Airspace restructure in JAPAN

ATFM/IR/SWG meeting

(August 29-31, 2018)

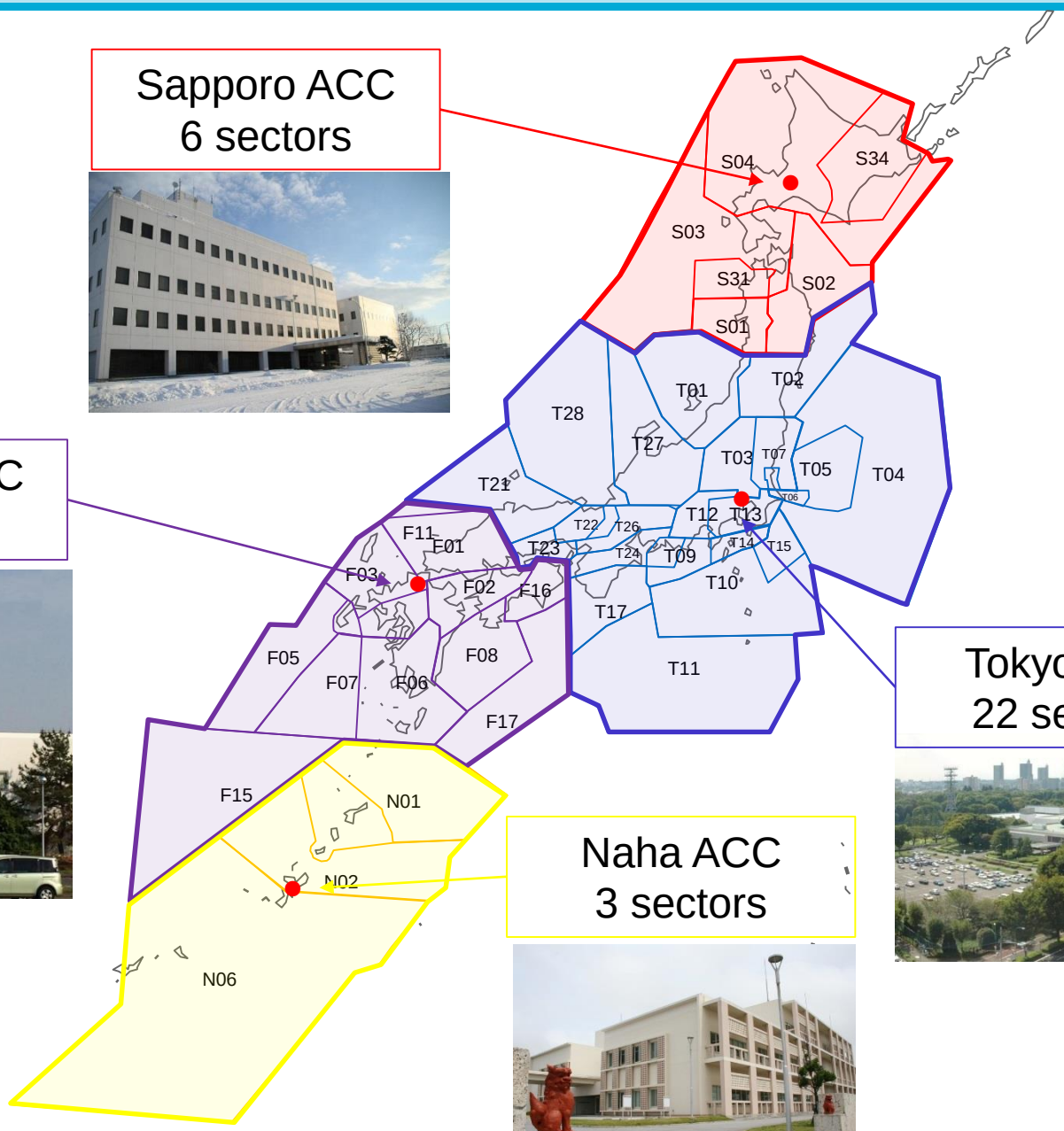
Current facility and shape of sectors

Sapporo ACC
6 sectors

Fukuoka ACC
11 sectors

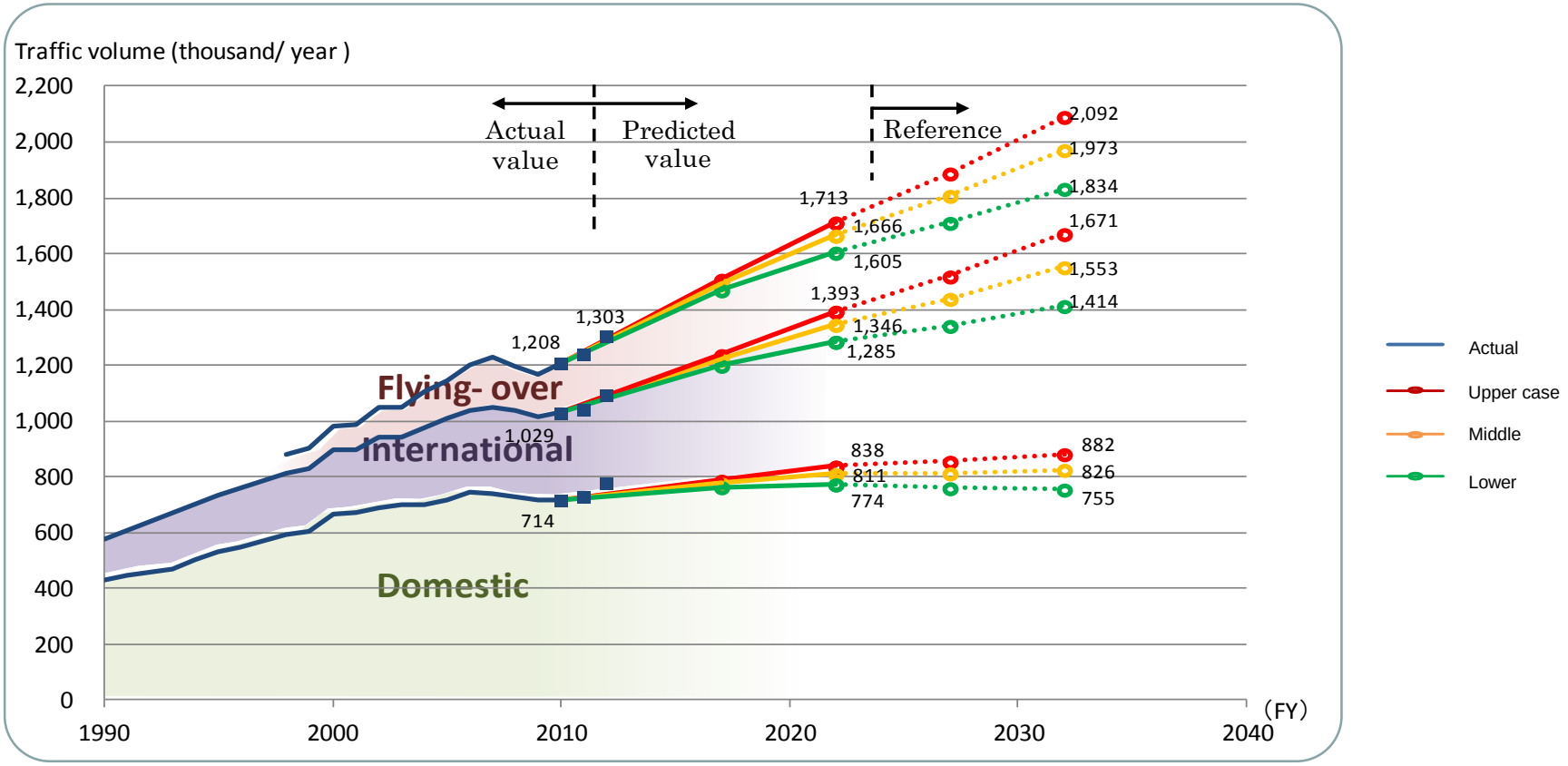
Tokyo ACC
22 sectors

Naha ACC
3 sectors



Demand forecast of air traffic in Japan

- International flight and flying-over are increased. Domestic flight is dependent on the case of GDP.
- Even if GDP is estimated low, the number of aircrafts will exceed the limit of air traffic control capacity around 2025.
- The demand may go up rather than this forecast by further promotion of inbound tourism and the growth of LCC.

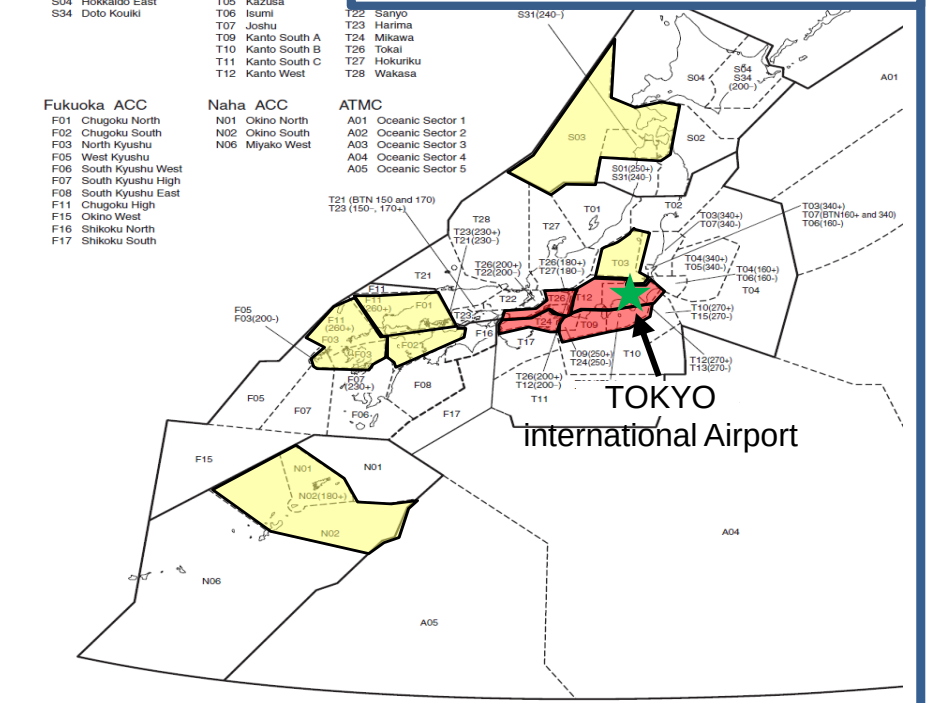


* Basic case of GDP is set up based on the economic growth rate which is a target of the Japanese future strategy.
(economic growth rate is set up to 1.7% from 2010 to 2017 and 2.0% from 2017 to 2032)
* In upper case, economic growth rate is set up 1% higher than basic case.
•In lower case, economic growth rate is set up 1% lower than basic case.
•The number of IFR flights is that to add military, non-scheduled and cargo flights to those above.

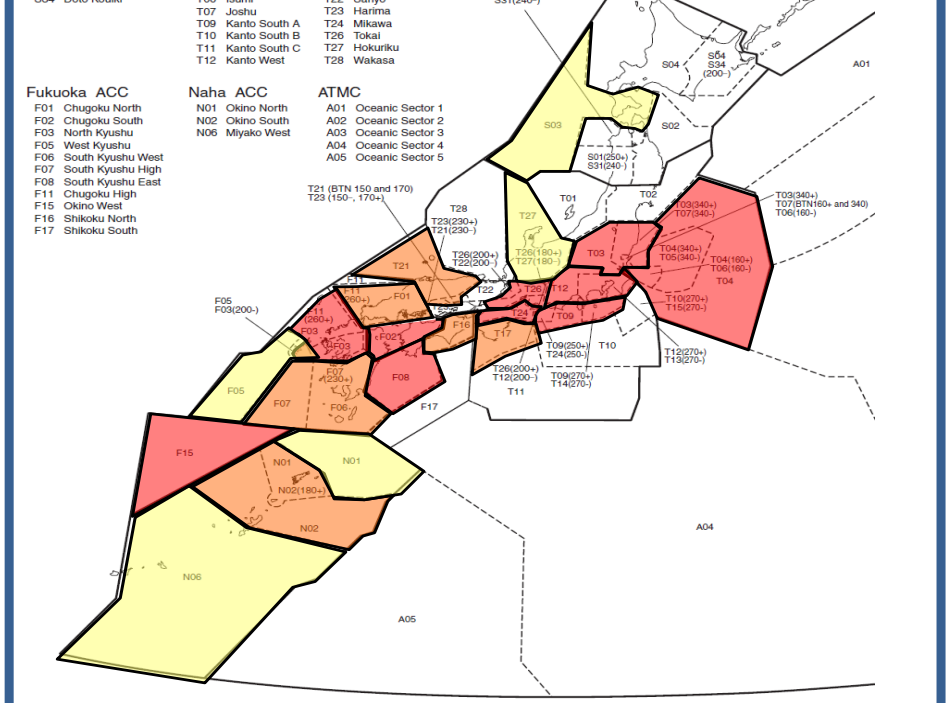
Expectation of Air Traffic Flow Control

✓In 2025, airspace capacity in the current airspace configuration becomes the limit.

2012 Air Traffic Flow Control



Expectation of 2025 Air Traffic Flow Control



- On the Ground due to flow control : 60 traffics
- Average of delay : 8 min

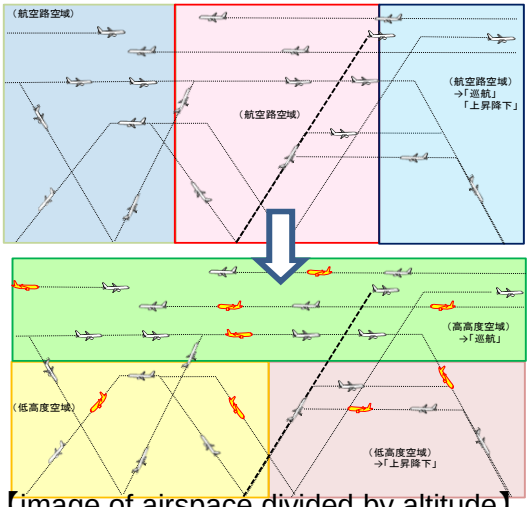
- On the Ground due to flow control : 270 traffics
- Average of delays : 25 min or over
  ⇒flight cancellation will occur

Improvement of ATC capacity （measures to expand ）

Current airspace composition and future airspace divided by altitude

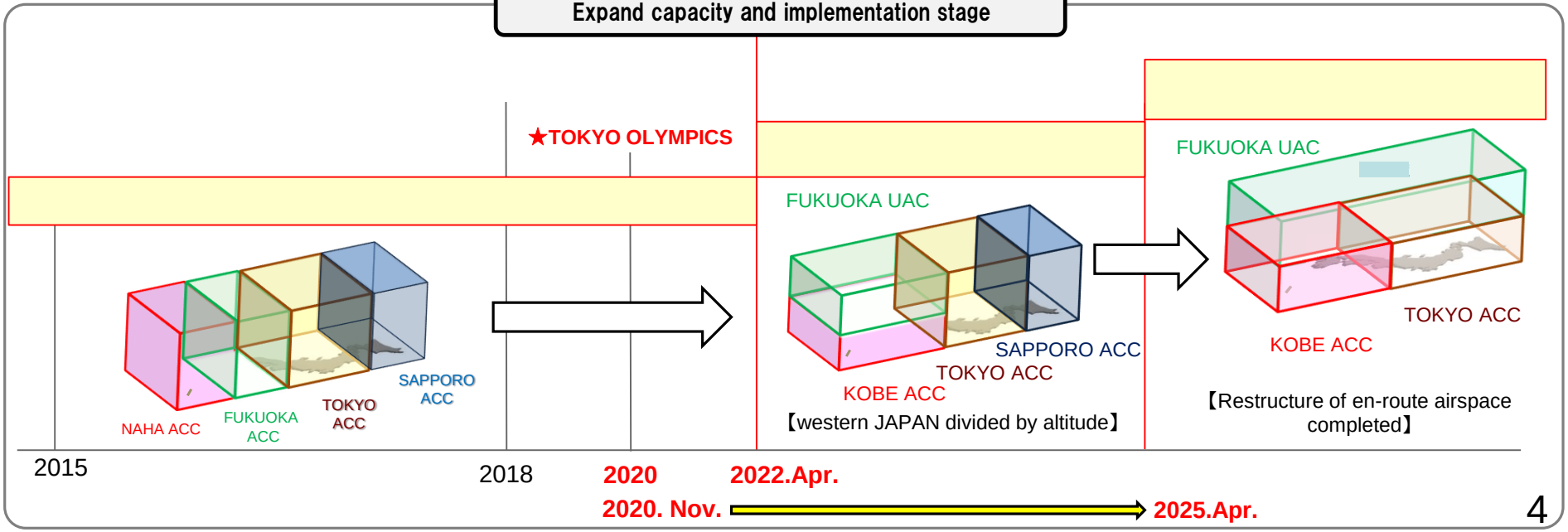
✓Handling ability of Air Traffic Control was raised by reducing number of aircraft per 1 sector by subdivision of a sector conventionally.
✓However, enforcement of subdivision beyond this will increase the time and effort of taking over between sectors. Moreover, the airspace that detour for bad weather or turn order of an aircraft becomes less insufficient, and throughput declines conversely.

We order to respond to an increase in the future traffic demand, conventional and different, to expand the ATC capacity by the airspace divided by altitude.
・By difference of cruising, climbing, and descending, we raise the treatment capacity of aircraft.
・In the high altitude airspace of low workload, the handling number of aircraft makes to increase.



【image of airspace divided by altitude】

Expand capacity and implementation stage

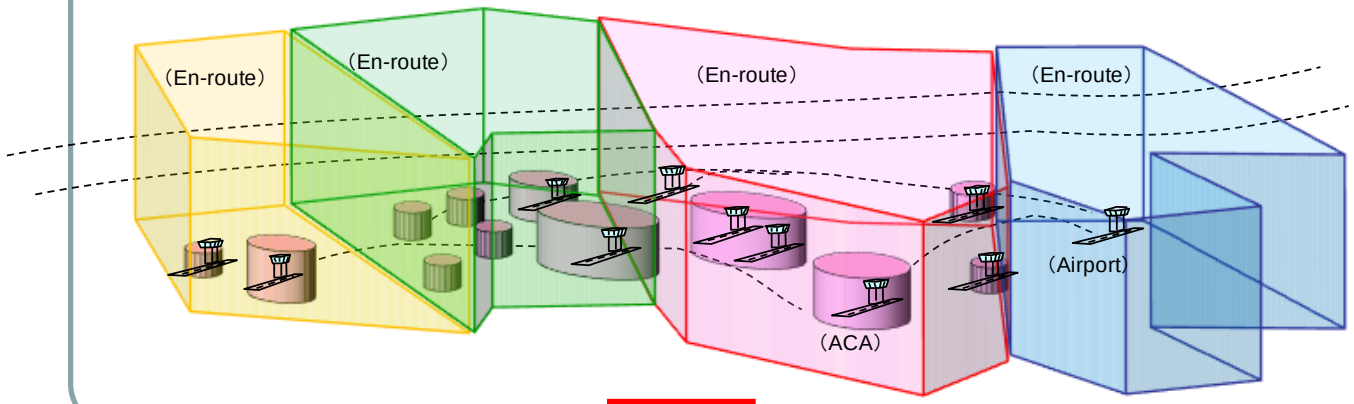


Change of Domestic Airspace and Facilities

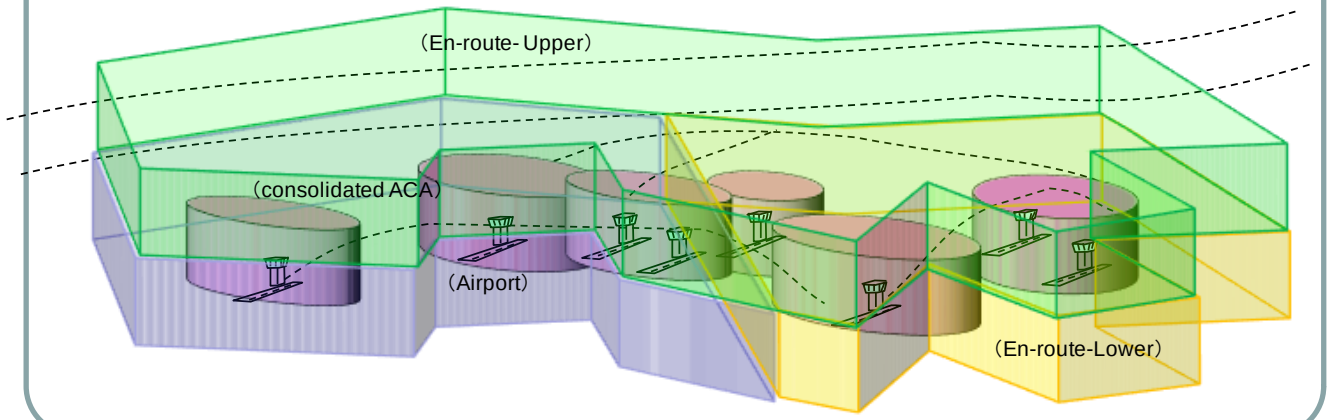
- Redesigning the current domestic airspace (En-route and ACA)
- Decreasing ATC workload totally and improving ATC operational efficiency.

Redesign of Airspace

【Before redesign- En-route and ACA】



【After redesign】



Schedule of airspace Redesign

2018　Kobe ACC established
　　Naha ACC moved to Kobe ACC

2019　Metropolitan airspace around TOKYO and NARITA international airport will be change. (Preparation for the Tokyo Olympics)

2020～2022
　　Redesign of western en-route airspace.

2023～2025
　　Redesign of eastern en-route airspace.

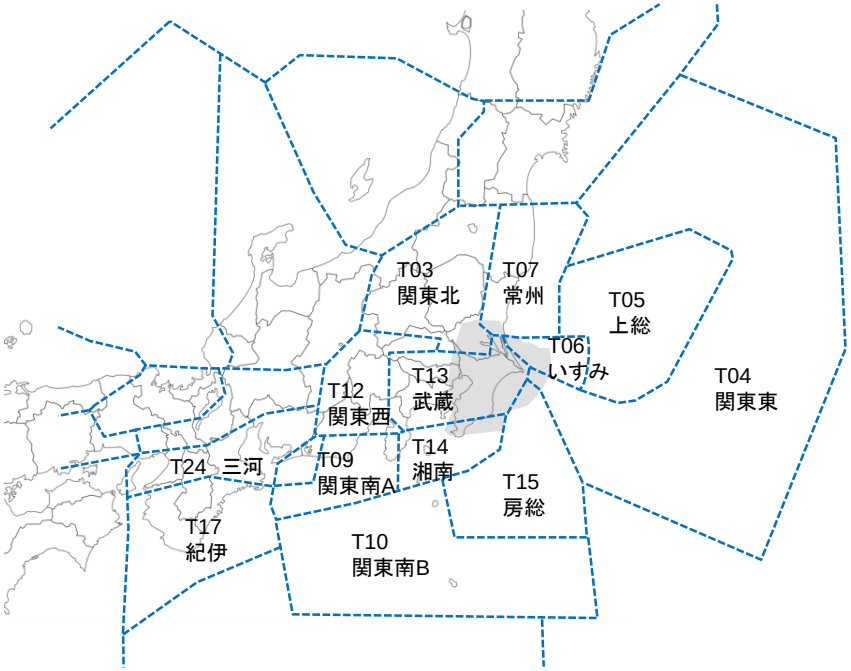
2025.April
　　Redesign of en-route airspace will be completed.

Shape of Metropolitan airspace in 2019

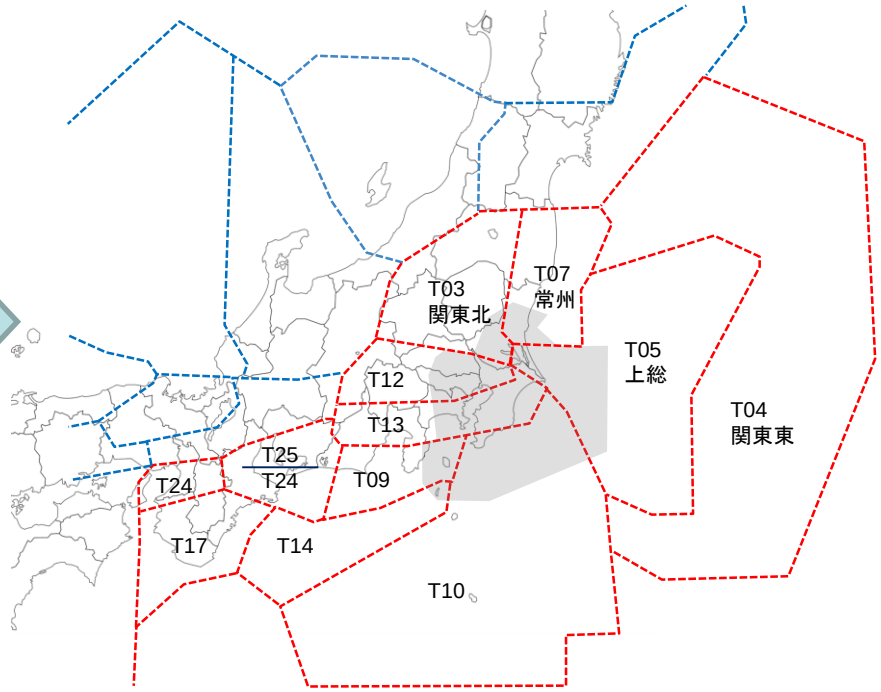
国土交通省

Metropolitan airspace around TOKYO and NARITA international airport will be change. (Preparation for the Tokyo Olympics)

2018

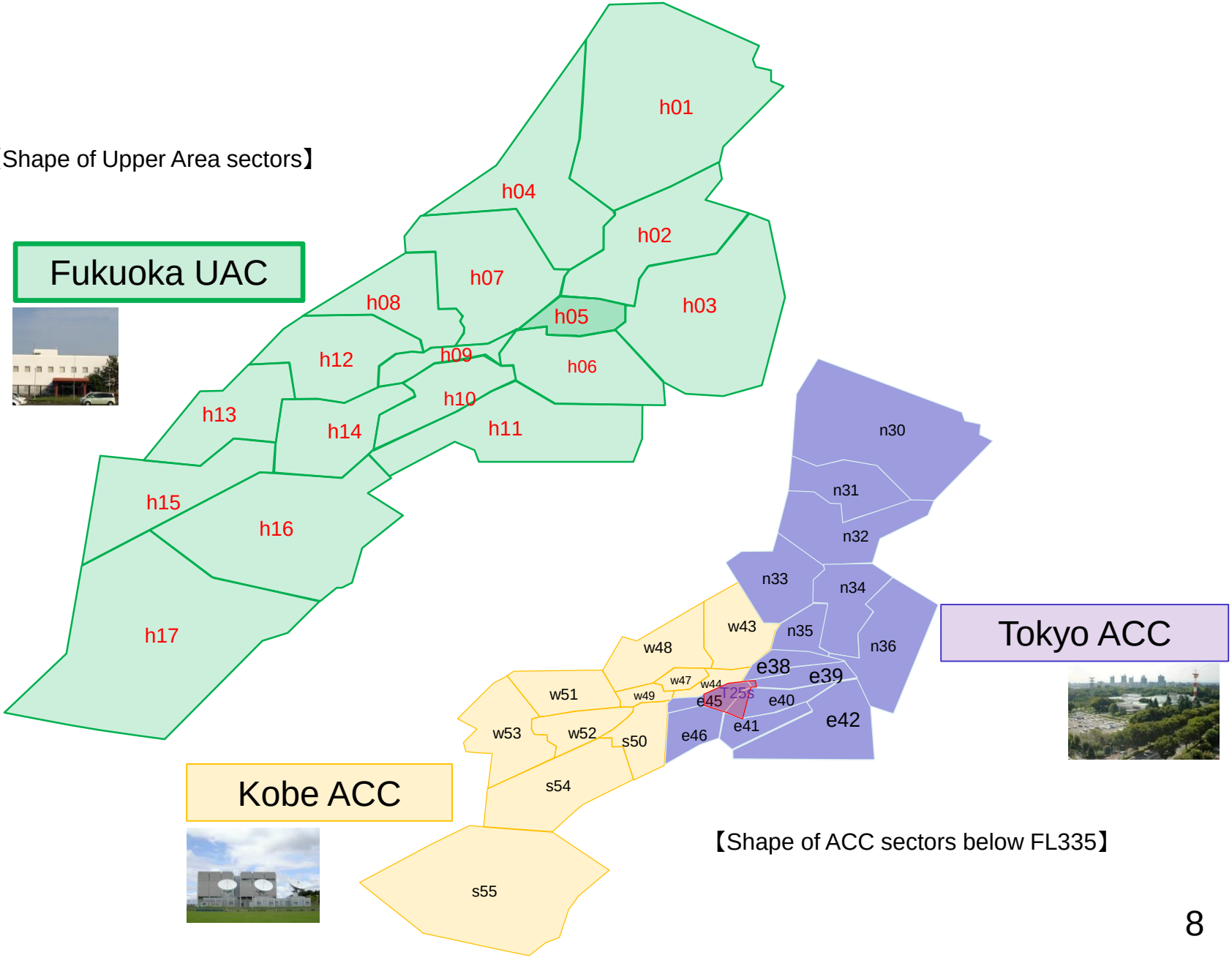


2019



Draft of airspace composition in 2025

【Shape of Upper Area sectors】



【Shape of ACC sectors below FL335】

Thank you !