**Airports**—An establishment on land that accommodates flights for passengers to travel between   
 Port\_Name  
 Location\*  
 FAA\_abbr (PK)

\*Location: Originally denormalized because thought to be an attribute might have been a subclass, but no other attributes depended on this as a subkey. Also, it was redefined to be more of an address, and ServiceArea was included to define a local area where multiple airports could be located.

**ServiceArea**—A general area, such as a county, which accommodates one or more airports  
 Area

**Flights** (assuming each flight hosts a max amount of passengers every time)—A flying plane hosted by an airline with an assigned plane to carry passengers from one destination to another  
 Length  
 Dept\_Time  
 Arr\_Time  
 Date  
 Flight\_Num (relation scheme only) + Dept\_Time, Arr\_Time, Date (PK)

**Airlines**—A company that owns planes and manages flights for customers to use for travelling   
 Airline\_Name (PK)  
 City  
 Fly\_Type (local, domestic, international)

**Planes**—A machine built by a manufacturer for transporting passengers aerially   
 Airline (FK from Airline)  
 Manufacturer  
 Model\_Num  
 Num\_Pssgrs  
 FAA\_Tail (PK)  
 Plane\_Name

**Crew**—A group of people assigned to manage and maintain each flight  
 Flight\_Num (FK, relation scheme only)  
 Attndt\_Qty

**Cost** (association class between Flight and Airline)—A summarization of the cost per flight  
 Flight\_Num (FK, relation scheme)  
 Type  
 Cost  
 Check\_Bags

**FlightCrew**, disjoint subclass—An employee from an airport’s roster of personnel qualified to join a flight crew  
 Emp\_Name  
 Job  
 FAA\_Num

**GroundMembers**, disjoint subclass— An employee who is not assigned to a flight and works in the airport.  
 Emp\_Name  
 Job

**Personnel**—An employee in an airport; *NORMALIZED* because Crew Member was originally going to be a pool of possible candidates to become part of a crew, until it was established that an FAA# is assigned only to those qualified to join the flight crew, and there are other employees in an airport that do not pertain to a flight, and therefore need a separate table to manage the whole set of airport employees.  
 Emp\_Name  
 Type

**IncidentReports**—A report that is filed by a crew member in order to assess a conflict associated with a certain flight pertaining to another crew member.   
 Inc\_Type  
 Desc

One flight flies to one and only one airport.  
One airport is flown in by zero to many flights.

One flight flies from one and only one airport.  
One airport is flown from zero to many flights.

One service area accommodates zero to many airports.  
One airport is accommodated by one and only one service area.

One airline manages zero to many flights.  
One flight is managed by one and only one airline.

One flight has one and only one cost.  
One cost is unique to one and only one flight.

One airline owns one to many planes.  
One plane is owned by one and only one airline.  
  
One crew is assigned to zero to many flights.  
One flight is assigned one and only one crew.

One crew is recruits one to many flight crew teams.  
One flight crew team is recruited to one and only one crew.

One flight crew member writes zero to many incident reports.  
One incident report is written by one and only one flight crew member.

One incident report is about one and only one flight crew member.  
One flight crew member is involved zero to many incident reports.

One personnel can enlist exclusively as zero to many flight crew members OR ground workers.  
One flight crew member is exclusively enlisted from one and only one personnel.  
One ground worker is exclusively enlisted from one and only one personnel.

