



01

Planning & Design Of The Terminal Area

02

Air Traffic Control And Aids

Presentation as Assignment-2
Of

Subject – Airport Strategic Planning

Subject Teacher – Ms. Muskan Gupta

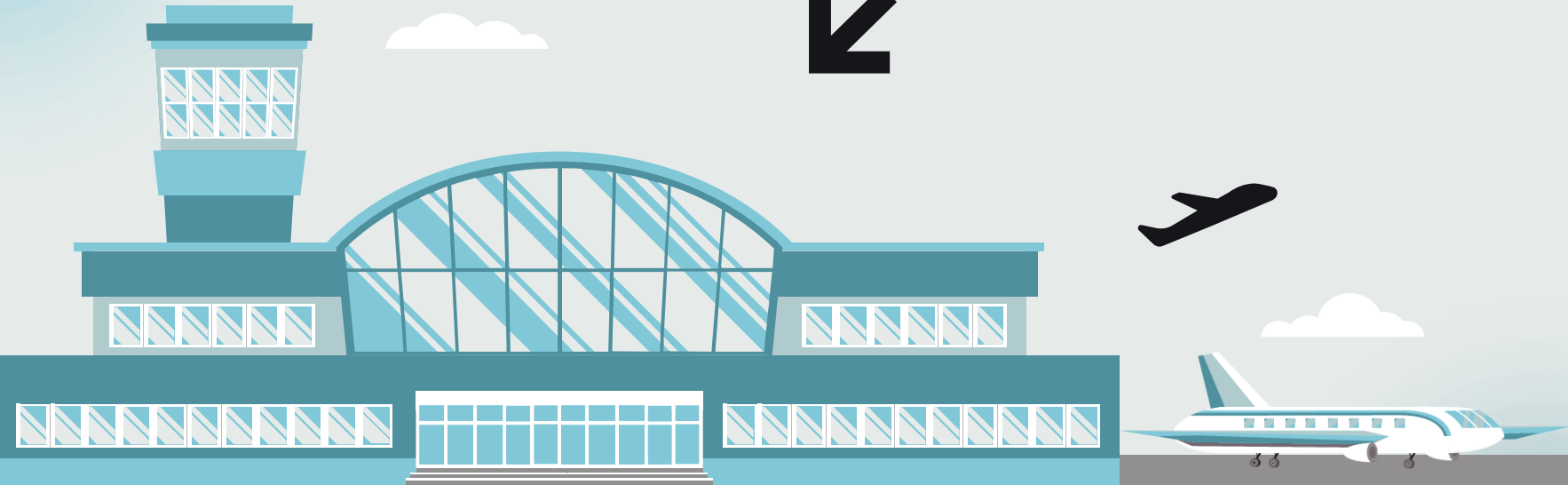
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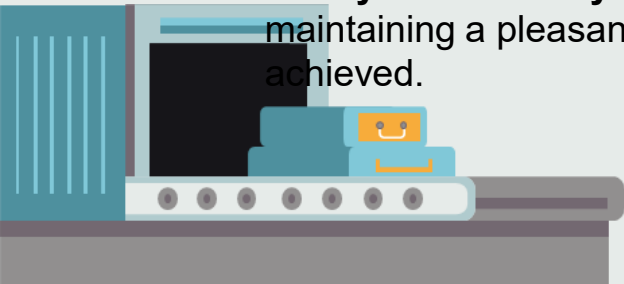
Planning & Design Of The Terminal Area



Planning of Airport Terminal

Here are few key points to include up

- **Efficiency:** The design should facilitate smooth passenger flow and minimize congestion. Efficient use of space is crucial for both passenger comfort and operational functionality.
- **Flexibility:** Terminals should be designed to accommodate future expansions or changes in technology without significant disruption.
- **Passenger Comfort:** Amenities, clear signage, and accessibility are important for a positive passenger experience.
- **Safety and Security:** Designing for thorough security screening processes while maintaining a pleasant passenger experience is a delicate balance that must be achieved.



Design of Airport Terminal

Few of the key points to include in

- **Passenger Flow:** Designing for thorough security screening processes while maintaining a pleasant passenger experience is a delicate balance that must be achieved.
- **Security:** Design must accommodate thorough security screening without compromising the passenger experience.
- **Accessibility:** Terminals should be accessible to all passengers, including those with disabilities, with features like ramps, elevators, and tactile flooring.



A stylized illustration of an air traffic control tower on the left, with a city skyline silhouette at the bottom. The background is a light blue sky with a few white clouds. A large black arrow points down towards the title. The number '02' is in a large, bold, italicized font.

02

Air Traffic Control

and it's Aids

Air Traffic Control And it's Aids

Aids of Air Traffic Control

Air Traffic Control (ATC) aids are crucial for the safe and efficient management of air traffic within an airport's airspace. These aids include various technologies such as


- **Radar System**
- **Communication System**
- **Flight Data Processing**
- **Collision Avoidance System**
- **Non-Directional Beacons**



Explanation of **Air Traffic Control Aids** template:

- ❖ **Radar System** are indispensable in air traffic control (ATC) for maintaining the safety and efficiency of airspace. They serve as the eyes of ATC, providing real-time data on aircraft positions, altitudes, and speeds. This information is critical for controllers to manage the separation between aircraft, guide them along safe flight paths, and assist with landings and takeoffs in all weather conditions. Radar systems also help in identifying and tracking aircraft in busy airspace, ensuring that air traffic flows smoothly and that potential conflicts are resolved swiftly. By offering a comprehensive view of the airspace, radar systems contribute significantly to the overall management of air traffic and the prevention of collisions.
- ❖ **Communication System** are vital for the coordination and safety of air traffic. They enable clear and constant communication between pilots and air traffic controllers, ensuring that instructions are conveyed accurately and promptly. These systems include various types of radios and frequencies that cover different aspects of flight, from takeoff to landing. They are designed to be redundant and secure, with multiple backup systems in place to prevent failures. Communication systems are the backbone of ATC, allowing for the management of multiple aircraft simultaneously and providing pilots with critical information such as weather updates, traffic advisories, and emergency procedures. Their reliability and effectiveness are essential for maintaining the orderly flow of air traffic and preventing accidents.
- ❖ **Flight Data Processing** systems are essential in air traffic control, providing real-time processing and management of flight plan data. These systems ensure the safe and efficient movement of aircraft by updating and maintaining crucial information such as aircraft identification, altitude, and flight path. FDP systems support air traffic controllers by automating tasks, predicting aircraft positions, and facilitating communication between pilots and controllers. By integrating various data sources, FDP systems enhance airspace management, reduce the potential for human error, and improve overall air traffic safety.

❖ **Collision Avoidance System**(CAS), also known as TCAS (Traffic Collision Avoidance System), plays a crucial role in air traffic control by preventing mid-air collisions. It operates independently of ground-based systems, using transponder signals from aircraft to detect potential conflicts. When a risk is identified, TCAS issues alerts and provides resolution advisories, guiding pilots to adjust their flight path to maintain a safe distance from other aircraft. This system enhances the safety of the airspace by providing a last line of defense against collisions, especially in congested or complex flight environments.



❖ **Non-Directional Beacons** also known as (NDBs) are a type of radio navigation system for aircraft, transmitting signals without a directional component. This means the signal is sent out uniformly in all directions, allowing pilots with an Automatic Direction Finder (ADF) to determine their bearing relative to the beacon, regardless of their current heading. NDBs are particularly useful in areas where other navigation aids might not be available or reliable. They operate on low to medium frequencies, typically below 530 kHz, and can be used for non-precision approaches or as enroute navigation aids. Despite being one of the oldest types of electronic navigation aids, NDBs still play a significant role in aviation, especially as a backup navigation aid or in remote locations.