phased approach. This allowed the operators to become familiar with new equipment while doing performance monitoring under real-world conditions. Early operational feedback indicates drivers enjoy the new EVs.

Outputs & Outcomes: The deployment of electric ground tractors produces measurable, environmental, operational, and strategic outcomes. From the environmental standpoint, the transition eliminated diesel fuel consumption for the deployed units and reduced tailpipe emissions at gates and ramp areas. The shift contributed to improving localized air

quality and reducing exposure to particulate matter for ground personnel. The noise levels were also reduced, enhancing overall workplace conditions.

Operationally, the electric motors demonstrated reduced fuel cost, and lower maintenance requirements compared to the diesel tractors. Fewer moving parts in simplified, mechanical systems, contributed to improving reliability and reducing downtime. The centralized charging model also enhances visibility into utilization and asset management.

Strategically, the initiative strengthened collaboration between Delta Airlines, United Airlines, Indianapolis International Airport, and Drive Clean Indiana, while establishing a replicable model for airport fleet electrification across the state. The project reinforced Indiana's leadership and practical transportation, electrification, and highlighted aviation ground operations as an opportunity to reduce emissions.

Best Practices & Lessons Learned: During this transition and implementation process, DCI and the Indianapolis International Airport learned the following:

1. **Early Stakeholder Engagement Is Essential -** Airport operations involve multiple layers of coordination. Early involvement of facilities, operations managers, and safety personnel streamlined approvals and minimized delays.
2. **Fleet Data Drives Smart Electrification Decisions -** Understanding daily mileage, dwell times, and operational cycles ensured appropriate vehicle and charger selection.
3. **Strategic Charging Placement Prevents Disruption -** Proper charger location planning maintained operational flow while maximizing equipment uptime.
4. **Operator Engagement Accelerates Adoption -** Including ground crew supervisors early in the process increased confidence in new technology and reduced resistance to change.
5. **Aviation GSE Electrification Is a Practical Near-Term Solution -** Compared to other heavy-duty sectors, ground support equipment offers a strong return on investment due to predictable usage and centralized operations

Conclusion: The successful deployment of 10 electric ground service tractors at Indianapolis International Airport displaced 61,242 gallons of diesel and replaced 10 diesel tractors. The project is showing how electrification within aviation-support operations is both feasible and operationally beneficial. Through coordinated planning and strategic collaboration, DCI and the Indianapolis International Airport, in correlation with United Airlines and Delta Airlines, implemented a solution that reduces emissions, lowers operating costs, and improves working conditions.

This initiative serves as a model for future airport electrification projects and reinforces Indiana's commitment to advancing clean transportation solutions that are practical, scalable, and economically sound.