



# UNIT 22. Airport Operations Management

**Colbourne**  
**College**

**UNIT 22**  
**Airport Operation**  
**Management**

**LEARNING OUTCOME 1.**

**Analyze core airport operations  
and their impact on the  
customer experience**

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# COURSE DESCRIPTION

## **Introduction To The Unit**

In recent decades, airports have evolved from infrastructure providers into commercially-oriented enterprises in a competitive environment. Airport strategic management enables airport operators to best identify the opportunities created by commercially-driven objectives. A significant 40% of aeronautical income is generated by retail, food, duty-free concessions and car parking charges. As airports experience rapid growth and expansion, so airport design and planning have become essential priorities in the strategic management of airport operations.

This unit will enable students to explore core airport business operations, and the strategic decisions and priorities for achieving effective airport performance and profit.

# BTEC LESSON CONTENTS

## P1. LESSON ONE

- Airport Commercial Activities
- Passenger terminal journey and systems:
  - Front and back office airport operations e.g. check-in, security, ground handling, baggage handling, airside and landside maintenance and facilities management

# What is an airport?

## Airports:

- ❑ Range from small airports with little more than a passenger terminal to medium and large-scale airports which are complex in operations, services and structure
- ❑ Essential part of the air transportation system
- ❑ Physical site where people transfer from land mode to air mode and vice versa
- ❑ Point of interaction of the three major constituents of the air transportation system: the airport, the airline, and the users

(Ashford et al.)

## What are the functions of an airport?

- ❑ First, Intermediate or terminal point on the air portion of a trip
- ❑ Designed to allow aircrafts to land and take-off
- ❑ Allows the aircraft to unload and load payload and crew and to be serviced
- ❑ Provide the necessary facilities for ticketing, documentation, and control of passenger and freights

(Ashford et al.)

## Medium and large-scale airports

- ❑ Supply or administer the following facilities (Ashford et al.):
  - Handling of passengers
  - Servicing, maintaining and engineering of aircraft
  - Airline Operations, including aircrew, cabin attendants, ground crew, and terminal and office staff.
  - Businesses that provide services to passengers and are necessary for the economic stability of the airport (e.g. concessionaires, leasing companies, etc).

## Medium and large-scale airports

- ❑ Supply or administer the following facilities (continued):
  - Aviation support facilities (e.g. air traffic control, meteorology, etc)
  - Government functions (e.g. agricultural inspection, customs, immigration, and health)

(Ashford et al.)



*LET'S GO INSIDE  
SINGAPORE  
CHANGI  
AIRPORT'S NEW  
\$1.3 BILLION  
LIFESTYLE HUB*



**REPORTS**

**Singapore's  
new \$1.3B  
crown jewel**



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OUTCOME 1

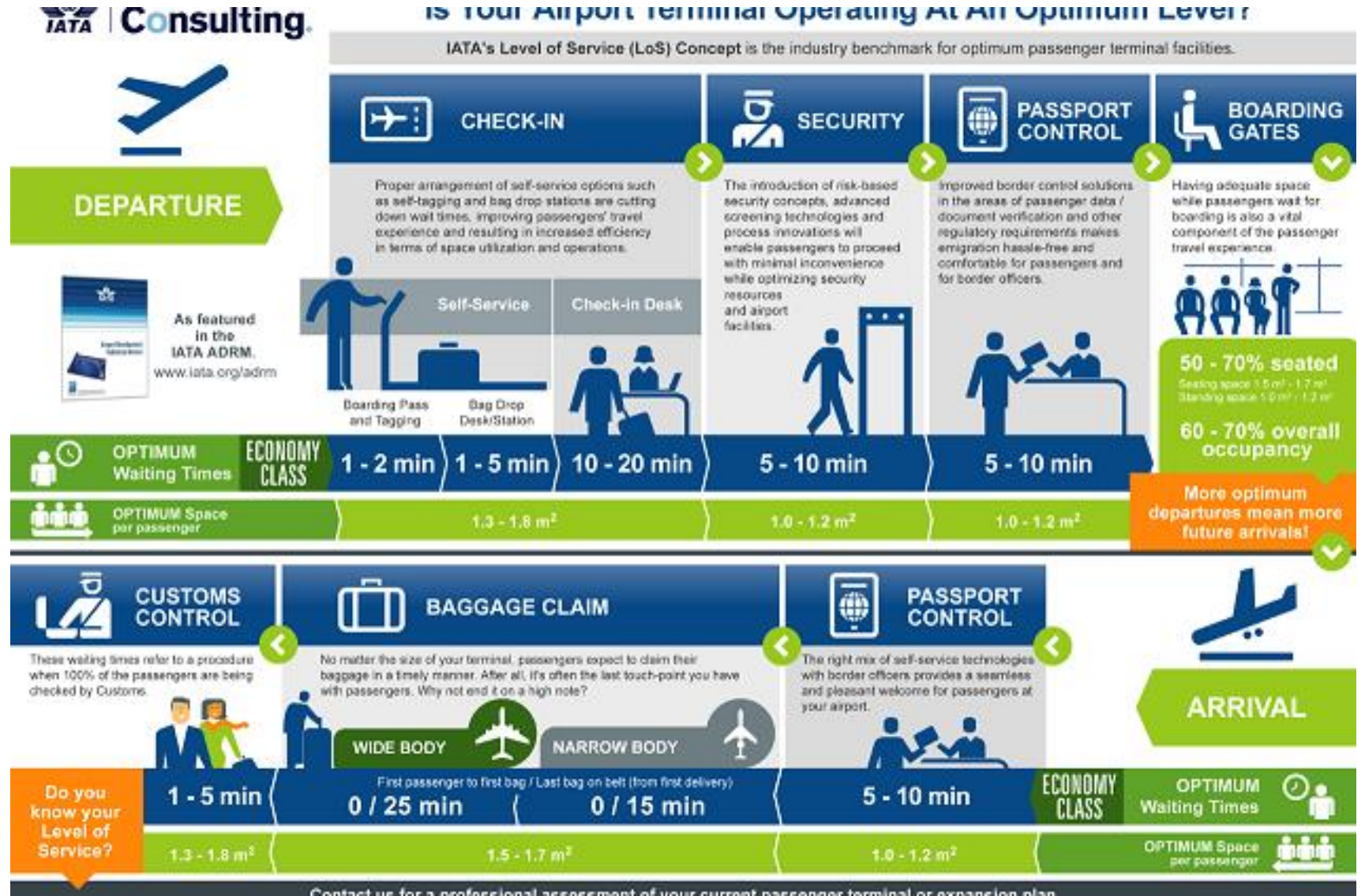
Analyze core airport  
operations and their  
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**WEEK 2. LESSON 2:**

# TYPES OF AIRPORT OPERATIONS

- ❑ The functions generally carried out in an airport is divided into 'Airside operations' and 'Landside operations.'
- ❑ Landside operations include transportation, parking, and access roads. Employees in landside operations supervise the terminals, concourses, roadways, and properties around the airport. They are responsible for the day-to-day operations, safety and security carried out in the terminals and parking decks.
- ❑ Airside operations consists of runways, ramps and fuel areas. Employees working in airside operations are responsible for the airfield, ramps, safety and security of the airport (Everglades University, n.d).
- ❑ Passengers who arrive in the airport will go from landside to airside transiting through the terminals and undergo check-in services, security, luggage and boarding.
- ❑ Terminal operations is critical to passenger experiences while travelling through the airport, and thus much planning goes into understanding the customers' needs to make their experience better.

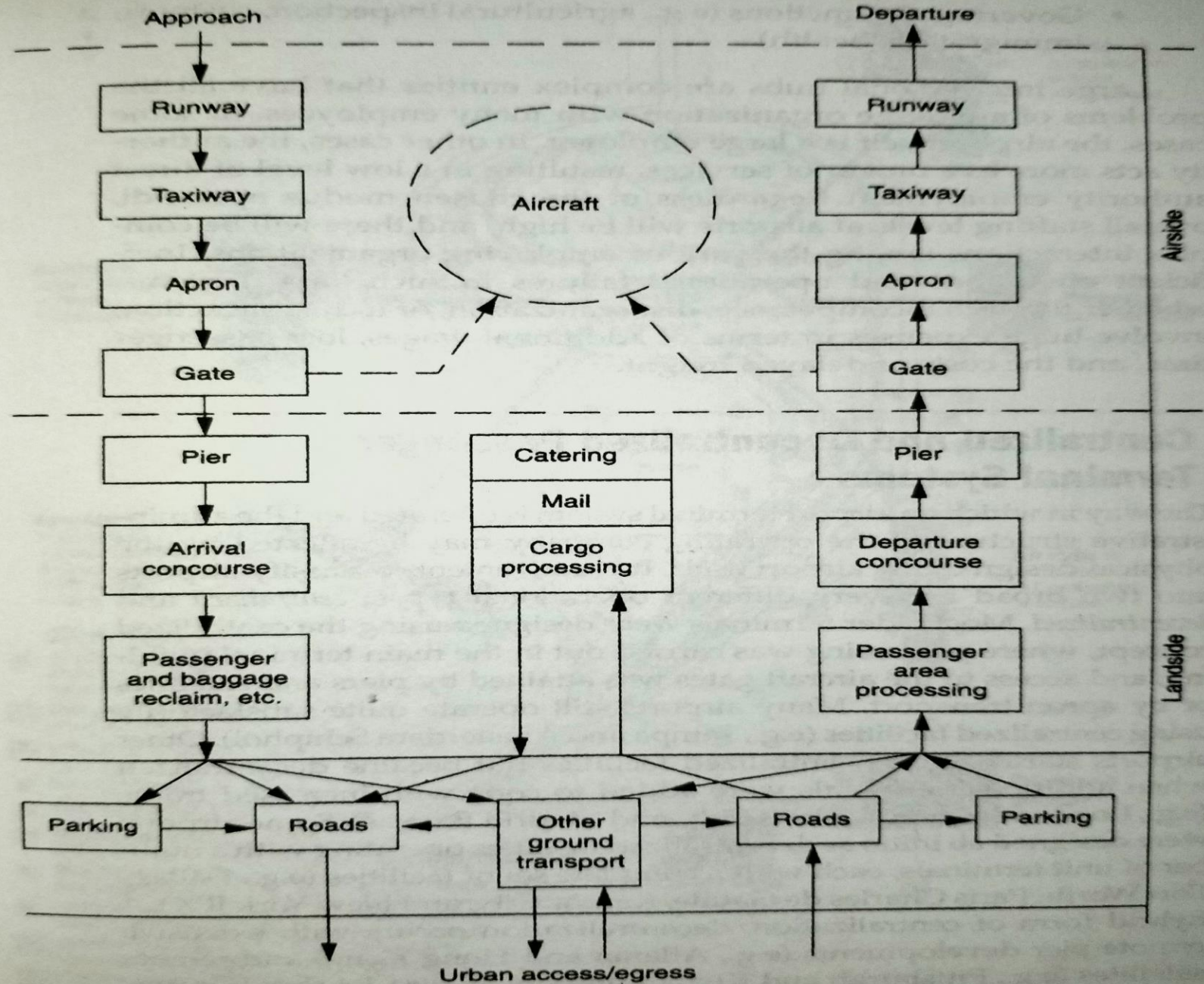
# Standard Model For Customer Terminal Journey (iata.org, 2018)



# The Airport as an operational system

(Ashford et al.)

## The Airport as an Operational System



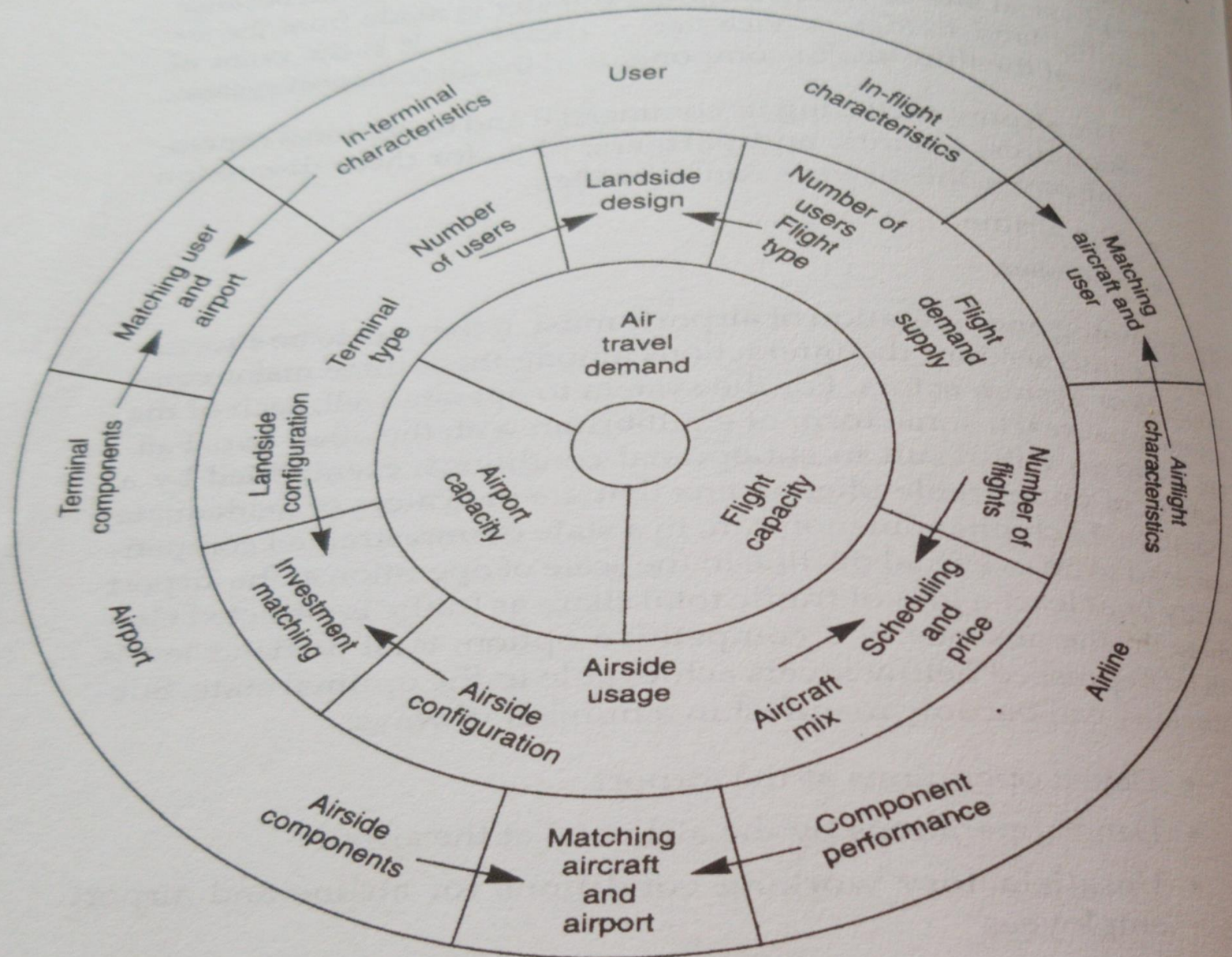
An Airport's  
Revenue May  
Generate From  
Some Or All Of  
These Commercial  
Activities  
(nonaeronautical  
revenue):  
  
(Ashford et al.)

- Aviation Fuel Supplies
- Food and beverage sales (ie. Restaurants, bars, cafeterias, vending machines, etc.)
- Duty-paid shopping
- Banks/foreign exchange
- Airline catering services
- Taxi services
- Car rentals
- Car parking
- Advertising
- Airport/City Transport services (i.e. buses, limousines, etc.)
- Duty-free shopping (e.g. alcohol, tobacco, perfume, watches, optical and electronic equipment)
- Petrol/automobile service stations
- Hairdressing/barber shop
- Internet services
- Casino / gaming machines
- Cinema
- Vending machines for other than food
- Hotels/motels
- Freight consolidations/forwarders/agents
- Art exhibitions
- Music Concerts
- Souvenir shops

# The Airport: Systems Of Relationship

## Main Factors Of Airport Operation

(Ashford et al.)



**FIGURE 1.1** A hierarchical system of airport relationships.

Owners,  
customers, users,  
and non-users are  
impacted by the  
operation of a  
large airport

(Ashford et al.)

<b>Principal Actor</b>	<b>Associated Organizations</b>
Airport operator	Local authorities and municipalities Central government Concessionaires Suppliers Utilities Police Fire service Ambulance and medical services Air traffic control Meteorology
Airline	Fuel supplies Engineering Catering/duty-free Sanitary services Other airlines and operators
Users	Visitors Meeters and senders
Nonusers	Airport neighbor organizations Local community groups Local chambers of commerce Environmental activist groups Antinoise groups Neighborhood residents

**TABLE 1.1** Organizations Affected by the Operation of a Large Airport



# Airport Categories

## Definition of Airport Categories In The US

- Commercial Service Airports (Nonprimary Commercial Service Airports; and Primary Airports)
- Cargo Service Airports
- Reliever Airports
- General Aviation Airports

(Faa.gov, 2019)

## Definition of Airport Categories In The UK

- Gateway International Airports
- Regional Airports
- Local Airports
- General Aviation Airports

(Ashford et al.)

Let's look inside  
the world's  
biggest airport



# AIRPORT OWNERS

- ❑ Local, regional and national governments bodies own most of the world's large airports bodies and lease them to private corporations to supervise the airport's operation. Examples:

In the United Kingdom, eight of the UK's major commercial airports which were originally operated by British Airport Authority (now Heathrow Airport Holdings plc) were privatized in the late 1980s. In 2006, further divestments took place with Heathrow being the sole airport operated by HAH – which is also part-owned by Ferrovial. Heathrow is the UK's busiest airport (FT, 2019).

Ownership of airports in the United States is vary in size and ownership. From very large commercial service airports to strips which are unattended. He describes the types of ownership structure which exists as: private, public-private partnership, local government, state government, national/federal government (Prather, 2019).

## Difference between a commercial and a private airport

A **commercial airport** is public airport with scheduled services and having a maximum of 2,500 enplaned passengers per year. Commercial airports may differ in sizes, for example, Hartsfield-Jackson Atlanta International Airport has five runways and services 96 million passengers in 2014 while Gogebic-Iron County Airport in Ironwood, Michigan serviced approximately 3,500 passengers in the same period. The largest of these commercial service airports are called **large hubs**.

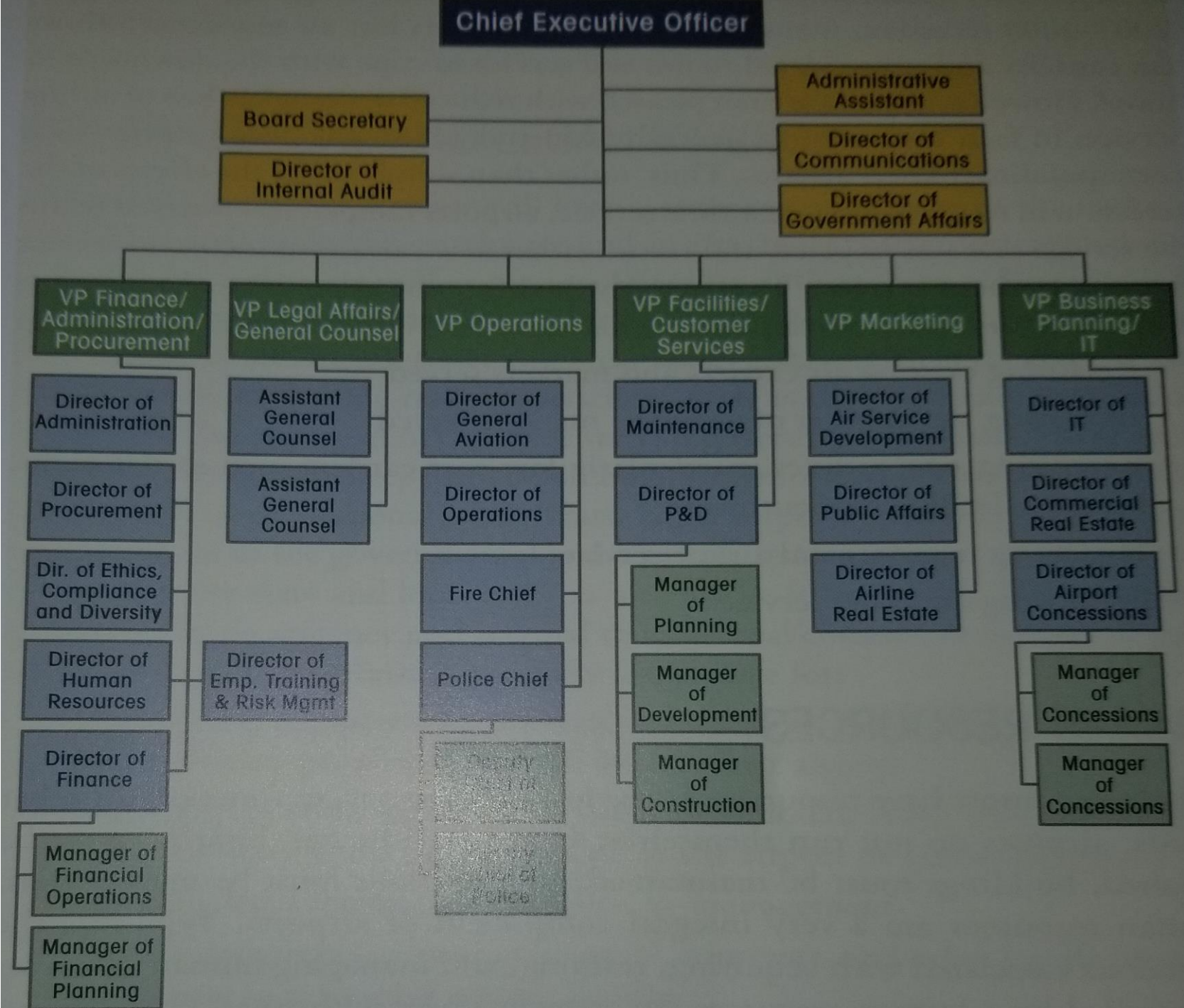
(Prather, 2019).

“A **private**, or executive **airport** is privately-owned location that maintains an airfield, air strip, or runway for **private** use by its owner or owners and isn't open for use by the public”

*(Differences between commercial and private airports, N.D)*

# Airport Organization Chart For Large Hub Airports

(Prather, 2019)



# FUNCTIONS OF THE PASSENGER TERMINAL

(Ashford, Stanton, and  
Moore, 2013)

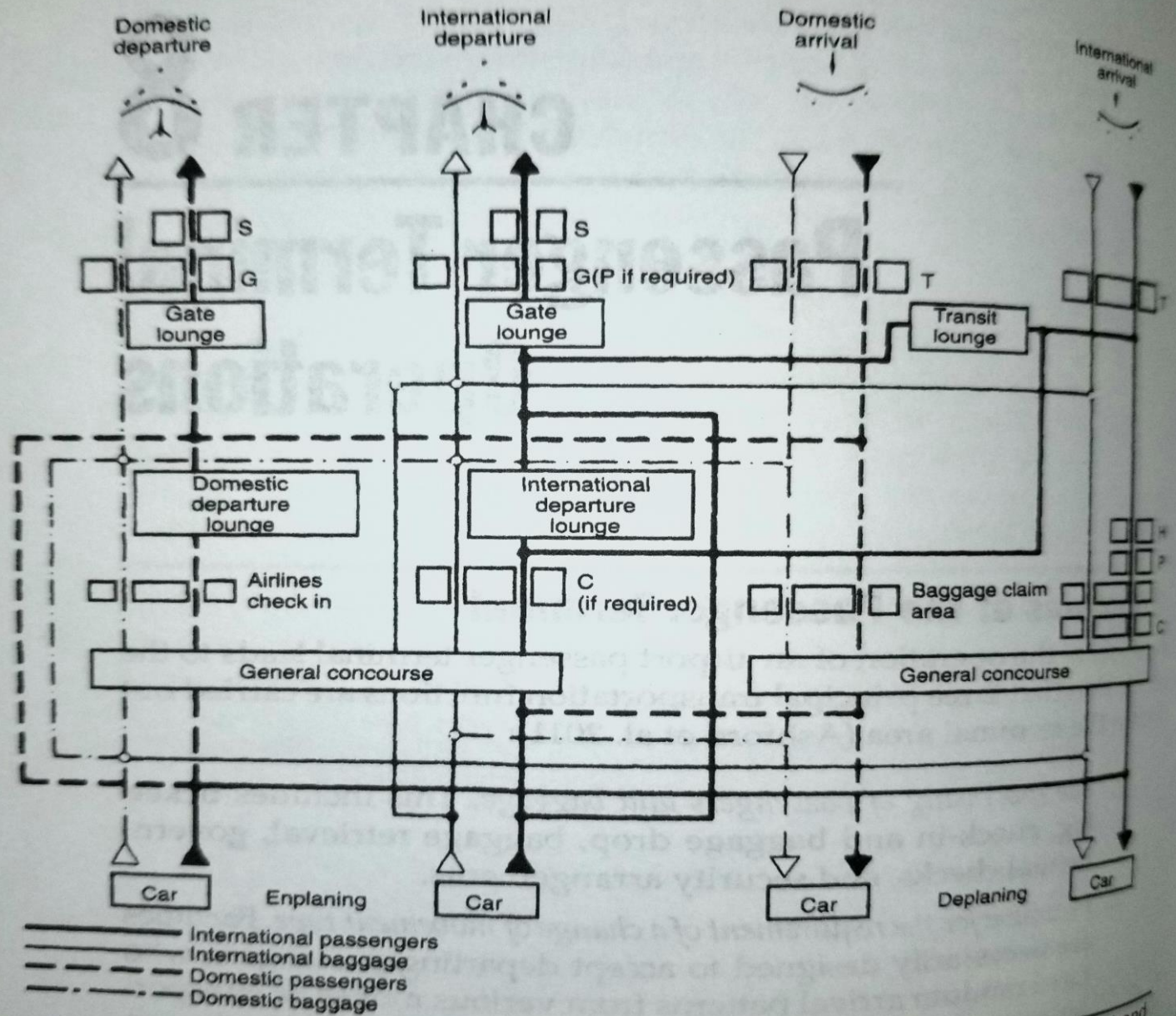
- ❑ Described as 'high-activity centers' because of the high throughput of users. In the peak hour, the largest passenger airports process well in excess of 10,000 passengers.
- ❑ During the peak hours spent in the terminal, passengers are necessarily engaged in a number of processing activities and are likely to use a number of subsidiary facilities put in the airport for their comfort and convenience, as well as for the airport's profit.

# FUNCTIONS OF THE PASSENGER TERMINAL

(Ashford,  
Stanton, and  
Moore, 2013)

- ❑ **The processing of passenger and baggage:** ticketing, check-in and baggage drop, baggage retrieval, governmental checks, and security arrangements.
- ❑ **Providing for the requirement of a change of movement type** e.g. provides holding areas to accept arriving and departing passengers separately.
- ❑ **Facilitating a change of mode:** requires adequate design and smooth operation of terminal to facilitate two mode types. On the airside, the air vehicle must be accommodated and such the different interfaces inside the terminal be tailored to facilitate the operations and schedule of the aircraft. On the landside, the different mode is planned to meet passengers' requirements to access the airport.

# FLOW PROCESS FOR PASSENGERS IN A TYPICAL DOMESTIC-INTERNATIONAL AIRPORT PASSENGER TERMINAL



**FIGURE 8.1** Schematic of the passenger baggage flow system (G = gate control and airline check-in, if required; P = passport control; C = customs control; H = health control, if required; T = transfer check-in; S = security control). (Source: Ashford et al. 2011.)



# Terminal Activities Are Classified Into FIVE Principal GROUPS

(Ashford, Stanton, and  
Moore, 2013)

- ❑ Direct passenger services
- ❑ Airline-related passenger services
- ❑ Government Activities
- ❑ Non-passenger-related airport authority functions
- ❑ Airline Functions

# Direct Passenger Services

(Ashford, Stanton, and Moore, 2013)

- those services provided by the airport for the convenience of air travelers and are not directly related to the operations of the airline are normally designated as **direct passenger services**.
- Divided into two categories: commercial services and non-commercial services. Non-commercial activities are essential services are provided either free of charge or at some nominal cost. On the other hand, commercial activities are potentially profitable operations e.g. duty-free shops, car-parking and car rental.

# Direct Passenger Services

(Ashford, Stanton, and  
Moore, 2013)

## Non-commercial Activities (usually provided by Airport Authority)

- Porterage
- Flight and general airport information
- Baggage trolleys
- Left-luggage lockers and left-luggage rooms
- Directional signs
- Seating
- Post office and telephone areas
- Services for people with restricted mobility and special passengers
- Toilets, nurseries, and changing rooms
- Rest rooms

# Direct Passenger Services

(Ashford, Stanton, and Moore, 2013)

## Commercial Activities

(may be provided by Airport Authority Or Leased)

- Restaurants, cafes, and food bars
- Duty-free and tax-free shops
- Other shops (e.g. book shops, tourist shops, boutiques, etc.)
- Car Rental
- Internet Service
- Business-center facilities
- Insurance
- Banks and exchange services
- Hairdressers, dry cleaners, and valet services
- Hotel reservations
- Amusement machines, lotteries
- Advertising
- Car Parking

# Airline-Related Passenger Services

(Ashford, Stanton, and Moore, 2013)

- ❑ Airline Information Services
- ❑ Reservations and ticket purchases
- ❑ Check-in, baggage check-in, handling of bag drop and storage
- ❑ Loading and unloading of baggage at the aircraft
- ❑ Baggage delivery and reclaim (reclaim is often under the airport authority control)
- ❑ Airline passenger “club” areas, sometimes called commercially important persons (CIP) facilities

# Airline-Related Operational Functions

(Ashford, Stanton, and  
Moore, 2013)

- Flight Dispatch
- Flight Planning
- Aircraft Weight And Balance
- Takeoff
- In Flight
- Landing
- Balance/Trim
- Loading
- Flight-Crew Briefing
- Flight Watch (Flight Control)

# Government Requirements

(Ashford, Stanton, and Moore, 2013)

- Customs
- Immigrations
- Health
- Agriculture produce

# Non-Passenger-Related Airport Authority Functions

(Ashford, Stanton, and Moore, 2013)

- Management
- Purchasing
- Finance
- Engineering
- Legal
- Personnel
- Public relations
- Aeronautical services
- Aviation public services (e.g. noise monitoring)
- Plant and structure maintenance



# Classification of Airport Customers

(nap.edu, 2016 )

LINK TO READ THE TEXT:  
<https://www.nap.edu/read/23449/chapter/5>

- Domestic passengers
- International passengers
- Non-passenger customers
- Families
- The aged and aging
- Customers with special needs

## Needs And Expectations Of Air Travelers

- Safety And Security
- Accessibility: Location
- Accessibility: Scheduled And Reliable Service
- Accessibility: Frequency
- Accessibility: Parking
- Accessibility: Transfers within the airport
- Customer Service
- Value
- Cost
- Food And Amenities such as signs, restrooms, wifi etc.

# Business Travelers

(nap.edu, 2016 )

LINK TO READ THE TEXT:  
<https://www.nap.edu/read/23449/chapter/5>

- More likely frequent travelers
- Less luggage thus carry-on passengers who by-pass arriving concessions
- Limited time
- Less likely to browse and shop
- Make purchases by the gate or likely to belong to an Airline Club thus utilize the amenities in the private areas. In this way much of the airport customer service is managed by the airline's club manager.
- Unlikely to be accompanied by friends and families
- Spend less time in the terminal during arrival and departure.
- Less price sensitive
- Appreciate free wifi, electrical outlets, and work-space
- Value quality food
- Occasional need for business services in the airport such as printing and sending express packages

# Leisure Travelers

(nap.edu, 2016 )

LINK TO READ THE TEXT:  
<https://www.nap.edu/read/23449/chapter/5>

- Less frequent fliers
- Much more dependence on signs and airport staff to assist.
- Often accompanied by well-wishers to the airport (parking)
- Typically travel with others such as family members
- Spend more time in the airport
- More price sensitive than business travelers
- More likely to explore concessions and buy items
- More likely to be burdened with strollers, car seats, diaper bags and toys thus will have carry-on and check-on luggage.
- Worry about missing flights
- Worry about airline fees
- Worry about long queues at security and ticketing
- See travel experience as a treat

COURSE  
LEARNING  
OUTCOMES

LEARNING  
OUTCOME 1

Analyze core airport operations and their impact on the customer experience

□ **DISCUSSION**

**P1.** Compare the front and back office operations of passenger handling services at a commercial and private airport in meeting both leisure and business travel customer needs and expectations

# P1. Task Broken Down

(750 -850 Words)

## ***WHAT YOU NEED TO KNOW TO START ANSWERING P1:***

- 1) What are the needs and expectations of business travelers?
- 2) What are the needs and expectations of leisure travelers?
- 3) What are the key differences between commercial airports and private airports?
- 4) What are the key differences between small and larger airports?
- 5) What are passenger handling services in airport operations?

## **YOU MAY ADDRESS THESE IN P1:**

- 1) Identify a major commercial airport and describe the passenger services which are provided?
- 2) Identify a private airport and describe the passenger services are provided?
- 3) Categorize the passenger handling services at both airports based on whether they are front office or back office passenger operations.
- 4) Focus on two front office passenger services and two back office passenger services offered at commercial and private airports and compare the services individually to assess who they might more likely appeal to ( business travelers or leisure travelers).

COURSE  
LEARNING  
OUTCOMES

LEARNING  
OUTCOME 1

Analyze core airport operations and their impact on the customer experience

□ DISCUSSION:

**P2.** Analyse how front and back office operations influence the customer experience and the passenger journey through an airport

COURSE  
LEARNING  
OUTCOMES

LEARNING  
OUTCOME 1

Analyze core airport operations and their impact on the customer experience

□ DISCUSSION:

**M1.** Critically analyze differences in front and back office operations of passenger handling services in meeting a range of different customer requirements and expectations



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Prather, C. (2019). *Airport management*. Washington: Delmar.