1. Alternative fuels
   - larger part of DOC possible in future
   - environmental policy may result in carbon tax or restrictions

2. Lighter materials
   - contributes to benefits is all vehicle classes

3. Immunity to high intensity electric fields
   - susceptibility of future systems and data links

4. Information security
   - industrial espionage in aerospace
   - anti-terrorism for data links and information systems

5. Low cost space launch
   - support large growth market in communications, surveillance
   - launch on demand
   - small payloads (200-500Kg)

6. Extremely low noise aircraft (engine and airframe)
   - support large growth in fleet
   - allow 24 hour ops
   - enable supersonic transport ops from all required airports

7. “Extremely low or “no” emission aircraft
   - public demand in a more environmentally critical future
   - avoid curtailment or taxation of operations

8. Sonic boom reduction
   - permit lucrative flight over land
   - open many areas of world to new low travel time options
9. Fly-by-light
   - reduced susceptibility to electromagnetic fields
   - integration with smart skins
   - integrated with power-by-wire for aircraft performance gain

10. High speed VTOL
    - offset penalty of “V”
    - open new air transportation routes world-wide

11. Highly survivable aircraft technologies
    - bomb blast
    - deliberate damage
    - operational damage
    - civil and military

12. Very large aircraft
    - large cargo aircraft to allow affordable transport of lower cost items
    - large passenger loads to increase efficiency of air traffic system
    - Provide critical military deployment

13. New Air Traffic Management Concepts
    - Allow each aircraft to operate at or near its maximum efficiency
    - Low cost growth to any point on earth
    - Very low cost of operations and maintenance
    - Allow mix of very different speeds and profiles
    - Highly secure information systems
    - Enable very high volume operations

14. Intermodal Cargo Systems
    - Systems-level design for cargo transportation
    - Minimum door-to-door times
    - Integrated air and ground systems
    - Information systems to permit real-time optimization