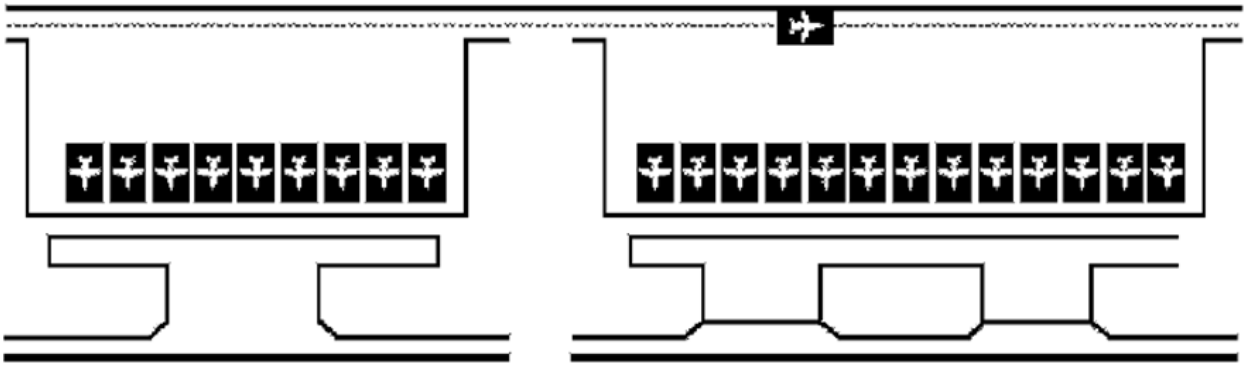
3.7 AIRCRAFT PARKING

Aircraft Parking Area, also known as airport apron, is the area of an airport where the aircrafts are parked, loaded, unloaded, refueled or boarded. It is a restricted area where access is controlled, there are 6 types of apron namely Simple, Linear, Curvilinear, Open, Pier and Satellite.

LINEAR



Advantages:

1. Offers ease of access and short walking distances for passengers from the transit area to the aircraft contact gates
2. Terminal can be expanded further by extending the current terminal linearly or developing another linear terminal with connectors

CURVILINEAR

Advantages:

1. Simple organisational principles
2. Allows future expansion of terminal
3. Allow more aircraft to park "nose-in" to the terminal building while maintaining short walking distances from the airport entrance to the aircraft gate

The apron and gate system

The apron and gates are the locations at which aircraft park to allow the loading and unloading of passengers and cargo, as well as for aircraft servicing and preflight preparation prior to entering the airfield and airspace.

The size of aircraft, particularly their lengths and wingspans, is perhaps the single greatest determinant of the area required for individual gates and apron parking spaces. In fact, the grand size of airport terminals is a direct result of large numbers of gates designed to accommodate aircraft of wingspans reaching 200 feet in length.

The size of any given aircraft parking area is also determined by the orientation in which the aircraft will park, known as the aircraft parking type. Aircraft may be positioned at various angles with respect to the terminal building, may be attached to loading bridges or Jet-ways, or may be freestanding and adjoined with airstairs for passenger boarding and deplaning. Some aircraft parking types require aircraft to be maneuvered either in or out of their parking spaces by the use of aircraft tugs, whereas other parking types allow the movement of aircraft in and out under their own power.

The five major aircraft parking types are nose-in parking, angled nose-in, angled nose-out, parallel parking, and remote parking. Most large jet aircraft at commercial service airports park nose-in to gates at the terminal and connect directly to the terminal building by loading bridges.

Aircraft are able to enter nose-in parking spaces under their own power, and tend to be pushed out by an aircraft tug and oriented so that they may

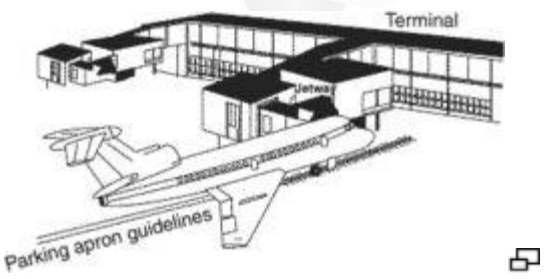
move forward on the apron without coming into contact with any other structures. The primary advantage to nose-in parking is that it requires less physical space for aircraft than any other aircraft parking type. The majority of commercial service airports, particularly those with large volumes of jet aircraft operations, have primarily nose-in parking.

With nose-in parking, only the front-entry door on the aircraft is used for boarding, because the rear doors are typically too far from the terminal building to extend a loading bridge. This has some, but not an entirely significant, impact on the efficiency of passenger boarding and deplaning.

Angled nose-in parking brings aircraft as close to the terminal building as possible while maintaining enough maneuvering room so that aircraft may exit the parking space under its own power. Angled nose-in parking is typically used by smaller aircraft, such as turboprops or small regional jets.

Parallel parking is said to be the easiest to achieve from an aircraft maneuvering standpoint, although each space tends to require the largest amount of physical space for a given size of aircraft. In this configuration, both front and aft doors of the aircraft on a given side may be used for passenger boarding by loading bridges.

Nose-in parking



Nose in parking.

A parking position near the terminal building as shown in the illustration. Normal ly, aircraft park in this position under their own power but they have to be towed back f

or starting and taxiing out. Many operators, when authorized by their regulatory authorit y, can be “powered back” using the airplane power plant and reverse thrust.

Angled nose-in brings aircraft as close to the terminal building as possible while maintaining enough maneuvering room so that aircraft may exit the **parking** space under its own power.

Angled nose-in parking is typically used by smaller aircraft, such as turboprops or small regional jets.

Aangled **nose**-**out** brings **aircraft** slightly farther from the terminal building than **nose**-in and angled **nose**- in **parking**, because the blast from jets or large propellers has the potential of causing damage to terminal buildings if too close to the facility.