

Airport Management

**Unit 3: The Airport Passenger's
Terminal**

Objective

1. compare the differences of terminal concepts, the pros and cons;
2. explain the components of passenger terminal;
3. analyze the passenger handling systems;
4. describe the types of aircraft parking and able to describe the ground access to and from local airport in the city.

Passenger terminal; the history background and functions

- In early 1920s, the first terminal was introduced for airmail operations (load and unload mail), fuel aircraft, and maintenance.
- Late 1920s : The Commercial Terminal
 - Air service
 - Basic Facilities
 - Ticketing (issue boarding pass)
 - Aircraft boarding
 - Cargo
 - office

Passenger terminal; the history background and functions

- The terminal concept in early age called '**centralized facilities**'. It refers to **a simple-unit terminal** where all passengers processing facilities are in one building. (passenger processing facilities, airport administrative offices, air traffic control facilities were located in the same building).



Movie Theatre 49 %
 Sleeping Cabinet 36 %
 Library 32%
 Outdoor Garden 31%
 Dressing room changing 30 %

คุณลักษณะของสนามบิน ที่ต้องการมากที่สุด

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 คุณลักษณะใดในสนามบินที่พวกเขาอยากเห็นมากที่สุด

คำตอบห้าอันดับแรกได้แก่

- 1 โรงภาพยนตร์ (49%)
- 2 ตู้นอน (36%)
- 3 ห้องสมุด (32%)
- 4 พื้นที่สวนสาธารณะนอกอาคาร (31%)
- 5 บริเวณสำหรับแต่งตัว (30%)

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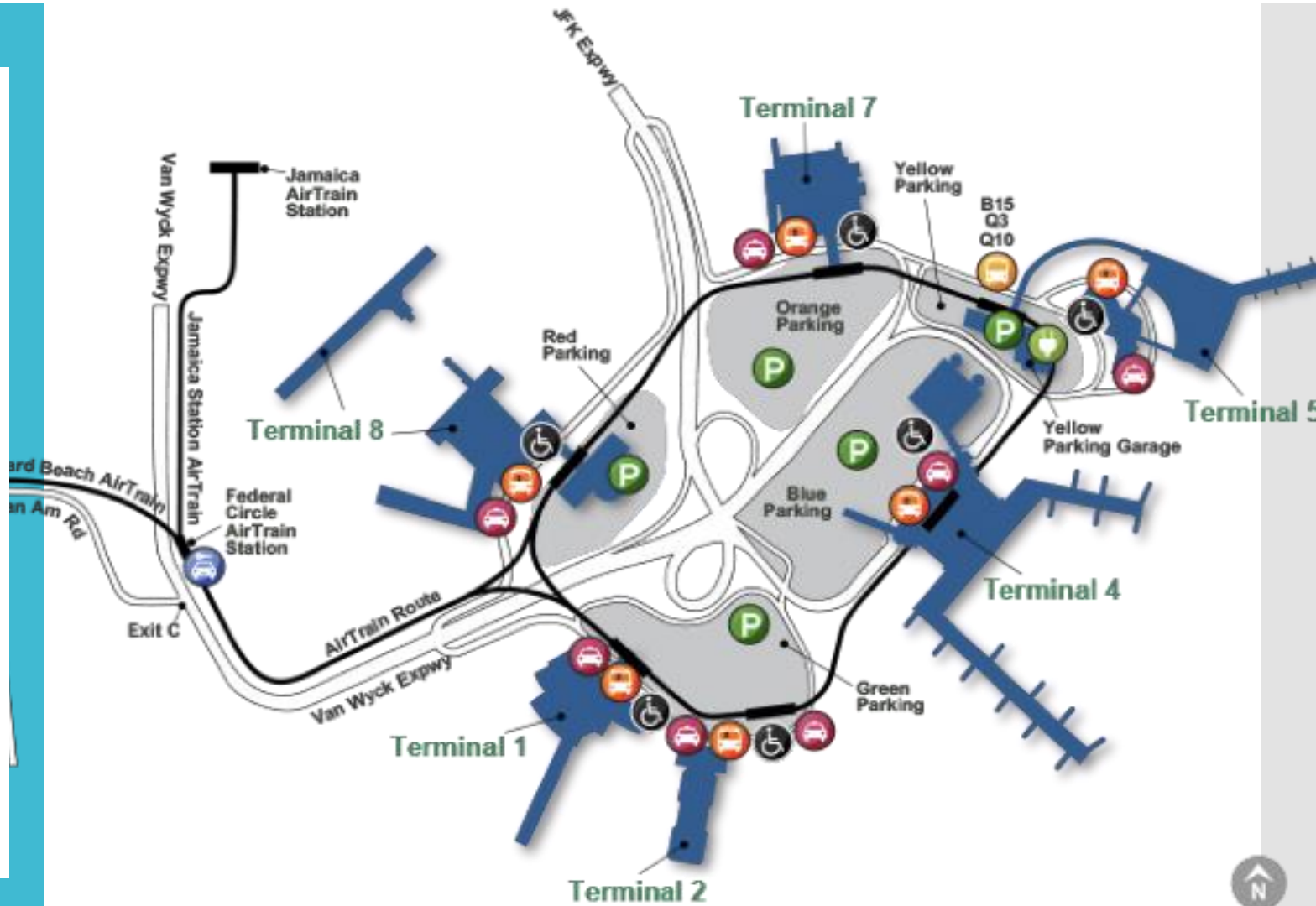
**Passenger terminal;
the history
background
and
functions**

- **Combine-unit Terminal**
 - When more airlines share the building
 - Larger than simple-unit Terminal
 - Separate passenger and baggage processing facilities

**Passenger terminal;
the history
background and
functions**

- **Multiple-unit Terminal**
 - In big city, the terminal expanding into a new building
 - Each building got own facilities

Multiple-unit Terminal @ JFK



Passenger terminal; the history background and functions

- **Decentralized' terminal concept**
 - The expansion of single terminals design resulted longer walking distances between gates.

How to minimize passenger walking distance

- break the total passenger terminal operation into several unit terminals by different roles such as by split international-domestic, by airline unit terminal, by airline alliances, or by long-haul and short-haul.
- transferring the handling operations to the gates themselves, for example; ticketing, passenger and bags check-in, seat allocation which previously were centralized at the departure hall areas.

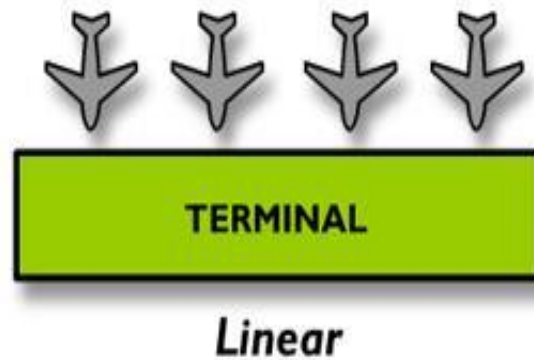
Passenger terminal; the history background and functions

- **Decentralized' terminal concept**
- decentralized concept might not be convenient for **interline passengers**, international and domestic passengers. Due to the difficulty in changing terminal. The airport which applied decentralized concept as **example** is Paris Charles de Gaulle.

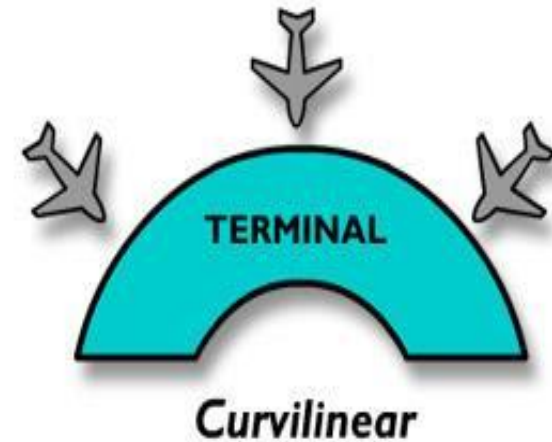
The terminal's functions

- 1. The processing of passengers and baggage, including ticketing, check-in, bag drop and retrieve, governmental check, and security arrangement.
- 2. Provision for requirement of a change of movement type, providing facilities to accept departing passengers from various mode of transportation, various point within the airport
- 3. Facilitating a change of mode is the basic function of terminal requirement.

The concept of passenger terminal



The goal of this concept was to keep the short distances between vehicles curb, and aircraft parking with unit terminal. Linear concept also provides check-in counters for each individual airlines, and loading bridges were deployed at aircraft gates



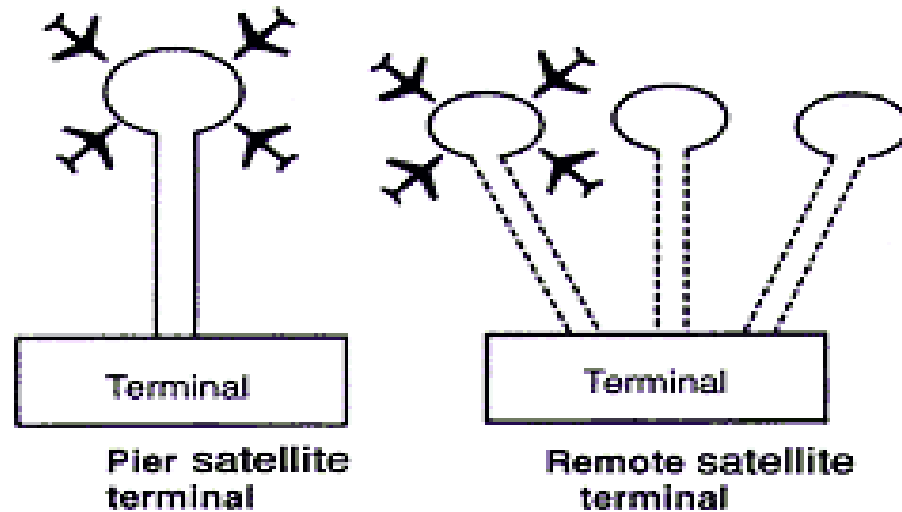
allow more aircraft to park nose-in to the terminal and maintain short walking distances from airport entrance to the aircraft gate. separated two level structures; one is for enplaning passengers and the other for deplaning passengers.

(Linear Concept)



Heathrow Airport LHR

The concept of passenger terminal

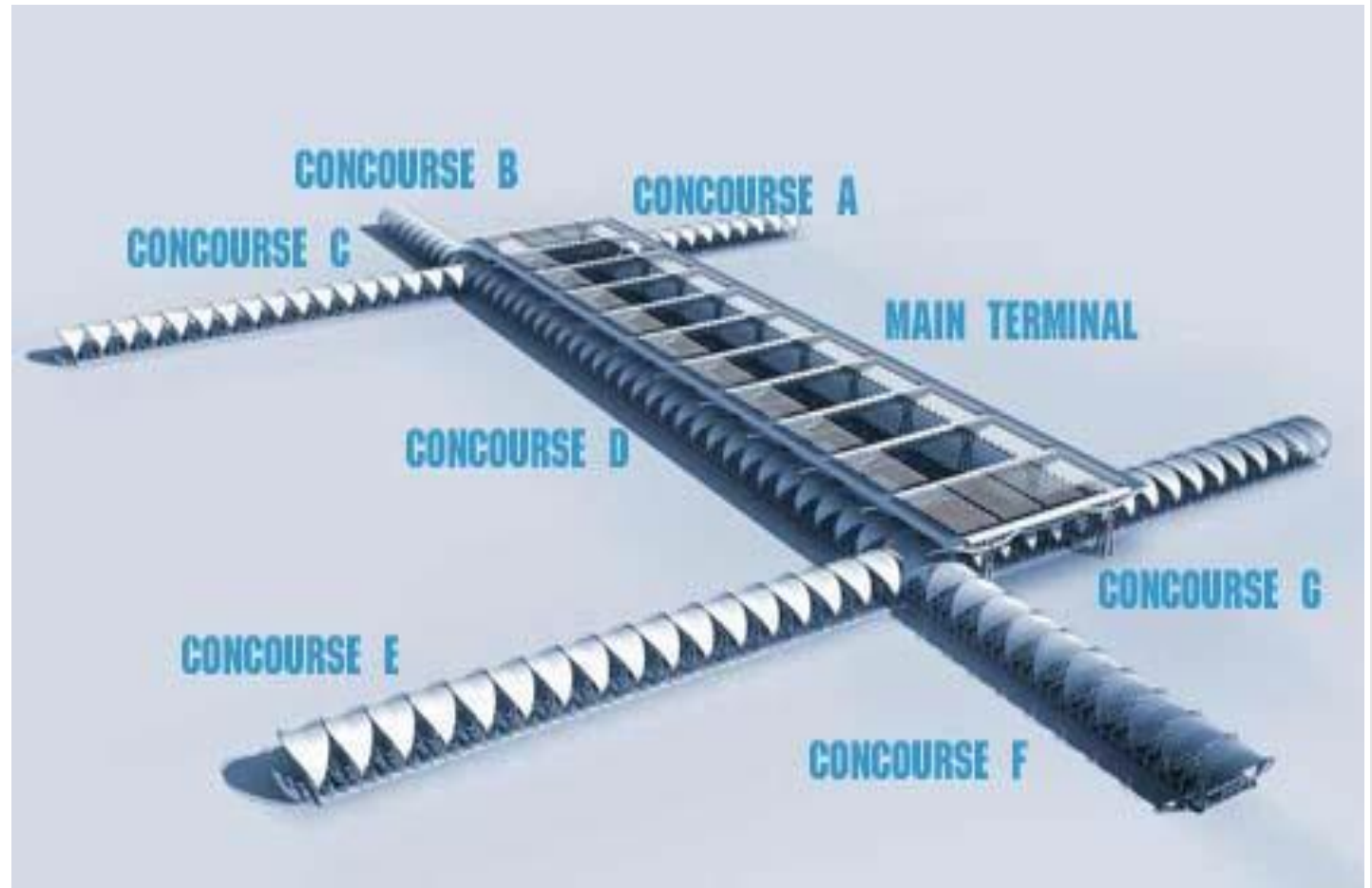


- Pier satellite and remote satellite concept is quite the same as pier finger.
- It forms as concourses extended from main buildings. **The aircraft will be parked at the end of concourses around around atrium or satellite area.**
- Sufficient space for aircraft taxi operations between main terminal and satellite

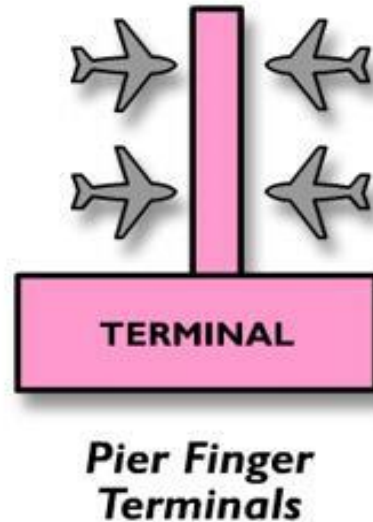


Karachi Int'l Airport

The concept of passenger terminal



The concept of passenger terminal

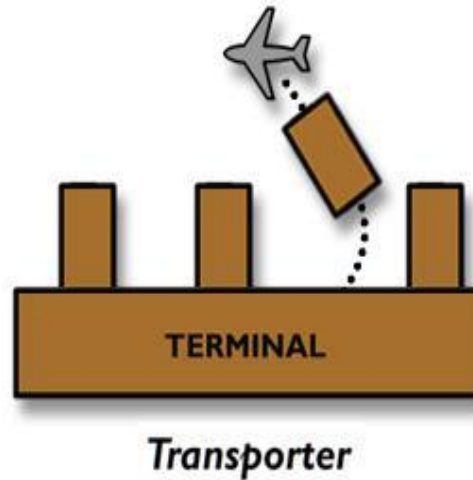


- Gate concourses were added to Simple-unit Terminal
- The extension concourses known as pier or finger
- This concept provides opportunity to maximize the number of aircraft parking spaces with less infrastructure.

(Pier or Finger Concept)

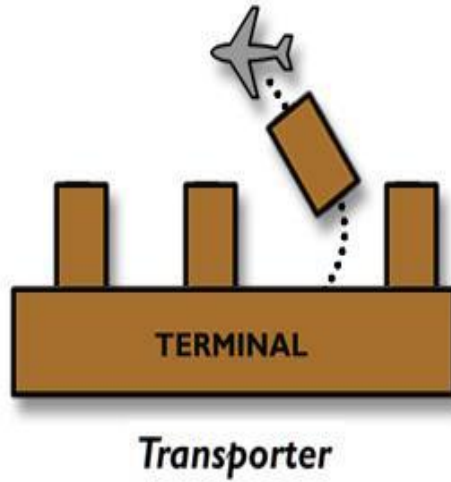


The concept of passenger terminal



- Transporter concept sometimes known as the remote aircraft parking concept (the aircraft park away from terminal).
- Traveling between aircraft and terminal buildings, passengers would board transporters known as mobile lounges.

The concept of passenger terminal



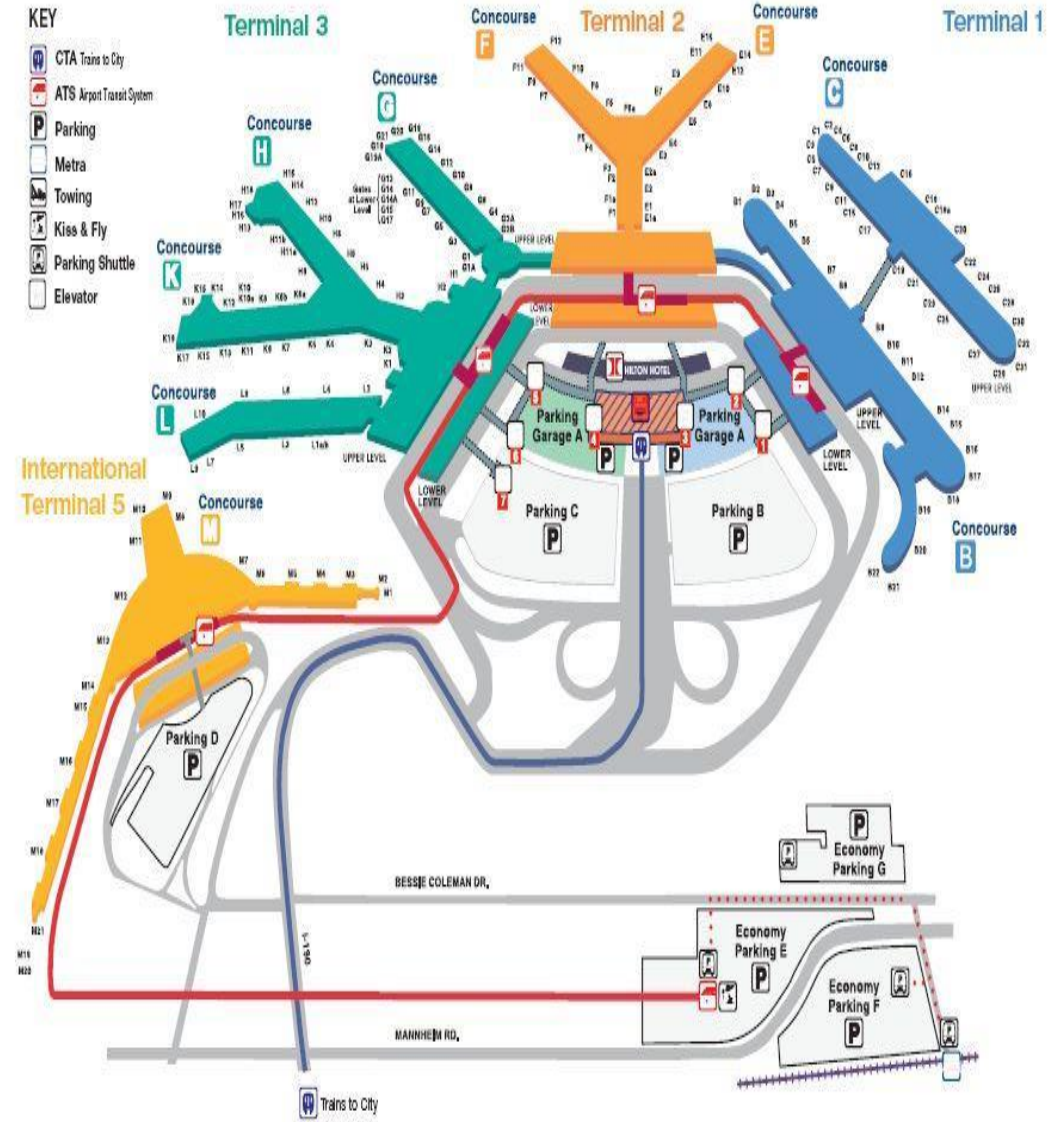
Transporter concept



The concept of passenger terminal

Hybrid geometries concept

- After new aircraft technology and airline deregulation
- Expand terminal and accommodate the airline hub up to 100 or more aircraft at a time



The components of the passenger terminal

Aeronautical Services

1. Porterage (Carrying luggage from porters)
2. Flight and General Info
3. Baggage Trolleys
4. Left-luggage
5. Directional signs
6. Seating facilities
7. Toilets, nurseries, and changing room
8. Restrooms
9. Post office and telephone areas
10. Services for people with restricted mobility and special passengers

Non-aeronautical Services

1. Car parking
2. Restaurants, café
3. Duty free
4. Other shops (Book, tourist)
5. Car rental
6. Internet service
7. Insurance
8. Bank and exchange
9. Hairdressers
10. Hotel Reservation
11. Advertising
12. Business-centre facilities

The components of the passenger terminal

Aeronautical Services



<https://pxhere.com/en/photo/1078210>

<https://www.iamwannee.com/tag/suvarnabhumi-airport/>

<https://www.klia2.info/klia2/facilities/#disabled-friendly-facility>

<http://www.bangkok.com/information/airport.htm>

The components of the passenger terminal

Aeronautical Services



The components of the passenger terminal

Non-aeronautical Services



<https://www.posttoday.com/market/news/586711>

<https://www.iamwannee.com/tag/suvarnabhumi-airport/>

<https://depositphotos.com/114574112/stock-photo-money-exchange-shop-inside-of.html>

The aircraft parking types

Angled nose-out



Angled nose-in



Parallel



Nose-in



Terminal

The aircraft parking types

The aircraft parking type can be categorized into 5 types as follow;

- **Nose-in** is the position that most aircraft at commercial service airports park.
- **Angled nose-in** is bringing aircraft close to the terminal building and maintain enough space so that aircraft may exit the parking by its own power.
- **Angled nose-out** is bringing aircraft slightly farther from the terminal than nose-in and angled nose-in. The reason is to prevent jet blast might cause terminal damage.
- **Parallel** is require largest amount of space. It employs only smaller general aviation aircraft with large parking area near the terminal. It might also apply to cargo aircraft in order to facilitate the loading and unloading of cargo.
- **Remote parking** will be employed when there is limited parking space near terminal. This type of parking is suitable for aircraft overnight or longer duration. The area comprises of a series of rows of parking spaces, and sized to accommodate various size of aircraft.

REMOTE STAND or REMOTE PARKING BAY



Discussion Activity

- Students create and discuss the future of airport terminal in next 10-20 years ahead, how would the airport in the future lookalike? , what should the facilities design be?