

APPENDIX A

SURVEY QUESTIONNAIRES

This appendix provides the separate survey forms used in the telephone interviews conducted with airports and private ground transportation operators.

Airport Survey Form

1. State the airport name.
2. Please provide the following information: contact name and title, address, phone, and email.
3. Confirm current attainment status of the area where the airport is located, as defined in the Clean Air Act.
 - Airport is located in attainment area
 - Airport is located in non-attainment area
4. Does the airport encourage the use of alternative fuels (such as: compressed natural gas, propane, liquefied natural gas, biodiesel, ethanol, hydrogen, electricity) or other types of clean vehicles (e.g., hybrid electric, etc.) by the private ground fleets serving the airport?
 - Yes
 - No
5. If yes, what alternative vehicle technologies/fuels are encouraged by the airport?
 - Compressed natural gas (CNG)
 - Propane
 - Liquefied natural gas (LNG)
 - Biodiesel
 - Ethanol
 - Hydrogen
 - All-electric
 - Hybrid-electric vehicles
 - Other (please specify)
 - No preference for a specific technology
6. What sustainability practices does the airport encourage private ground transportation fleets to implement?
 - Use of alternative fuel vehicles
 - Reduction of idling
 - Use of more fuel-efficient vehicles
 - Use of emission reduction devices/equipment
 - Strategies to reduce "empty rides" (describe)
 - Other (describe)

7. What kinds of incentives are used to encourage fleets to use alternative fuels and clean vehicles?
 - o None
 - o Preferential access to terminal building and customers by AFVs
 - o Lower airport access charges
 - o Lower charges for using airport services by the fleet AFVs
 - o Lower parking charges
 - o Premium parking locations for fleet AFVs
 - o Providing alternative fueling at the airport premises for fleet fueling convenience
 - o Airport grants/subsidies for purchasing alternative fuel vehicles
 - o Other (describe)

8. Does the airport have a formal policy requiring the usage of clean vehicles/fuels by private ground transportation fleets operating at the airport?
 - o Yes (please provide the policy URL)
 - o No

9. What is the origin of the policy?
 - o Regulatory requirement imposed by the local jurisdiction/municipality or government authority
 - o Rule imposed by the airport
 - o Formal agreement between the airport and ground transportation fleet
 - o Environmental mitigation contained in Environmental Assessment (EA) or Environmental Impact Statement (EIS) for an airport project
 - o Other (describe)

10. What does the clean vehicle/alternative fuel policy require?
 - o Certain percentage of fleet operating at the airport to use alternative fuels (please specify percentage and types of fuel required)
 - o Minimum MPG requirement for vehicles operating at the airport (specify MPG)
 - o Vehicle replacement requirements (specify the requirements for MPG, future date)
 - o Other (describe)

11. How were these requirements developed?
 - o Based on environmental mitigation contained in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) for an airport project
 - o Based on airport sustainability plan and goals
 - o Based on local or regional sustainability plans/goals for government fleets
 - o Matching similar requirements at competing airports (benchmarking)
 - o Other (describe)

12. Are the fleets using the airport involved in developing these requirements?
 - o Never

- Sometimes
- Often, but not all the time
- Always

13. Does the airport have an anti-idling policy?

- Yes
- No

14. What does the policy require?

- Any idling is not allowed
- No unattended idling
- No more than 2 minutes of idling
- No more than 5 minutes of idling
- No more than 10 minutes of idling
- Other (describe)

15. How is the anti-idling policy enforced?

- No enforcement
- Violators are ticketed
- Violators are denied access to airport
- Violators lose preferential treatment at the airport (e.g., denied prime location accessing the terminal)
- Other (describe)

16. What funding/grants are used at your airport to encourage fleets to use cleaner fuels/vehicles at the airport?

- None
- Voluntary Airport Low Emission (VALE) Program
- Airport Improvement Program (AIP) grants
- State grants (specify)
- Local grants (specify)
- Grants established by the airport (describe)

17. For every program listed in Q16, please describe grant program utilization by airport ground fleets and how long it has been available.

- Private fleets rarely take advantage of the airport grant program to convert their fleets to alternative fuels (provide size of the fleet covered by the program)
- Fleets sometimes use the grant program but the program is mostly undersubscribed (provide size of the fleet covered by the program)
- The program is fully utilized by the airport fleets (provide size of the fleet covered by the program)
- The program is largely oversubscribed (i.e., there are consistently much more applicants than available grants) (provide size of the fleet covered by the program)

18. How does the airport monitor fleets compliance with clean vehicle the requirements?

- No monitoring
- Voluntary self-certification
- Mandatory and regular reporting by fleets
- Regular inspections performed by airport staff
- Other (specify)

19. How does the airport enforce the clean vehicle requirements?

- No enforcement
- Imposing fines on violating fleets
- Revoking preferential treatment of fleets
- Renegotiating fleet access agreements and limiting/denying airport access to violators
- Other (specify)

20. What is the primary reason for implementing the existing clean vehicle/alternative fuel policy at your airport?

- Improve local/regional air quality
- Achieve Leadership in Energy and Environmental Design (LEED) or similar certification
- Establish/improve "green" image in the community
- Comply with local/regional government regulations
- Incremental business opportunity (e.g. airport is selling alternative fuels and stands to benefit from increased AFV usage)
- Environmental mitigation contained in Environmental Assessment (EA) or Environmental Impact Statement (EIS) for an airport project
- Other (describe)

21. Does the airport track environmental impact of the policy after it was implemented?

- Yes
- No

22. Did the airport notice a change in fleets vehicle use since the policy was implemented?

- Yes (Describe the change)
- No (Describe suspected reasons for no change in fleet behavior)

23. What is the most recently measured impact of the policy? Please specify.

- Greenhouse Gas (GHG) reduced per year (carbon dioxide, methane, nitrous oxide)
- Criteria pollutants reduced per year (nitrogen dioxide, particulate matter, ground-level ozone, carbon monoxide, sulfur dioxide)
- Petroleum displaced (tons/year)
- Other qualitative impacts (e.g., achievement of regional NAAQS attainment status change, etc.)

24. What are the main obstacles/barriers encountered by the airport during implementation of the clean vehicle policy? Rank answers from 1 (most important) to 8 (least important).

- None
- Lack of understanding and/or prioritization from private fleets
- State of alternative fuel technologies (i.e., AFVs are not competitive with traditional vehicles)
- Lack of public fueling infrastructure to support AFV fleet operations
- Costs associated with fleet conversion
- Lack of available grants to fund fleet conversion
- Difficulty with monitoring and enforcement of the imposed requirements
- Difficulty changing concessionaire agreement(s)—out of phase with renegotiation timeline, concessionaire wanting rebates or other benefits to implement, etc.
- Other (describe)

25. How were these obstacles addressed? Please provide brief description.

26. Please describe main success factors for designing a successful clean vehicles program.

- Strong airport leadership
- Partnership with major fleets
- Partnership with fuel suppliers
- Support of state/local air quality agencies
- Availability of grants/funding from state/local agencies or private sector
- Other (describe)

27. Please describe major issues that should be considered/avoided while designing clean vehicles program.

28. Is the airport satisfied with the exiting clean vehicle program?

- Mostly satisfied
- Somewhat satisfied
- Neither satisfied, nor dissatisfied
- Somewhat dissatisfied
- Mostly dissatisfied

29. How often is the program reviewed and/or amended internally?

- Never
- Twice a year
- Once a year
- Every 2-3 years
- Every 5 years
- When needed
- Other frequency (describe)

30. How often is the program reviewed and/or amended with ground transportation concessionaires?
- Never
 - Twice a year
 - Once a year
 - Every 2-3 years
 - Every 5 years
 - When needed
 - When concession agreement is renegotiated (please describe how often this occurs)
 - Other frequency (describe)
31. Do you have any tools you can share with other airports or fleet operators that you use in your program? For example, mitigation monitoring reports, coordination with air quality regulators, etc.
32. Do you have fleet operator contact recommendation for us to interview? Please provide a name, phone, and/or email.

Ground Transportation Provider Survey Form

1. State the ground transportation provider company.
2. Please provide the following information: contact name and title, address, phone, and email.
3. Which airport(s) does your company provide ground transportation services for? Please include identifiers.
4. What sustainability practices does your company employ while working at the airport? Check all that apply.
 - Use of alternative fuel vehicles (e.g., compressed natural gas, propane, liquefied natural gas, biodiesel, ethanol, hydrogen, battery-electric) or hybrid-electric vehicles
 - Limit idling at the airport
 - Use fuel efficient vehicles at the airport
 - Employ emission reduction devices/equipment
 - Strategies to reduce "empty rides" (describe)
 - Other (describe)
5. If you answered "yes" to the use of alternative fuels vehicles in Q4, please describe which alternative vehicle technologies/fuels are employed by your company while operating at _____airport (check all that apply)
 - Compressed Natural Gas (CNG)
 - Propane
 - Liquefied Natural Gas (LNG)

- Biodiesel
 - Ethanol
 - Hydrogen
 - All-electric
 - Hybrid-electric vehicles
 - Other (please specify)
 - No preference for a specific technology
6. Were these practices adopted as a result of the airport requirements?
- Yes (formal or informal)
 - No
7. Does the airport impose a formal policy requiring the use of clean vehicles/fuels and/or other emission reduction practices by ground transportation fleets operating at the airport?
- Yes (please provide)
 - No
8. What actions/goals does the clean vehicle policy require the fleets to achieve?
- None (no policy)
 - Certain percentage of fleet operating at the airport to use alternative fuels (please specify percentage and types of fuel required)
 - Minimum MPG requirement for vehicles operating at the airport (specify MPG)
 - Vehicle replacement requirements (specify the requirements for MPG, future date)
 - Other (describe)
9. Does the airport involve ground transportation providers in developing the above rules/requirements?
- Never
 - Sometimes
 - Often, but not all the time
 - Always
10. How are the requirements of the clean vehicle policies formalized?
- No formal requirements/policies
 - Concession agreements with fleets/tenants
 - No formal policy, but an informal agreement with ground transportation fleets
 - The system of incentives for compliance and penalties for noncompliance
 - Other (describe)
11. Please describe driver acceptance of the airport clean vehicle rules.
- N/A
 - Drivers always comply with the airport clean vehicle requirements
 - Drivers mostly comply with the airport clean vehicle requirements with few instances of noncompliance

- Drivers resist airport clean vehicle requirements and don't comply
- Drivers initially resist airport clean vehicle requirements right after they are imposed, but after some time they typically become more accepting of the rule
- Other (describe)

12. What changes to your fleet operations did you have to implement to comply with the requirements of the airport clean vehicle program?

- N/A
- Install emission reduction equipment on vehicles
- Convert vehicles to alternative fuels
- Purchase/lease new conventional vehicles
- Purchase/lease new alternative fuel vehicles
- Change vehicle routes or dispatching
- Change fueling procedures or other logistical practices
- Other

13. Please provide a brief description of the changes to your fleet operations to comply with the airport clean vehicle program, as outlined in Q12.

14. How difficult was it for your fleet to make those changes?

- N/A
- Extremely difficult
- Somewhat difficult
- Not very difficult
- Relatively easy
- Very easy

15. What are the main barriers for complying with the sustainability requirements imposed by the airports on your fleet?

- N/A
- Lack of driver acceptance
- Lack of availability of alternative fueling infrastructure at or around the airport
- Corporate vehicle procurement procedures
- Costs of alternative fuel technologies/vehicles
- Lack of government incentives or airport grants to help fleet conversion
- Other (describe)

16. What are the main strategies that can help you overcome these obstacles/barriers?

- N/A
- Employee training and outreach
- Encourage the airport to provide alternative fueling infrastructure at the airport
- Seek government or airport grants to reduce the incremental cost of converting the fleet to alternative fuels
- Negotiate a reasonable fleet conversion schedule with the airport

- Other (describe)
17. What incentives are available to the fleets to comply with the requirements of the clean vehicle programs at the airport?
- N/A
 - Premium access to airport terminal and/or parking for AFVs
 - Discounted fees for airport services for AFVs
 - Airport grants to fleets for converting to AFVs
 - Local/state government grants and tax credits/rebates
 - Other (describe)
18. Based on your past experience, which incentives do you find the most effective for encouraging the conversion of your fleet to clean vehicles?
- N/A
 - Preferential treatment of AFVs by the airport
 - Government tax rebates/credits
 - Grants (from government or the airport) for converting the fleet
 - Other (describe)
19. Your evaluation of the success of the existing airport clean vehicle program.
- Very successful
 - Somewhat successful
 - Somewhat unsuccessful
 - Very unsuccessful
 - N/A
 - Do not know
20. What sustainability practices do you expect to implement in your fleet in the near future?
- Purchase/lease alternative fuel vehicles
 - Convert conventional vehicles to alternative fuel
 - Install emission reduction equipment on vehicles
 - Implement idle reduction policy
 - Install idle reduction equipment on vehicles
 - Other (describe)
 - None
21. Where will these requirements/practices originate?
- Suggested by my company/fleet
 - Imposed by the airport
 - Imposed by government authority
 - Other (describe)
22. Please describe the issues or suggestions that airports should consider while structuring clean vehicle programs.
- Involve affected fleets in developing vehicle requirements

- Be open to suggestions from fleets
- Provide enough time for the fleets to comply
- Provide incentives and/or funding to fleets to convert vehicles to AFVs
- Outreach to fleets to explain the benefits of the suggested clean vehicle program
- Track and enforce compliance
- Track and document success of the program
- Other (describe)

Do you have any tools you can share with other airports or fleet operators that you use in your program (e.g., reports required in concession agreement, fuel use reports, fleet reports, etc.)?