



# DESIGN PRINCIPLES OF MASTER PLANNING

# WHY DOES ONE NEED A MASTER PLAN?

1

It guides long-term growth, ensuring the airport can handle future demand.

3

It creates a roadmap for smooth operations, minimizing delays and congestion.

5

A clear vision attracts airlines and businesses, promoting economic growth.

7

It prioritizes safety by planning for upgrades that meet evolving aviation regulations

2

It avoids wasteful spending by planning for compatible and well-sized facilities.

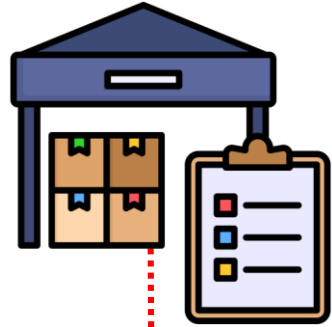
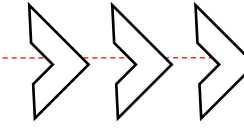
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It integrates sustainability practices to minimize the airport's environmental impact.

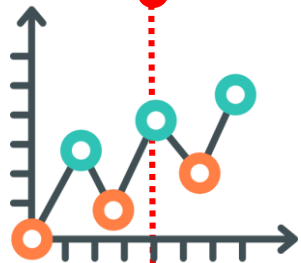
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It fosters collaboration with surroundings by addressing concerns ensuring compatible land use.

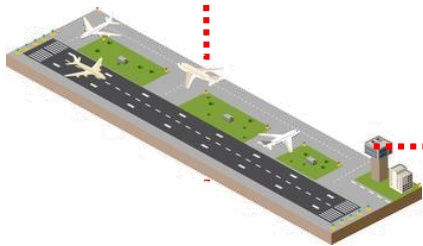
# DESIGN STRATEGY FOR MASTER PLANNING



**1. ASSESSMENT OF EXISTING FACILITIES WITHIN AVAILABLE LAND**



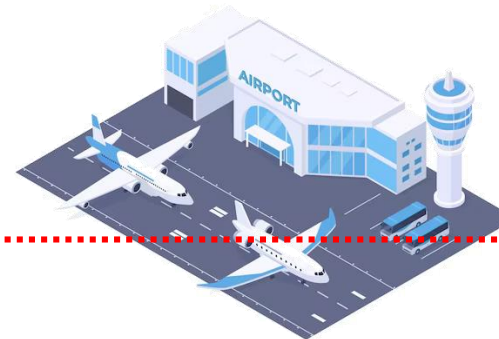
**2. FORECASTING PAX MOVEMENT BASED ON CURRENT TRENDS UPTO 2047**



**3. PLANNING RUNWAY EXT, PTT & RET BASED ON MAX MOVEMENTS POSSIBLE**



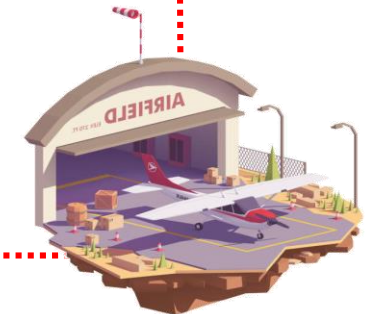
**4. PLANNING PARKING BAYS BASED ON MVTS/HR**



**5. PLANNING TERMINAL CAPACITY IN MODULAR PHASING**

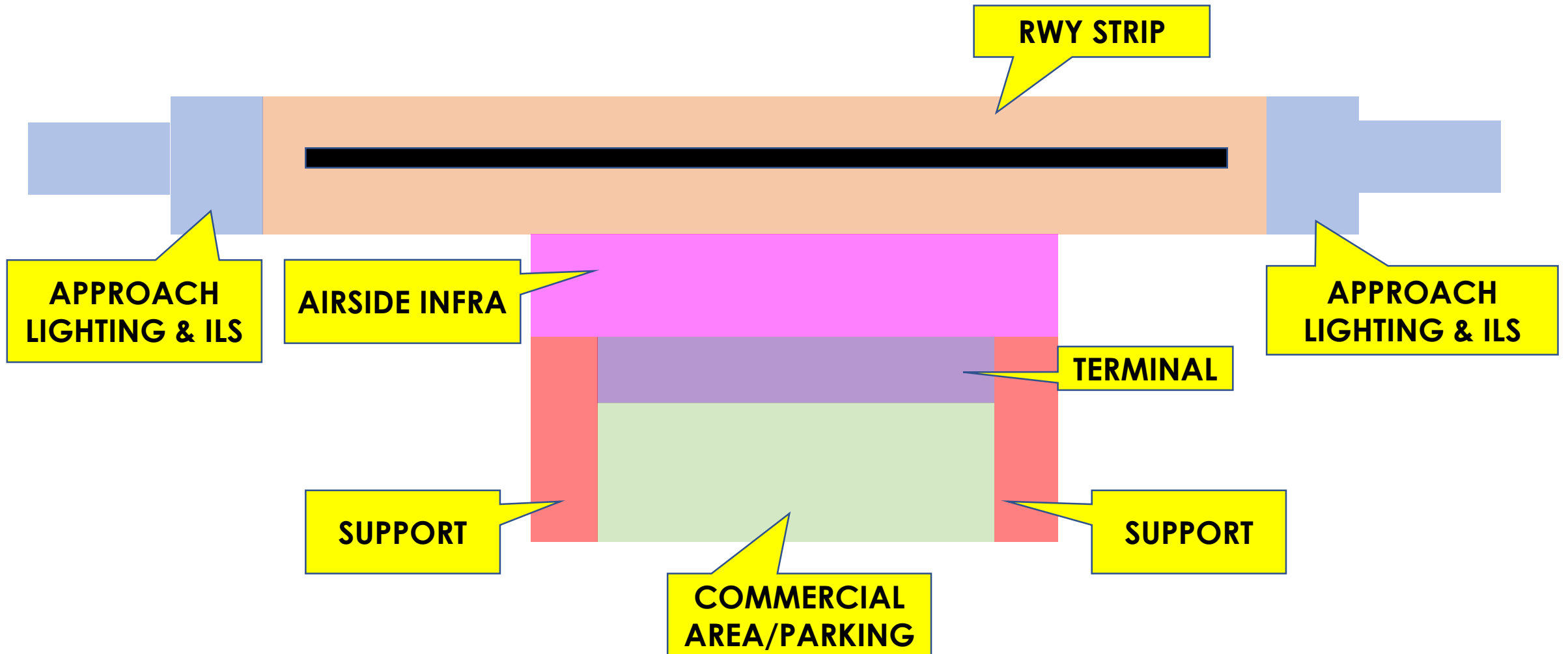


**7. PLANNING COMMERCIAL DEVELOPMENT AREAS**



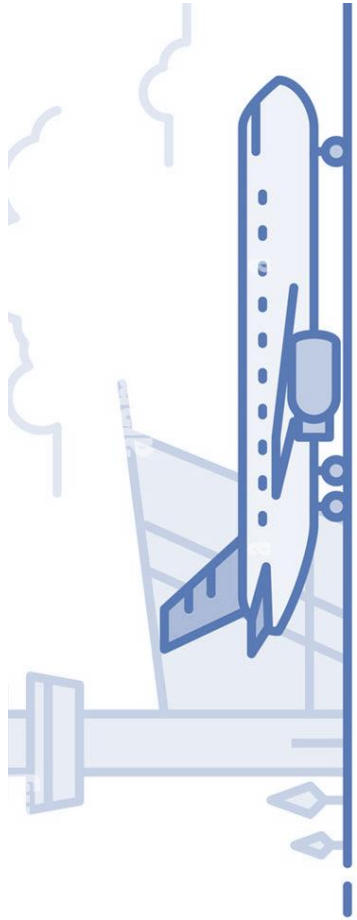
**6. PLANNING OF SUPPORT FACILITIES**

# TYPICAL ZONING FOR MASTER PLANNING



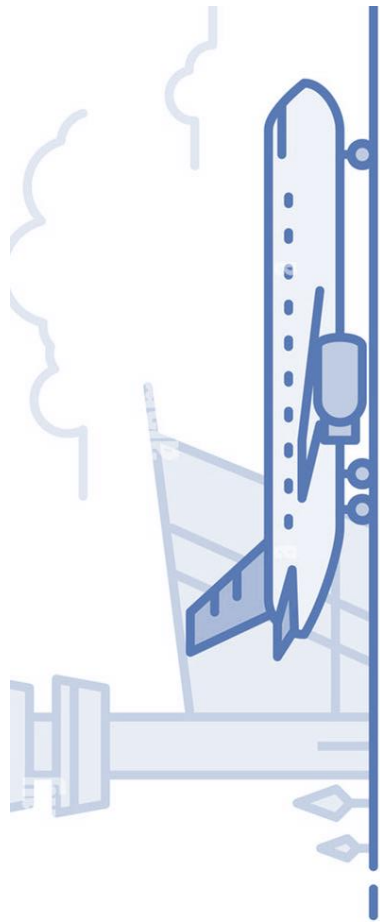
# **CASE STUDY PRESENTATION**

# KEY BENEFITS OF MASTER PLANNING



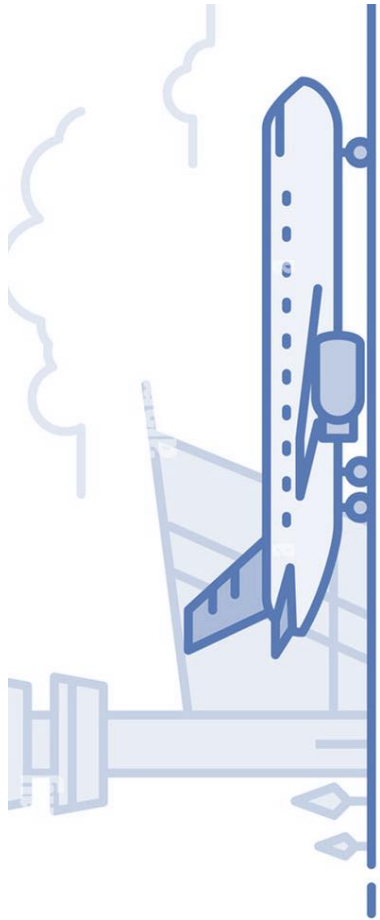
- Identifying trigger points ensures that development phases are initiated based on specific criteria and minimizes ad-hoc decision-making and **ensures a structured growth trajectory.**
- By forecasting facility needs until 2047 and earmarking land accordingly, AAI can **prevent potential conflicts over land use**, especially in regions where urban sprawl may encroach upon airport operations.
- Incorporating airport master plans into city planning frameworks ensures **coordinated development of transport infrastructure, supporting economic growth and urban connectivity goals.**
- Collaboration with State Governments and UTs is crucial for **securing necessary approvals and aligning development plans with broader regional interests.** It fosters a conducive environment for infrastructure expansion and economic development.
- Adherence to NOCAS ensures that **airport expansions meet safety and environmental standards**, fostering sustainable growth while mitigating potential risks to public safety and environmental impact.

# KEY TAKEAWAYS



- **Phased Growth:** Develop infrastructure in stages based on traffic projections and land availability. Acquire land strategically for future needs.
- **Aircraft Compatibility:** Plan for future aircraft types by considering initial limitations and future expansion needs.
- **Local Integration:** Design the airport to reflect the unique character of the location, potentially incorporating elements for tourism or other local interests.
- **Optimized Layout:** Relocate, reorganize, or remove existing facilities to maximize land use efficiency.
- **Clear Boundaries:** Separate city-side facilities from the operational area of the airport.
- **Residential Planning:** Explore densification of residential areas near the airport to free up land for essential development.
- **Phased Triggers:** Establish clear traffic thresholds to trigger each development phase, guiding future expansion decisions.

# KEY TAKEAWAYS



- **Master Plan Approvals:** Changes require approval from AAI Chairman and Member (Planning).
- **Phased Infrastructure:** Develop aprons, terminals, and city-side infrastructure proportionally to the 45 movements/hour capacity, maximizing in-contact apron space.
- **State Government Collaboration:** Collaborate with the state government on access roads, utility relocation, and obstacle removal based on OLS charts during initial planning.
- **City Master Plan Alignment:** Synchronize the airport Master Plan with the City Master Plan for compatible development of approach roads.
- **Regular Review & Revision:** Review and revise Master Plans every 10 years to incorporate new needs and technologies. All AAI Directorates plan facilities based on the approved Master Plan.

# **VOTE OF THANKS**