



**ASSEMBLY — 41ST SESSION**

**TECHNICAL COMMISSION**

**Agenda Item 33: Other issues to be considered by the Technical Commission**

**ESTABLISHMENT OF PASSENGER TERMINAL OPERATIONAL CHARACTERISTICS  
SURVEY MANUAL FOR EFFICIENT AIRPORT PLANNING**

(Presented by the Republic of Korea)

**EXECUTIVE SUMMARY**

Recently, the importance of passenger terminal operational data had been increasing due to environmental changes in the airport, such as the impact of COVID-19, the introduction of new SMART processing facilities, and the need to relieve congestions at existing airports. For this reason, in order to secure the consistency of the site survey method and increase the reliability of the results, ‘Passenger terminal operational characteristics field survey manual’ was established by Korea Airports Corporation (KAC). Considering mainly for the key design elements such as processing time per passenger, etc., which are the standards for passenger terminal planning, design, and operation, KAC established the manual through conducting field surveys on the airports for validation and verifications with the capacity experts including IATA. After that, in recognition of the novelty and importance of this field survey manual for passenger terminal operational characteristics, the ICAO approved it as a Standardized Training Package (STP) for domestic terminal in February 2022. From June to July 2022, a pilot training course was conducted for 30 incumbents in aviation and airport fields from 22 countries and received high evaluations for the manual.

This case is meaningful in that it is the first case of establishing field survey system for passenger terminal operational characteristics and also enables efficient airport facility planning and capacity management in the future. The Republic of Korea will continue to promote the manual through the ICAO training course and participation in conferences, and further strive to become an international standard in the future.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objectives: Air Navigation Capacity and Efficiency.
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<i>Financial implications:</i>	Not determined
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<i>References:</i>	IATA, “ <i>Airport Development Reference Manual (1995~2022)</i> ”, Ministry of Land, Infrastructure and Transportation(Korea), “ <i>The 3rd Airport Development Comprehensive Plan(2005)</i> ”
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## 1. INTRODUCTION

1.1 **Backgrounds and Objectives.** Recently, the importance of passenger terminal operational data had been increasing due to environmental changes in the airport, such as the impact of COVID-19, the introduction of SMART processing facilities, and the need to relieve congestions at existing airports. However, there was no clear standard for the survey of the passenger terminal operational characteristics, and up until now, field survey has been implemented mainly depending on investigator's own empirical judgment. If there is the measurement standard and manual, anyone can collect reliable data easily. For this reason, 'Passenger terminal operational characteristics field survey manual' was established to ensure consistency and reliability of survey result (operational data).

## 2. STRATEGIES AND ACTIVITIES

2.1 **Strategy for project implementation.** The Korea Airports Corporation (KAC) established field survey manual based on the key design elements of airport facilities such as processing time per passenger, etc. It has the advantage of continuously collecting and analyzing reliable operation data through the manual established by the airport operator, and through this, the unique operational characteristics of each airport can be reflected in the facility development and operational improvement plan. In addition, instead of relying on external engineering companies, airport operators who are expertise in airport capacity and design standards took the lead.

2.2 **Activities for the project.** Passenger terminal field survey manual was established through field survey, expert verification, manual establishment and ICAO certification for domestic terminal in 2021 and international terminal in 2022.



2.2.1 **Passenger terminal operational characteristics field survey and validation.** KAC established survey standard (draft) for each processing facility first, targeting Jeju International Airport (for domestic part) and Gimpo International Airport (for international part), which operates various processing facilities and operating characteristics. After that, 'actual' field survey was conducted to validate every survey standard in the draft manual. As a result, it could establish a field and practical-based investigation system and an actual validated manual.

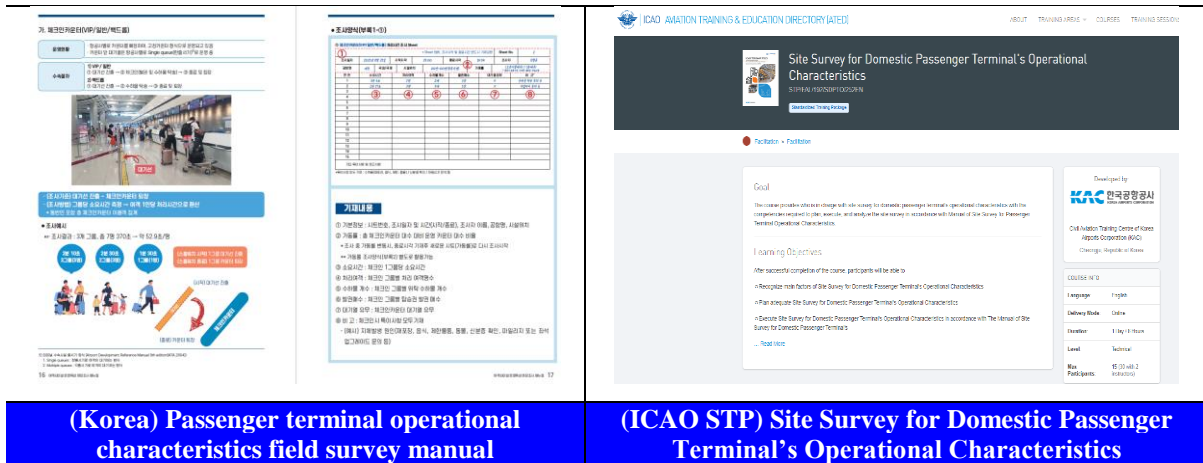
2.2.2 **Expert Verification.** Through discussions with IATA and Korean academics and industry experts, KAC collected opinions and verified the contents and composition of the passenger terminal field survey manual, also forming a consensus on the need to establish the manual between the experts.

### 2.2.3 Manual establishment and ICAO certification

2.2.3.1 For the first time in the world, ‘Passenger terminal operational characteristics field survey manual’ was established with each processing facilities’ survey standards, and this manual was distributed to academics, national research institutes related to aviation or airport industry and airport operators including Incheon International Airport Corporation (IIAC) in the Republic of Korea.

2.2.3.2 This manual details measurement standards on terminal processing facilities and passenger characteristics such as processing time per passenger at each facility, occupancy time per flight during baggage claim, etc. In addition, it includes survey design method, procedure, actual survey sheets, and examples to compute and identify key factors for capacity assessment and planning.

2.2.3.3 In recognition of the novelty and importance of this field survey manual for passenger terminal operational characteristics, ICAO approved it as a Standardized Training Package (STP) for domestic terminal in February 2022. In addition, a pilot training course was being conducted for 30 incumbents in aviation and airport fields from 22 countries from June to July 2022, and received high evaluations for the manual.



### 3. ACHEIVEMENTS AND EXPECTATIONS

3.1 Establishment of the world's first passenger terminal operational characteristics field survey system:

- a) The airport operator, who knows the airport operation systems and passenger characteristics well established the manual and secured high reliability of the survey method and standards.
- b) Based on this manual, it is possible to gather, collect and manage reliable passenger terminal operational data systematically.
- c) It can be used for every airport development projects (existing or new airport, establishing master plan, designing, doing simulation, etc.)

3.2 Efficient airport facility planning and capacity management:

- a) Development plan suitable for each airport's conditions and characteristics can be established.
- b) Appropriate investment plan for development can be set through planning and design optimized for airport's operation (avoid over- and under-estimation).
- c) Data-based airport capacity optimization and management centered on each airport's characteristics are possible (SLOT coordination can be considered).

4. **FUTURE PLANS**

4.1 ICAO STP Training course for international version of the Manual will be developed by December 2022. In addition, Promotions for the Manual and international standardization efforts will be facilitated through ICAO STP training course and conference participations.

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