



PBN IMPLEMENTATION PLAN

**STATE SECRETARIAT OF CIVIL AVIATION
(SSCA)**

CAMBODIA

- **INFORMATION UPDATE:** Regarding the **activities** of the State Secretariat of Civil Aviation (SSCA) for **PBN Plan** and **PBN implementation** in Phnom Penh FIR.

WHY GO to PBN?

1. SAFETY AND HARMONIZATION.

- ICAO Asia/Pacific Air Navigation Planning and Implementation Regional Group, APANPIRG, adopted several conclusions to promote the uses of Performance-Based Navigation.

2. IMPROVEMENT OF AIRSPACE COMPACITY

- PBN as the navigation elements of CNS/ATM systems and Global navigation Satellite systems **Safely provide** Accurate, reliable and seamless position determination and navigation capabilities to airspace users.

- Introduction of PBN specifications and GNSS technology facilitate more efficient use of airspace and more flexibility for procedure design. They cooperatively result in improved safety , access, capacity, predictability, operational

3. ECONOMY AND ENVIRONMENTAL BENEFITS

- **Time saving** (more directed routes and no step down approach).
- **Noise protection (Get more times to Sleep).**
- **Fuel saving and Reduction of CO2 emission(Get enough O2 to breath for the next new born).**

APPOINTMENT A WORKING TEAM FOR PBN AND GNSS IMPLEMENTATION PROJECT

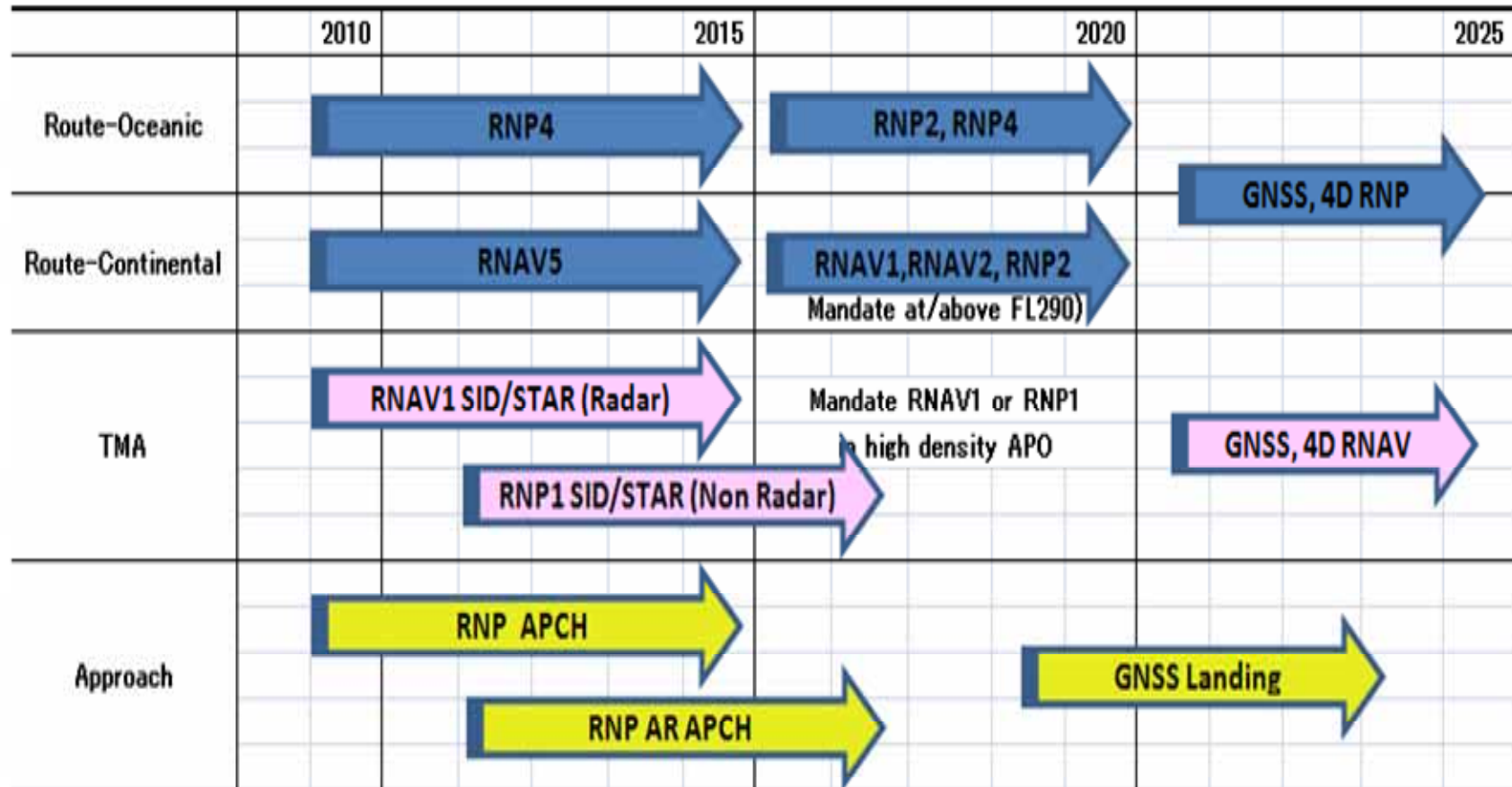
- **Recognizing the benefits of PBN and GNSS implementation The State Secretariat of Civil Aviation (SSCA), Cambodia has set up a working team for studying, planning and implementing PBN.**

- The Working Team is responsible to coordinate, cooperate and assist the Japanese aviation experts, under JICA program , to develop CNS/ATM Master Plan in which the PBN plan is part of it.
- The Working Team is also responsible for developing a policy, implementation plans, and implementation standards for the deployment of PBN and GNSS procedures and operations in Cambodia airspace.
- The draft CNS/ATM Master plan have been finalized and adopted by SSCA on 14 December 2010.

STATUS of PBN IMPLEMENTATION PLAN

PBN Road Map

PBN Roadmap for Cambodia



PBN Application in Cambodia

Between the Year 2010 – 2015

(1) Oceanic Route

RNP4

N891 and R588

(2) Continental Domestic Route

1) RNAV5

W1: Phnom Penh - Siem Reap, R468: Phnom Penh - Ho Chi Minh

M12: Phnom Penh – Vientiane

2) RNAV5

All new routes

3) RNAV5

All other domestic routes as required

(3) TMA

1) RNAV1 SID/STAR for the radar airports,

50% of international airports by 2013, 75% by 2015

(4) Approach

1) RNP APCH with Baro-VNAV in most possible airports,

30% of instrument runways by 2013, 50% by 2015

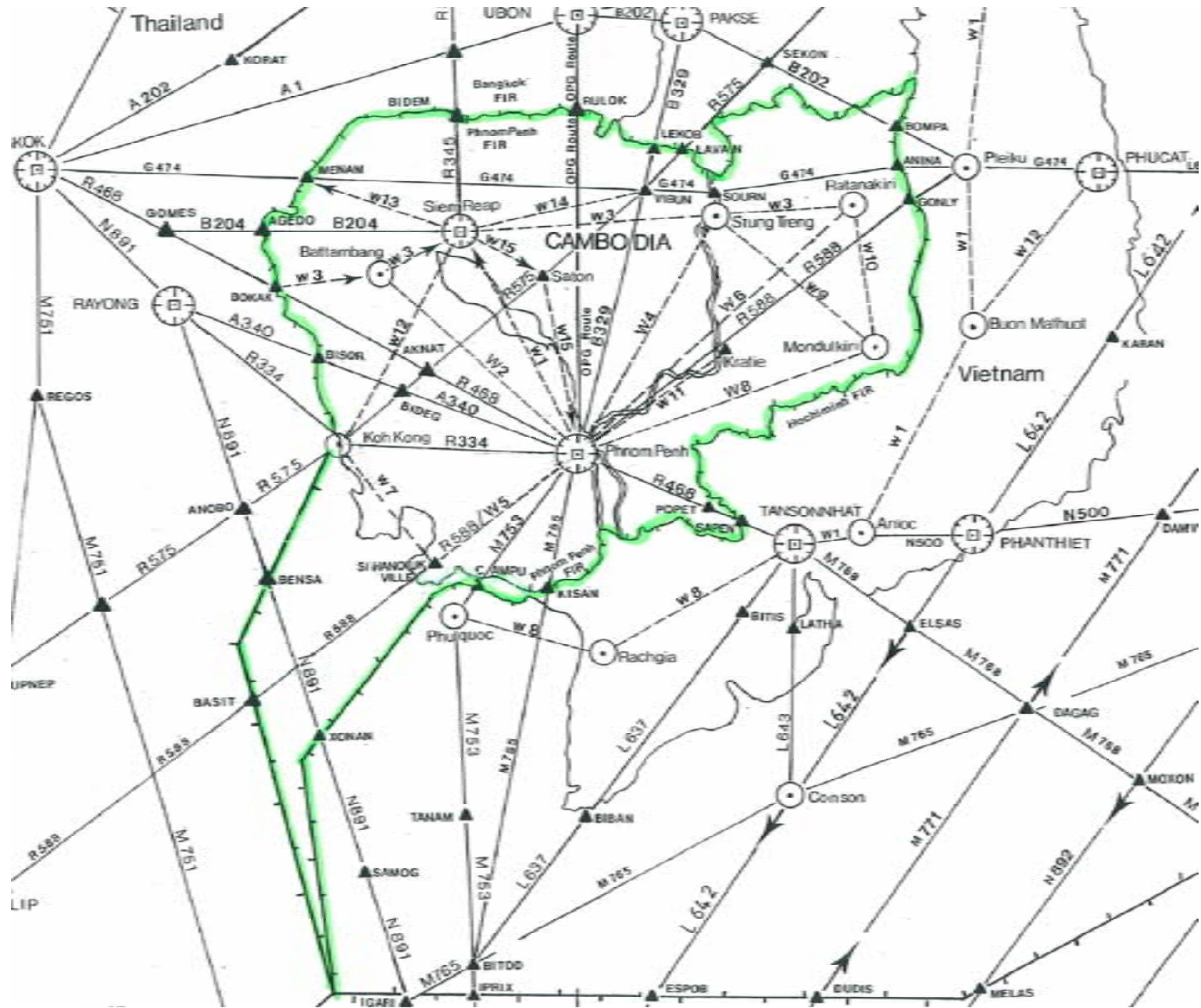
Between the Year 2011 - 2017

(1) TMA

1) Basic RNP1 SID/STAR for the non radar airports

(2) Approach

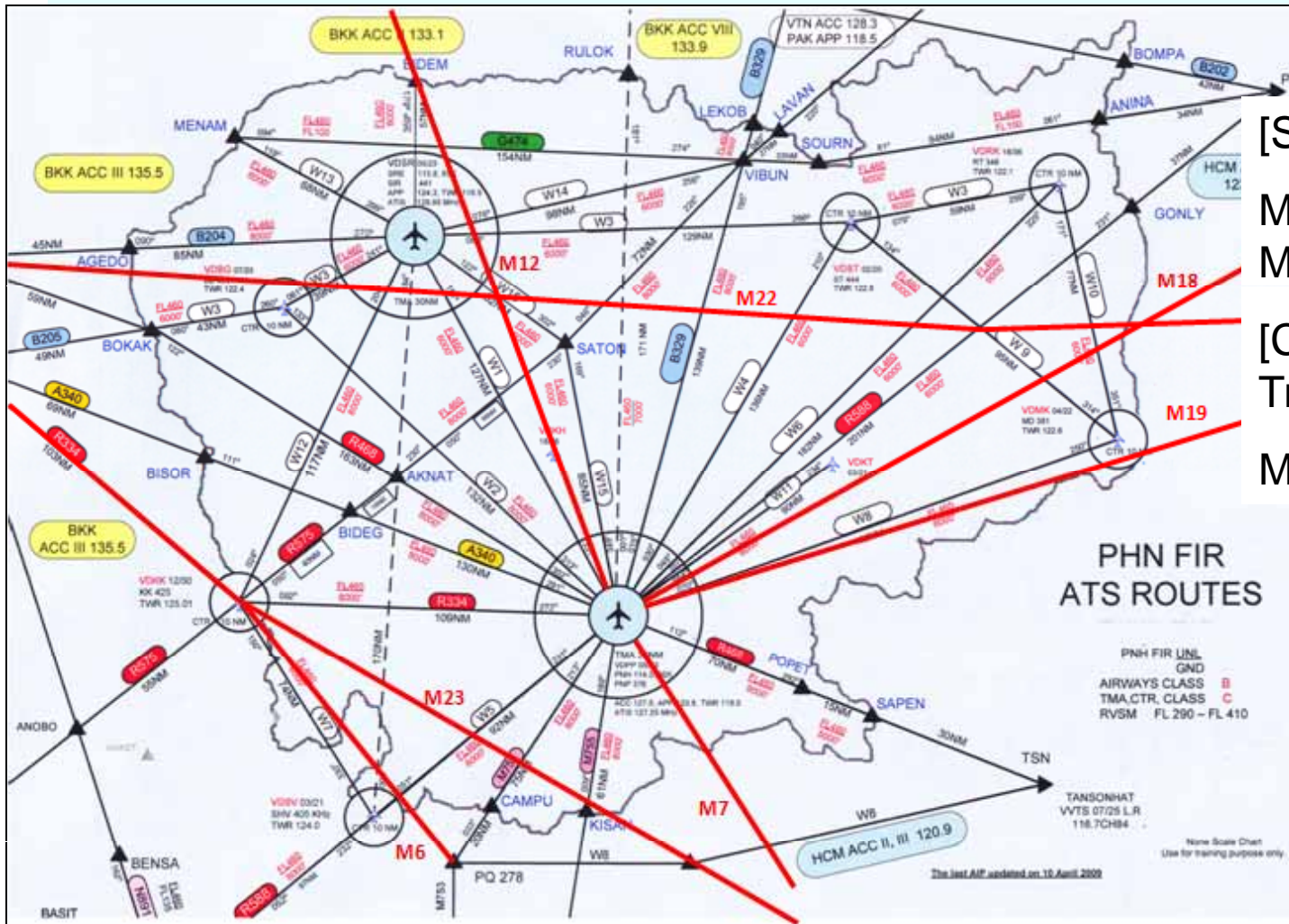
1) RNP AR APCH for the mountainous airport or the airport surrounded by high terrain.



Plan for Air Routes in Cambodia

in Chapter 17

[Air Route Plan in Cambodia (Phnom Penh FIR)]



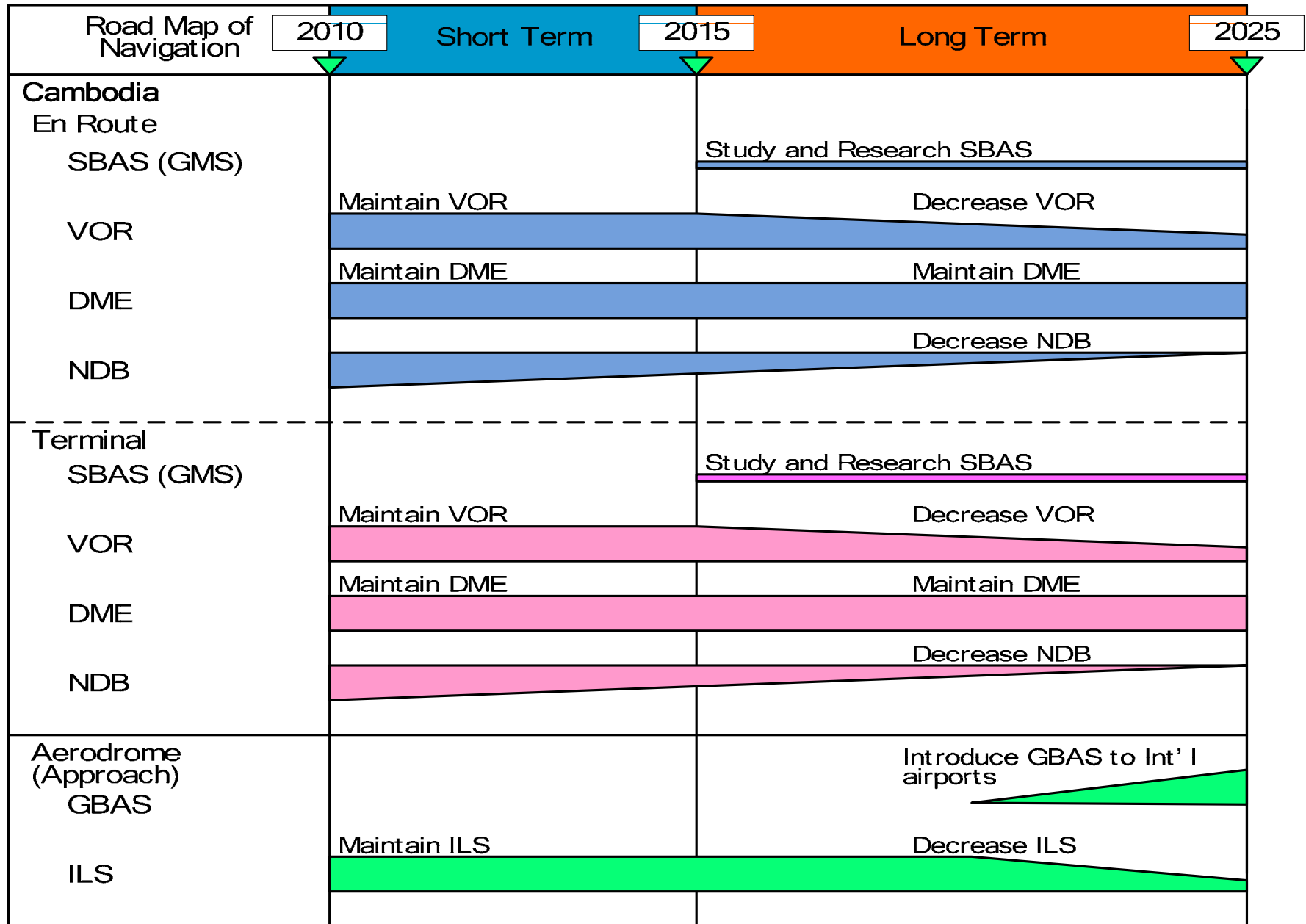
[Short Cut Route]

M6, M7, M12, M18,
M19

[Countermeasure of
Traffic Congestion]

M22, M23

ROAD MAP OF NAVIGATION



IMPLEMENTATION of CNS/ATM MASTER PLAN

After having adoption of Indochina CNS/ATM master plan in 14 December 2010, the implementation plan has been started under JICA project(On 19 Jan 2011 and will be completed by the year 2015).

- PBN training and seminar have been conducted for SSCA'officials, ATC, AIS and other relevant staff.
- Flight Procedure Design office for Indochina country will be established in Hanoi, Vietnam.
- Two conventional flight procedure designers will be sent for comprehensive PBN procedure designs courses in Hanoi.
- WGS 84 Coordinates workshop will conducted in PhnomPenh next month.
- WGS 84 coordinates for all international airports will be resurveyed by JICA and Cambodian experts.

PBN Implementation Schedule

	2010	2011	2012	2013	2014	2015	2016
Training of PBN procedure	▶						
Establish Project team (QA)	▶						
Establishment of QA system		▶					
Review & approval procedure			▶				
Public notification & operation			▶				
Procedure design tool (in Vietnam)	▶						

CONCLUSION:

- For global safety,
- For regional/global PBN implementation and harmonization , **CAMBODIA WILL NOT STAY FAR BEHIND.**

THANK YOU