International Civil Aviation Organization

Eleventh Meeting of the Asia/Pacific Air Traffic Flow Management Steering Group (ATFM/SG/11)

Video Teleconference, 02 – 06 August 2021

Agenda Item 4: Review of Current CDM/ATFM Operations and Problem Areas

IMPACT OF COVID ON C-ATFM OPERATIONS

(Presented by India)

SUMMARY

This paper presents the status of ATFM Operations in India in the light of the Covid-19 Pandemic.

1. INTRODUCTION

1.1 The domestic and international air traffic was badly impacted by Covid-19. The Government of India imposed stringent restrictions to curb the spread of the virus. Aviation authorities maintaining essential services grappled with sick employees to continue the show without jeopardizing safety. Contingency Measures were evoked to function with skeletal staff at the facility and maximum staff operating from the safety of their homes.

1.2 In absence of any Demand Capacity imbalance, the post analysis team in ATFM was engaged in analyzing the impact of the Pandemic on Air Traffic in India and forecasting future traffic trends. The following paragraphs describe the major system undertakings and a brief analysis of the impact of Covid 19 on air traffic in India.

2. DISCUSSION

Introduction of IFPS

2.1 Correct Demand prediction is an important process of ATFM. The Flight Plan management team of ATFM is consistently pursuing the need of generating timely AFTN message in case of delay and cancellation with all the airlines. Despite continuous efforts, presence of correct and timely flight plan intent is a challenging task in our environment. Identifying this constraint, the operational concept of integrated initial Flight Plan processing system is planned to be implemented as part of ATFM system.

2.2 The IFPS system comprises the process of receiving flight plans and associated messages, validating this information against syntactic and semantic rules, identifying the destination addresses based on the aerodromes and route informed and distributing the information to all identified and informed addresses. This centralization of Flight Plan processing system also ensures that each key player in the ATM process receives the same Flight Plan information.

2.3 The IFPS system is in testing phase. After successful completion of testing, it is planned to introduce the IFPS in the latter half of this year.

System Enhancements

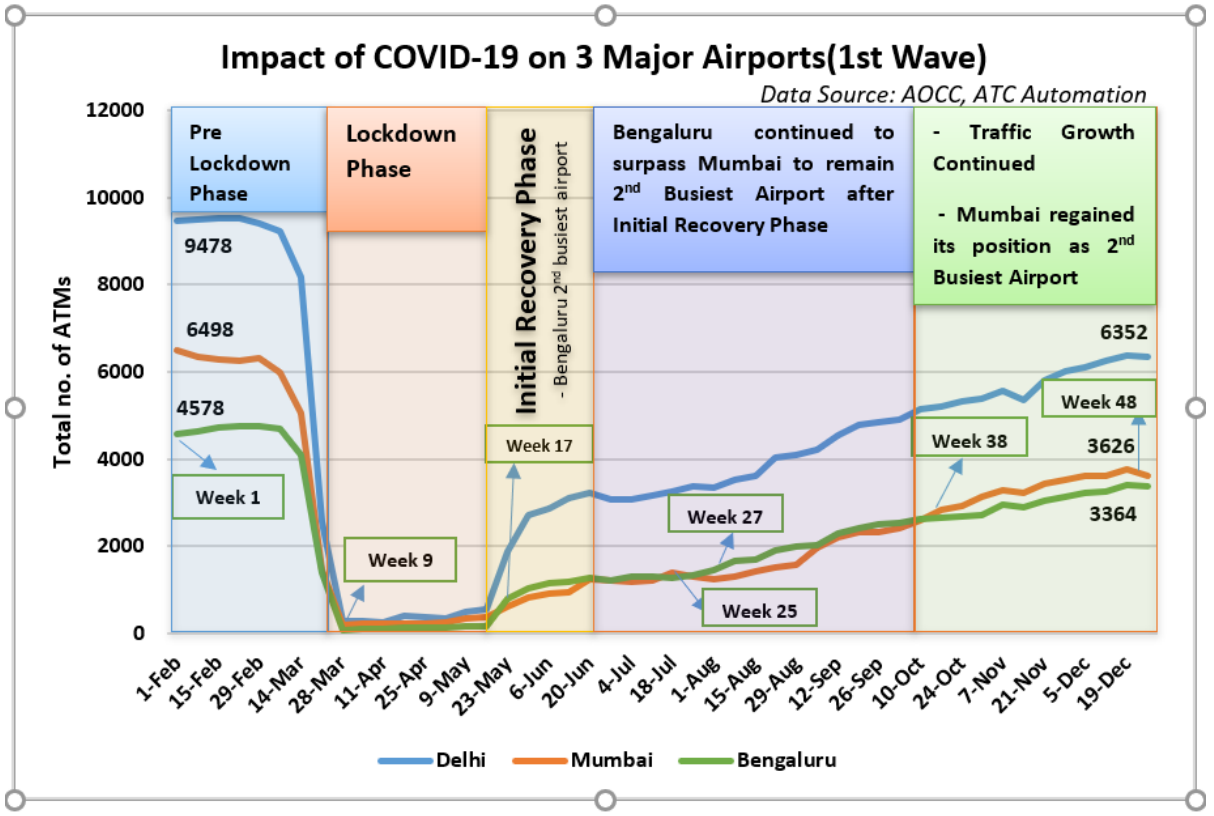
2.4 The Airport CDM at Jaipur, Guwahati, Trivandrum and Ahmedabad was integrated with ATFM system in February'21. The departure planning information (DPI) message exchanges bring airports into the loop of the ATFM decision making process. The flight update message (FUM)/DPI message exchange ensures the punctual updating of flight data, more consistent slot calculation and improved slot adherence.

2.5 To enhance infrastructure for surveillance over Oceanic Airspace, India has engaged into a contract with a service provider for Space based ADS-B services over Oceanic Airspace. Integration of Space based ADS-B surveillance into the automation system of Mumbai, Chennai and Kolkata has increased the surveillance coverage over the Arabian Sea and Bay of Bengal. The ATFM System uses the processed CAT-62 data from these automation systems to update the current position of the flights. The space-based ADS-B integration has improved the accuracy of demand prediction in ATFM System.

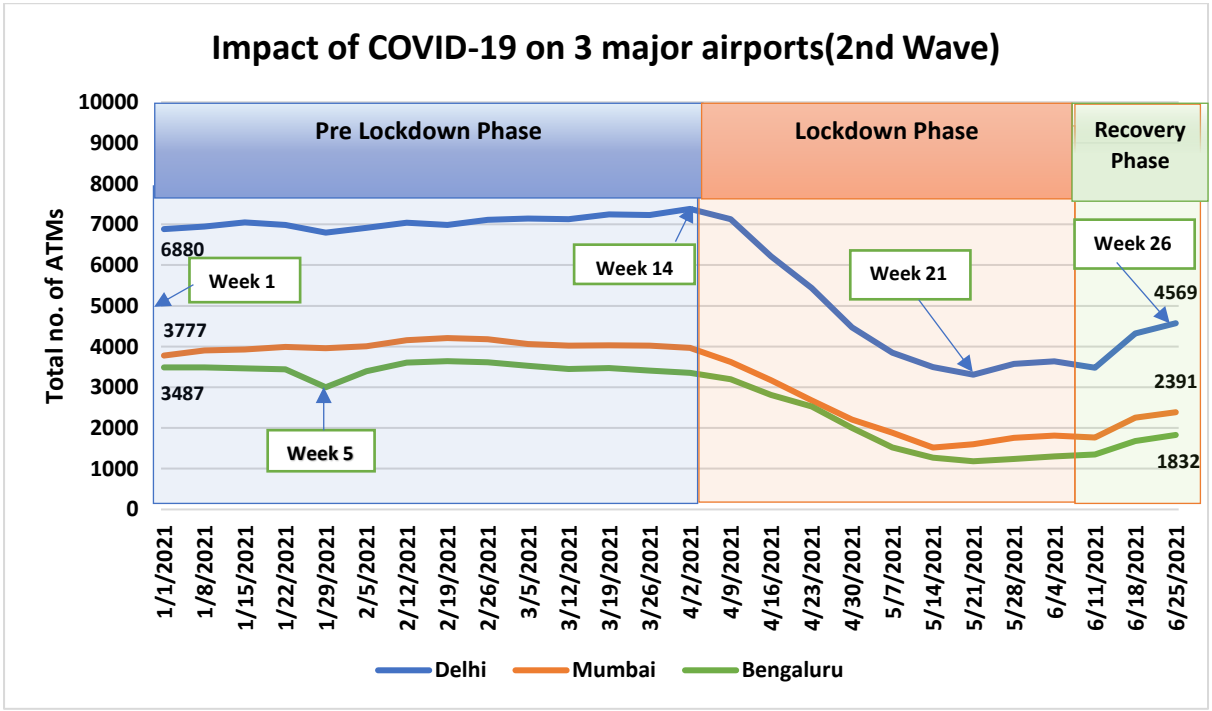
2.6 In order to analyze the benefit of SBADS-B integration, the estimates **(ETO)** of east/west bound flights based on departure information and flight plan data (EET) over FIR Fixes were compared with the actual surveillance data **(ATO)** for a period of one week from 21st June to 27th June 2021. The analysis of the data shows that the availability of space-based ADS-B surveillance data has improved the accuracy of flight position at FIR Fix over Arabian Sea, Bay of Bengal and Indian Ocean by approximately 02 Min. and 30 Sec. per flight, thus improving overall predictability.

Traffic Analysis during Covid 19 Period

2.7 The graph below tracks the impact of COVID-19 on three major airports of India during 1st wave of infection. Government of India imposed nationwide lockdown on 25th March'20 and consequently the air traffic movements dropped below 98% of 2019 levels in week 9 (28.03.2020-03.04.2020).



2.8 The graph below tracks the weekly air traffic movement in the year 2021 at the three major airports - Delhi, Mumbai and Bengaluru during the 2nd Wave of infection. The year started with the weekly movement of 6880, 3777 and 3487 in Delhi, Mumbai and Bengaluru respectively in week 1 (01.01.2021-07.01.2021). Air Traffic plummeted to a low in May'21 during the 2nd wave of Covid after initial recovery from the 1st Wave.

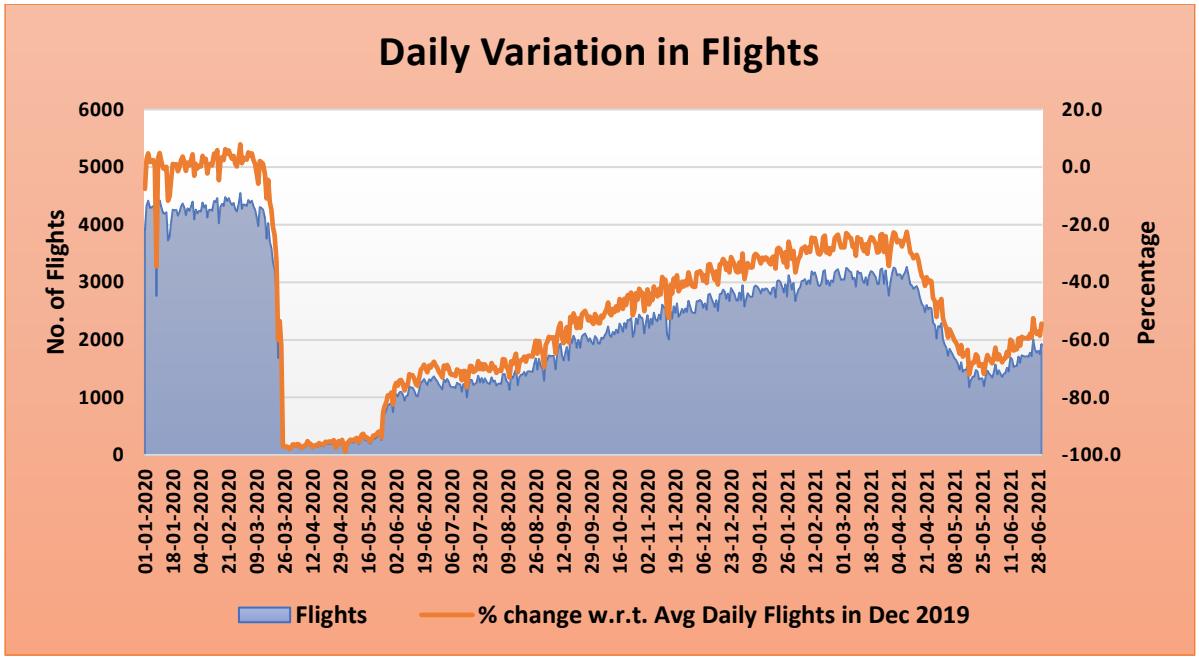


2.9 The traffic showed a steady trend in the initial weeks until week 5 (29.01.2021-04.02.2021) where there was a slight drop in the traffic at Bengaluru Airport. It was due to Airspace/Airport closure for the Aero India Show.

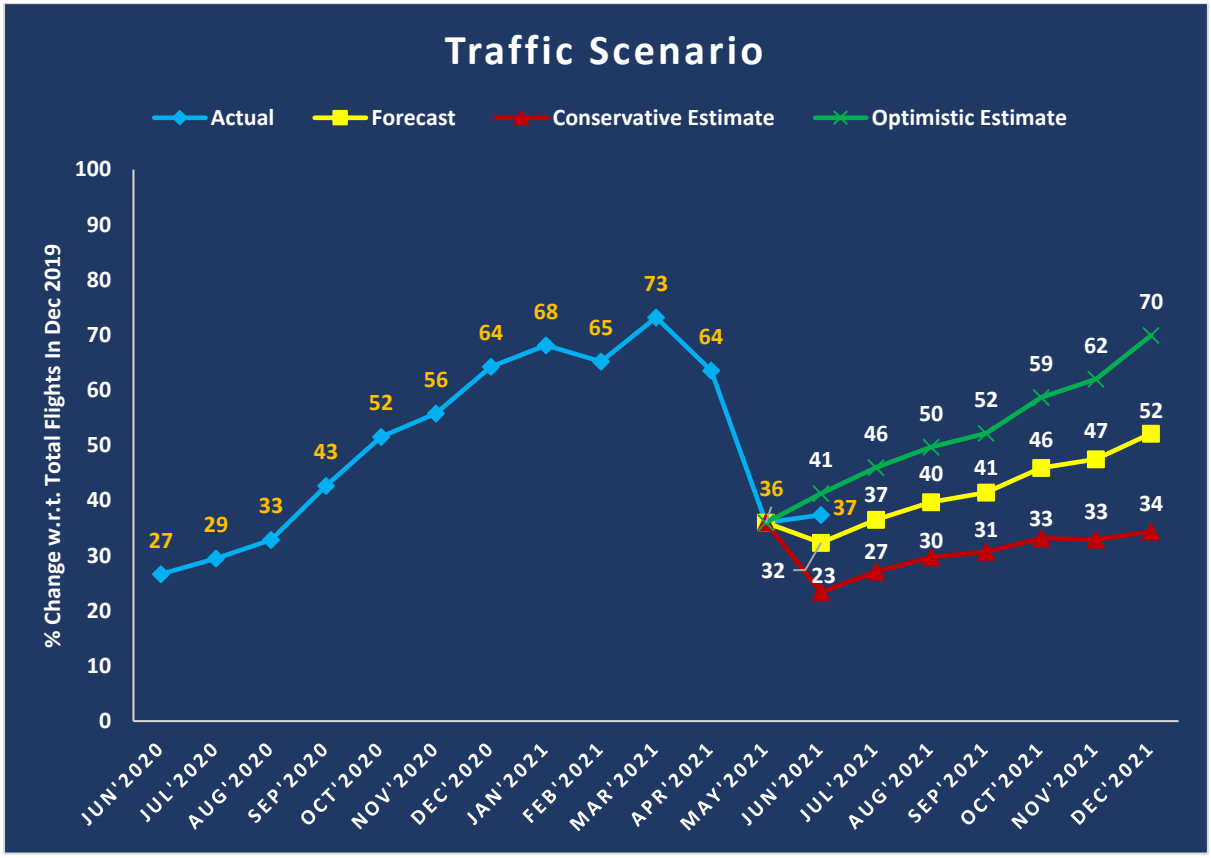
2.10 Due to the surge in the number of Covid-19 positive cases, various states-imposed lockdown, initially starting with night curfews and weekend lockdowns and later following it up with a complete lockdown of 42 days. The air traffic showed a subsequent decline. Week 21 (21.05.2021-27.05.2021) saw the air traffic at 48%, 42% and 34% for Delhi, Mumbai and Bengaluru respectively compared to traffic in week 1.

2.11 The lockdown restrictions started to ease down from 7th June'21and the traffic has been showing an upward trend. As of week, 26 (25.06.2021-01.07.2021) the traffic at Delhi, Mumbai and Bengaluru stood at 66%,63% and 53% respectively of week 1 traffic levels.

2.12 The graph below shows the overall traffic variation in the previous 18 months at the Indian airports. The drop in average daily flights at Indian Airports on 30th June'21 is 54.3% using average daily flights in December'2019 as the base value. It is evident that the impact of Covid-19 has been significant and currently the air traffic volume at Indian Airports is about 37% of the air traffic volume in December 2019.



2.13 Based on the data available in ATFM system, a projection has been made considering a conservative estimate, an average estimate and an optimistic estimate. It is projected that air traffic is likely to reach 70% of the traffic levels in Dec 2019 by the end of this year by an optimistic estimate.



ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matters as appropriate.

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