INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA AND PACIFIC OFFICE

REPORT OF THE THIRD MEETING OF THE SOUTHEAST ASIA ROUTE REVIEW TASK FORCE (SEA-RR/TF/3)

BANGKOK, THAILAND, 24 – 27 AUGUST 2010

The views expressed in this Report should be taken as those of the Meeting and not the Organization

Approved by the Meeting
and published by the ICAO Asia and Pacific Office, Bangkok

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1.1 Introduction

1.1.1 The Third Meeting of the Southeast Asia Route Review Task Force (SEA-RR/TF/3) was held at the ICAO Asia and Pacific Regional Office, Bangkok, Thailand from 24 to 27 August 2010.

1.2 Officers, Secretariat and Participants

1.2.1 Due to an urgent obligation, Mr. Peter Rabôt, Head (Air Navigation Services Safety Office), from the Civil Aviation Authority of Singapore (CAAS) sent an apology for being unable to attend the SEA-RR/TF/3 meeting. The meeting subsequently appointed Mr. Lucius Wai-Chuen Fan from Hong Kong China to act as Chairman for this meeting. Mr. John E. Richardson, ATM Expert, ICAO Asia and Pacific Office, acted as Secretary to the Meeting.

1.2.2 Forty-two (42) participants from Cambodia, China, Hong Kong China, Indonesia, Lao PDR, Malaysia, Philippines, Singapore, Thailand, Viet Nam, IATA and IFATCA attended the meeting. A list of participants is in **Appendix A.**

1.3 Opening of the Meeting

1.3.1 The Acting Chairman, Mr. Lucius Wai-chuen Fan, welcomed all participants to the third meeting of the Southeast Asia Route Review Task Force. He emphasized the importance of this meeting dealing with a route review and other ancillary items connected to the main subject of the Task Force. He thanked all the large number of delegates for their attendance, which in his opinion, justified the ongoing work of the task force.

1.3.2 On behalf of Mr. Mokhtar A. Awan, Regional Director, ICAO Asia and Pacific Regional Office, Mr. John Richardson, ATM Expert and Secretary for the meeting, welcomed all participants from States and International Organizations to the third meeting of the Southeast Asia Route Review Task Force.

1.3.3 He emphasized that a harmonious approach was required to ensure that the meeting looked at the area under consideration as a whole, in order to capture the opportunities by using all the tools available. He also encouraged the meeting to work together to improve the efficiencies across FIR boundaries. Mr. Richardson was of the view that, in looking at the overall gains in the methodology of the strategic outcomes, the benefits derived will far outweigh any small perceived loss to the overall outcome and performance to both users and providers alike.

1.3.4 Mr. Richardson gave sincere thanks to all States involved for the time and effort in gathering the statistical route data requested. This time consuming work would give all of us a very good picture in real time of the present traffic flows over each 24 hour period and where we should focus for the planning and implementation of changes, to cope with the forecast traffic growth in this area.

1.3.5 He gave special thanks to Singapore and Thailand who accepted the task of gathering all of this data together and then translating this large volume into a recognizable data base for use in the various initiatives to improve the overall traffic flow within the Southeast Asia area.

1.4 **Documentation and Working Language**

1.4.1 The meeting was conducted in English. All meeting documentation was in English.

1.4.2 Ten (10) working papers and one (01) information paper were presented to the meeting. A list of the papers is at **Appendix B**.

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Agenda Item 1: Adoption of Agenda

1.1 The meeting confirmed the following agenda:

Agenda Item 1: Adoption of Provisional Agenda

Agenda item 2: Review Outcomes of Related Meetings

Agenda item 3: Review of ADS/CPDLC Implementation

Agenda item 4: Review Current Operations across South-East Asia and Identify Problem Areas

Agenda item 5: Implementation of the New CNS/ATM Systems in the Region

Agenda Item 6: ATS Route Development

Agenda Item 7: Develop a Coordinated Plan for Implementation of Actions Agreed by the Meeting

Agenda Item 8: Any other business

Agenda Item 9: Date and Venue for the Next Meeting

Agenda Item 2: Review Outcomes of Related Meetings

Summary of major items discussed at previous Task Force Meetings

Enhancement to operations on other SCS ATS routes

2.1 The meeting was reminded that the work of the task force could be achieved in two ways. One option was to conduct a review of the existing routes and identify those that could be enhanced to improve efficiency. The second option would be to complete a full review of the routes in this sub- region. Noting that positive work had already established new procedures on L642 an M771, the Task Force was encouraged to spread this initiative to other South China Sea routes to the east.

2.2 The Philippines advised that they will soon be in a position to apply CPDLC procedures to aircraft within the Manila FIR, which will enhance procedures and reduce longitudinal spacing between suitably equipped aircraft operating on these routes.

Restrictions applied within the Taipei FIR

2.3 With regard to flow restrictions being applied within the Taipei FIR due to monthly maintenance on their radar facilities, especially with regard to aircraft operating on A1/G86, The Taipei ATC authorities had moved the maintenance period to an earlier time so as to minimize the impact on other ACCs and aircraft planning to fly through this airspace.

The Principle of Unidirectional Routing in the Southeast Asia Area

2.4 The use of unidirectional routing in the Southeast Asia Area where appropriate was extensively discussed. As an example, it was noted that, with respect to RNAV routes L642 and M771, this methodology has already been put in place. One of the primary aims of the task force is to complete the work of RNP 10 Separation, both lateral and longitudinal on other SCS routes to the east of these mentioned two routes. It would therefore seem, from a standardization point of view, to treat these routes in a similar fashion.

2.5 It was finally agreed that, where possible and feasible to do so, from a safety and operational justification point of view, unidirectional routing should be considered when devising any new route pattern or structure in the area under consideration.

Unidirectional Crossing Routes

2.6 The meeting recalled that the primary traffic flow which connects major airports in the northeast/southwest portions of the SCS and beyond are crossed by several ATS routes which are presently bidirectional and are mostly of a shorter distance than the major traffic flows.

2.7 The meeting was advised that the establishment of pairs of unidirectional routes to replace each of the present bidirectional crossing routes should be considered. Each pair of routes would diverge within radar coverage to a lateral spacing of 60NM prior to crossing the primary traffic flow, then once separated with the primary flow and under radar coverage, converge back to a single route at a point to be defined.

2.8 The following crossing routes would be appropriate candidates to apply this procedure:

a) M768 Brunei to TSN
b) L628 Manila to PCA
c) A461 Manila to Hong Kong
d) B462/ B348 Manila to Taipei

2.9 These routes described above are considered as the most used routes crossing the major traffic flow in the South China Sea airspace.

2.10 The Philippines advised the meeting that they supported the establishment of a unidirectional crossing route structure which will allow airspace users more access to optimum flight levels and giving ATC more flexibility in selecting alternative flight levels as well as environmental considerations through reduced carbon emissions.

2.11 The meeting noted that, by using the same levels for each pair of crossing routes, it would allow some of the present levels used to be transferred to the primary routes to cope for the expected growth of aircraft on these major traffic flows. It was agreed that further discussions on this initiative would be continued at the next meeting of the Task Force.

Statistical Aircraft Data Collection and Analysis

2.12 The meeting agreed that a thorough analysis of aircraft data was required to ensure that proposals for an appropriate route review is based on updated data in regards to present and forecast traffic operating in the area under consideration.

2.13 Notwithstanding that a Traffic Data Sample (TDS) for RVSM monitoring has been presently agreed to for the month of December each year, a more expansive data collection covering many aspects should also be undertaken when a major route review is contemplated in an area like South East Asia. For example, there are certain factors which needs to be assessed across a broader timeframe such as:

a) Seasonal figures;
b) Identifying busy periods, both on the major routes and crossing routes; and,
c) The number of FANS equipped aircraft operating in the area.

Establishment of a Data Statistics and Analysis Working Group

2.14 The meeting recalled that agreement was reached to establish a small Data Statistics and Analysis Working Group. Each State would provide a contact point to coordinate the data collection process, In addition, all States were invited to participate in this working group. It was further accepted that Thailand and Singapore would be responsible for the collation and analysis of the data.

Realignment of L642 and M771

2.15 Consideration was given to realign segments of these present two RNAV RNP 10-50 NM separation routes L642 and M771 between Ho Chi Minh FIR and Hong Kong FIR, westwards of their present position so that both routes could be considered as RNAV 5 routes under full radar and VHF coverage. If this initiative was successful, it was noted that ATS route A1 may also require realignment.

Establishment of Small Working Groups

2.16 Where a particular subject can be separated from most other items, a small working group (SWG) consisting of States concerned, along with international organizations where required, could discuss the work required in detail and when completed to satisfaction, submit the consensus to the plenary meeting for final analysis agreement.

2.17 There was general agreement to this proven methodology as an effective way in moving forward on many of the issues which need to be addressed in the overall project.

2.18 It was also considered that there were several other questions on other route proposals outside the main area of the major traffic flow and crossing routes, which could be addressed in this same manner. It therefore was agreed that the concept of SWGs could be an effective tool in bring particular States and organizations together to find suitable answers and solutions on these subjects.

2.19 Taking this into consideration, it was decided to formulate 3 Small Working groups with specific tasks :

a) SWG/1 - *Data Collection and Analysis*: This SWG has already commenced their work

b) SWG/2 - Improvements to the Major Traffic Flow as well as proposed modifications to other routes outside the Major Traffic Flow.

c) SWG/3 – Establish of unidirectional RNAV routes crossing the Major Traffic Flow.

2.20 Finally, a work programme was suggested which covered the following areas:

a) Introduction of RNP 10 horizontal separation where applicable;

b) Unidirectional RNAV routes on tracks crossing the major traffic flow SW/NE;

c) Unidirectional routes between Bangkok and Hong Kong including matters which need to be addressed in the strategic plan for this proposal to successfully proceed;

d) Data collection and analysis on most project items to ensure that qualified data indicates a reason to proceed;

e) Necessary safety related issues which are required to be addressed before implementation; and,

f) Realistic target dates to complete all projects within the overall framework of the SEA-RR/Task Force.

2.21 IATA commented that it was encouraged by the initiatives which have been discussed at previous meeting of the task force, especially in the following areas:

a) the possible realignment of particular routes to bring them into range of radar facilities to enable changes to RNAV 5 procedures. This was in accordance with the ICAO Plan for increased efficiency to aircraft operations;

b) consideration of the route structure based on capability rather than geographic issues;

2.22 The meeting noted that the ATM/AIS/SAR/SG/20 meeting and confirmed by ICAOHQs, endorsed the above principles.

Agenda Item 3: Review of ADS/CPDLC Implementation

3.1 The Philippines advised the meeting that they were continuing with their implementation programme for the establishment of ADS-C/CPDLC equipment into the Manila ACC. Progress on this project has been favourable.

Agenda Item 4: Review Current Operations across South-East Asia and Identify Problem Areas

Sub-Regional SSR Radar, VHF and ADS-B Coverage Charts

4.1 Thailand advised the meeting that, during discussions at the ATM/AIS/SAR/SG/20 meeting, there was general agreement to use a combined sub-regional SSR Radar, VHF and ADS-B Chart showing radar and VHF coverage at FL290 in a standard format for the purpose of future planning.

4.2 It was noted that, SSR radar coordinates and theoretical coverage diagrams are currently available through States' Aeronautical Information Publication (AIP), namely in section ENR1.6 Radar Services and Procedures.

4.3 Viet Nam advised the meeting that, as a radar coverage chart had already been accepted by the SEACG meeting. It was therefore decided to use this chart which is at **Appendix C** to the Report.

4.4 The meeting was also advised that another important piece of information which would be of benefit for planning purposes, concerns VHF and potential ADS-B sites including range and coverage of communications. It was observed by the meeting that this information is intended to be used exclusively for regional or sub regional ATM planning only, under the auspices of ICAO.

Data Collection and Analysis

4.5 The meeting recalled that, at the SEA-RR/TF/1 meeting, it was decided to establish Small Working Groups (SWGs) to concentrate on particular specialised issues and to report back to the plenary meeting with recommendations and actions. SWG/1 was the data collection and analysis group comprising Singapore and Thailand. This Group had been tasked to collect and analysis traffic sampling data submitted by the States. Every month, States were to collect one week of traffic data using the third Sunday of every month as the start point. The SWG/1 had envisaged a presentation at SEA-RR/TF 3 meeting using 6 months of the collected data to show traffic density of the routes in the SEA region, highlighting intersections with high volume of traffic and potential increase in certain sectors or city-pairs.

4.6 However, some States had not submitted their traffic data for all months required. This slowed down the progress of the SWG/1 in data analysis. States are strongly encouraged to submit the traffic sampling data to the SWG/1 to enable their analysis of the ATS routes in the Southeast Asia (SEA) areas in totality in the future.

4.7 In order to progress the work of the Task Force, the SWG/1 decided to use the incomplete information it received and assemble it into a presentation on the analysis of the routes within the SEA areas. It is presented in **Appendix D** to the Report. The methodology in calculations was explained in the SWG/1 presentation. States were informed on the proper data collection process that may simplify their collection process and help the SWG/1 in their preparation of collected data for analysis. The meeting further suggested that the Small Working Group will also consider data integrity in their analysis.

4.8 The traffic data collected was able to identify routes with high traffic volumes, list down city pairs in the region with high traffic counts, and the traffic patterns of routes in the region using hourly intervals. Owing to the limited data available, the SWG/1 could only focus on a small portion of airspace for analysis. However, this exercise served as an example of how States could, from such analysis, better utilise their airspace by adopting suitable measures to increase capacity and efficiency.

4.9 During the presentation on data collection, it was noted that not all fields were completed, with some items such as aircraft registration missing. There also appeared to be difficulties collecting ETD and PBN data. Taking this into consideration, the meeting proposed that the airlines may be able to provide this information directly. IATA informed the meeting that this was not a practical solution and would be extremely difficult to manage. It was considered by IATA that PBN data could be provided through State regulators however, it must be recognized that this would simply be PBN approvals and did not accurately reflect actual capability. IATA therefore proposed that a specific address could be added to the flight planning requirements of airlines. This information

could then be cross referenced with the data provided by States. It was finally agreed that this proposal would be investigated by the SWG at the next meeting of the task Force.

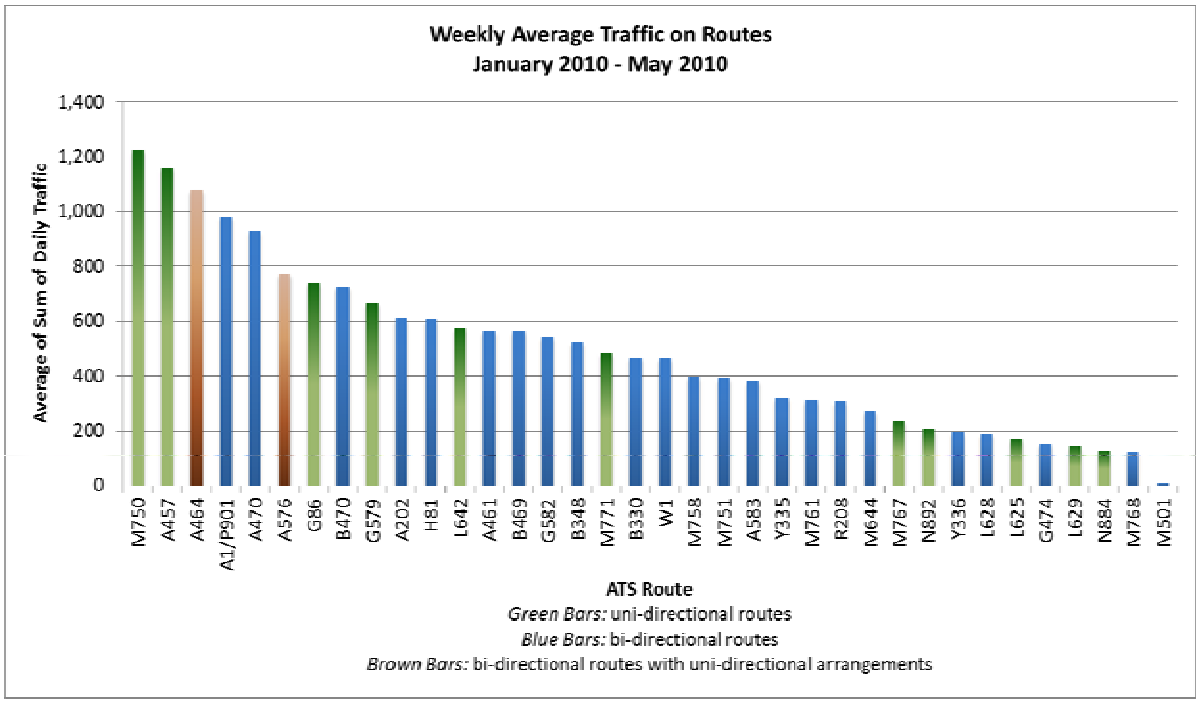
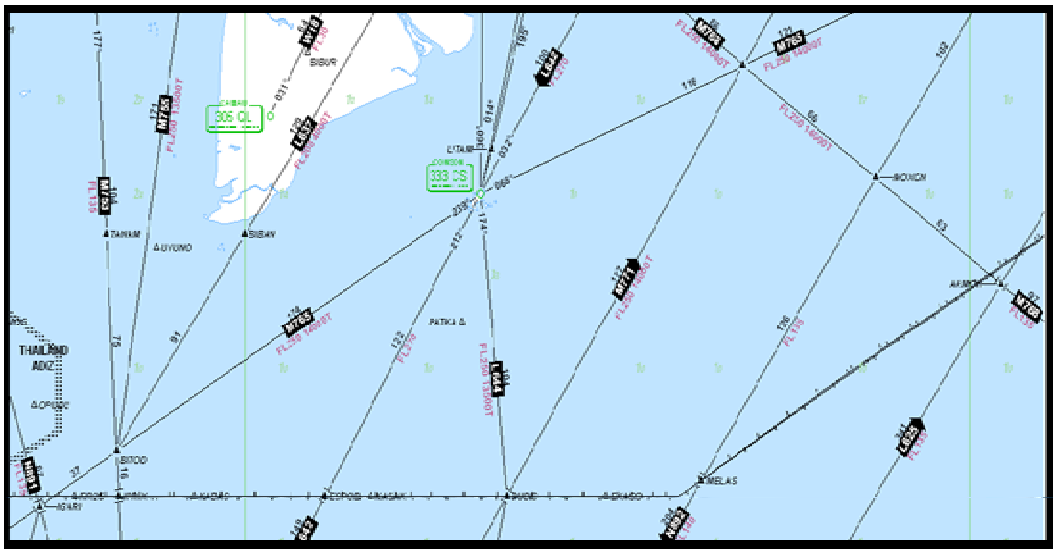


Figure 1: Weekly Average Traffic on ATS Routes from January 2010 – May 2010 Data

4.10 From Figure 1 above, we can see a representation of the various routes in the region with its associated traffic counts. The figure also showed the route arrangement, whether it is uni-directional or bi-directional. The traffic count could be represented in hourly movement data chart as shown in Figure 2 below (Using traffic data provided by Viet Nam in February 2010).



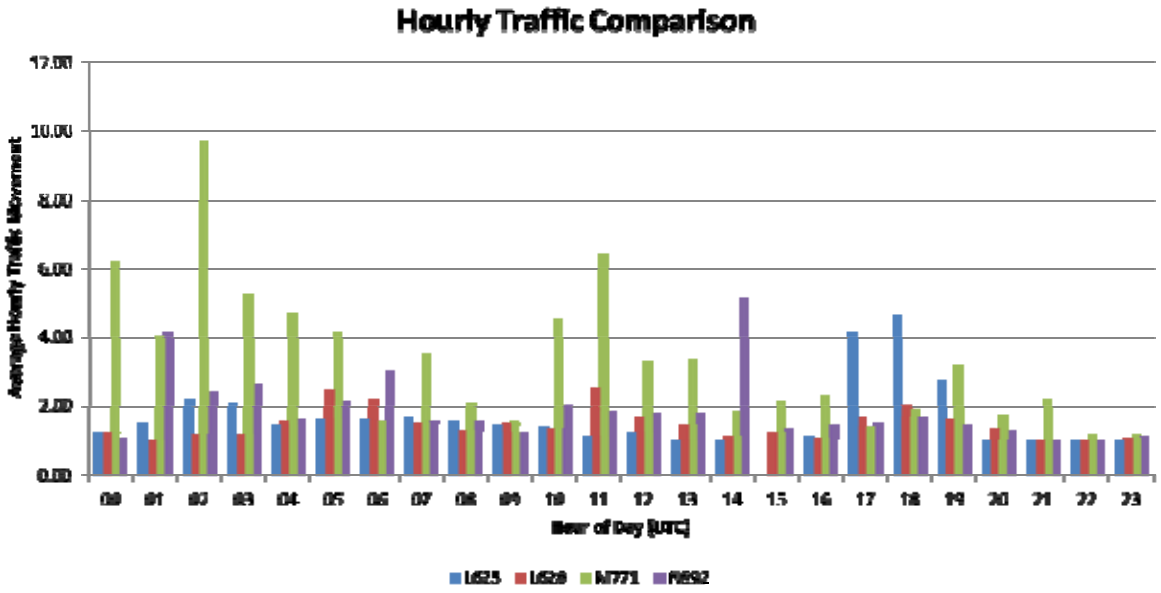


Figure 2: Sample Hourly Traffic Count at Intersection between M768, L642, M771, N892 and L625 based on Ho Chi Minh FIR (VVTS) TSD in 21 – 27 February 2010 for M768 traffic at AKMON, L642 at ESPOB, M771 at DUDIS, N892 at MELAS and L625 traffic at AKMON

4.11 From Figure 2, States could have a graphical representation of the traffic flow within a portion of their airspace by the hour. From this, States could determine the most appropriate measures to improve the efficiency and capacity in the portion of airspace.

4.12 All member States were provided with a copy of the data files on CD-ROMs for reference and study.

Agenda Item 5: Implementation of the New CNS/ATM Systems in the Region

5.1 *There was no discussion under this agenda item.*

Agenda Item 6: ATS Route Development

Proposed New RNAV Route M752

6.1 The meeting noted that the Terms of Reference of the SEA-RR/TF were to undertake a review of ATS routes in the South China Sea area and relevant surrounding areas. Thailand took the opportunity to present a proposal to establish a new RNAV route, M752 between Bangkok and Singapore FIRs to enhance the traffic flow between Bangkok and Australia. This route is presently listed in the ATS route catalogue, Chapter 5: Part B: Future Route Requirements, under SEA3.

6.2 The meeting recalled that the Asia/Pacific Region ATS Route Catalogue has been published to facilitate the amendment process and keep track of route implementation and future requirements, with the objective of providing up-to-date information on route developments, as a supplement to the Basic Air Navigation Plan (BANP).

6.3 The meeting observed that the ATS route name SEA3 has been proposed by IATA to be established between BUT/N06 56.0E102 51.0 to ENREP to support Bangkok/Australia city pairs. Thailand advised the meeting that they had undertaken the necessary steps to coordinate with the various concerned parties to seek agreement for the establishment of this proposed ATS route.

6.4 Part of this coordination process within the Bangkok FIR concerned national security matters regarding various reservation areas used for many activities. This has all been taken into account to enhance the airspace for the benefit of aviation. The ATS route designator M752 was selected using the prescribed ICAO procedures for the allocation of route designators. Details of M752 are shown in **Appendix E** to this Report. The route is based on RNAV5 capability and will be managed in a radar environment within the Bangkok FIR.

6.5 While harmonization of PBN navigation specification and separation standards is preferred, other States affected by the new RNAV route may choose to apply another type of RNAV capability according to their policy in portions outside the Bangkok FIR.

Proposed ATS Coordination Procedure

6.6 The meeting will recall that the route structure in the SCS is mostly based on RNP10 specifications. The meeting was advised that Thailand is considering applying 10 minutes or 80NM MNT longitudinal separation for southbound traffic for continuity of separation and reduced ATS coordination with the adjacent ATS unit(s). This matter will depend on further discussions with States concerned.

6.7 The meeting also noted that the application of No-PDC arrangement has been applied in this area. Thailand is aware of the situation and has taken into account the adjacent ATS route N891 in regard to No-PDC arrangement and coordination procedures. With regard to longitudinal spacing the ATS route M752 and N891 will be treated as a single ATS route since both routes merge at ENREP. Further coordination and agreement will be required with other States affected by this new RNAV route.

6.8 In response to Thailand's proposal for M752, Singapore shared with the meeting its concern that the proposed new route may have an adverse impact on current capacity and efficiency for flights between Bangkok and Australia/New Zealand. In response, Thailand advised the meeting that they will coordinate with affected States on their concerns in an endeavour to arrange a suitable solution.

Civil/Military Coordination

6.9 The meeting was informed that portions of the RNAV route M752 pass through Thai military airspace and that continuing positive coordination with military units is in progress to revise the structure of these affected military airspace with the intention to eliminate or reduce operational constraints on aircraft operating on this new route M752 within the Bangkok FIR.

Implementation Considerations

6.10 Recognizing the need for further coordination with military and other States concerned, Thailand suggested that an implementation date in February 2011 may be achievable.

Proposed upgrade of ATS routes to RNAV Route Classification

6.11 The meeting noted that most new routes which have been incorporated into the present route structure have been designated as RNAV classification. It was therefore considered appropriate to look at the current route structure and identify where some of the well known and often used ATS routes could also be suitable to change to RNAV. The meeting was also invited to look at some classified Domestic routes which may be suitable to be upgraded to RNAV classification.

6.12 The meeting was advised that, as we strive to increase efficiencies in the handling of international air traffic in this Asia and Pacific region, the route classification is significantly important so as to permit aircraft with RNAV capability to be longitudinally spaced closer together which in turn can allow operational benefits to providers and users of the ATS service with consequential costs and environmental savings.

6.13 The meeting observed that most aircraft flying on these routes have the required equipment on board and are, or could be certified for RNAV operations. Some of the present routes, especially routes which are being used for long-haul operations would qualify for RNAV and gain consequential improvements in operational performance.

6.14 The meeting was invited to note that, by changing to RNAV classification, a likely benefit is the reduction of longitudinal spacing between two in-trail aircraft at the same level from 10 minutes (~80NM) longitudinal to 50NM. This would require Direct Controller-Pilot Communications (DCPC) which can be satisfied by Controller- Pilot Data Link Communications (CPDLC), during the period where aircraft were being controlled using this separation standard.

6.15 It was also mentioned that there are many such ATS routes suitable for change, that continue outside the area under discussion by the task force. If agreement for change includes these particular ATS routes, the consent should be noted and this information submitted to appropriate ICAO meetings so that a harmonized approach of the whole ATS route be achieved.

6.16 It was decided by the meeting to use the agreed methodology of a Small Working Group (SWG/2) to look further into this subject. The results of the SWG meeting are shown in **Appendix F** to the Report.

Viet Nam ATS Route Implementation and Proposal for New Routes

6.17 Viet Nam provided the meeting with information on the status of established and revision of ATS routes within Ha Noi and Ho Chi Minh FIRs. In addition, a proposal was put forward to the meeting to consider new ATS routes in the area and proposed coordinated actions to be taken.

6.18 The meeting was advised that in 2009, the Civil Aviation Administration of Vietnam (CAAV) developed a comprehensive Plan for establishing and revising both domestic and international ATS routes. These routes were aimed at reducing flight distance and time as well as facilitating flight and ATC operations. CAAV highly appreciates the close coordination and assistance made by ICAO Regional Office, Lao DCA, SSCA, CAAS, CAAC and other Civil Aviation Authorities concerned in this process.

6.19 Based on the ATM coordination meeting between CAAV and Lao DCA, the meeting noted that two new international ATS/RNAV routes, B214 NASAN – LADON – AKSAG (serving traffic between Ha Noi and Europe), and the extension of ATS route B329 from PAKSE to VILAO – NAMHA (serving traffic between Ha Noi and Phnom Penh) have been implemented since the end of January 2010.

6.20 It was also observed that a new RNAV route Q15 Cam Ranh – MESOX within Ho Chi Minh FIR (serving traffic between Ho Chi Minh City and Northeast Asia as well as for future international traffic to/from Cam Ranh airport) as well as an extension of ATS route G221 from BUNTA to Phu Cat (within Ho Chi Minh FIR serving traffic between Ho Chi Minh City/Kuala Lumpur and Hong Kong (China)/Northeast Asia and for future traffic between Ho Chi Minh City and Hainan island) had been implemented since March 2010. The ATS/RNAV routes W2, A206, B468, M771 have been revised by supplementing Compulsory/Non-Compulsory reporting points and re-alignment of the routes.

6.21 At an ATM coordination meeting between CAAV and SSCA, it was agreed to implement two new ATS route R213 Can Tho – VOR/DME Phnom Penh (serving future traffic between Can Tho City and Phnom Penh/Bangkok/Vientiane) and an extension of ATS route R334 Bangkok – Koh Kong to Shihanoukville and Phu Quoc (serving future traffic between these locations). These initiatives will be implemented from 23 September 2010.

ATS routes agreed in-principle to be implemented

6.22 The meeting noted that a beneficial ATM coordination mechanism has already been established between China and Viet Nam producing substantial benefits to both sides. By this mechanism, China and Viet Nam are cooperating closely to optimize the ATS routes and enhance safety and efficiency of ATS.

6.23 It was noted by the meeting that an ATM coordination meeting between CAAV and CAAS was convened in February 2010. The new unidirectional RNAV route M756 ENREP - Tan Son Nhat (serving traffic between Singapore and Ho Chi Minh City as well as future traffic to Can Tho City) was agreed. The target date of implementation will be defined after the operational route assessment by CAAV takes place.

6.24 The meeting was further advised that, at the request of SSCA, a proposed new route/segment serving traffic between Phnom Penh and Northeast Asia within Ho Chi Minh FIR was studied by CAAV in March 2010. The final solution would be made in conjunction with study on route/corridor to/from Chu Lai airport which is planned to be upgraded to international airport status in the near future. The new ATS routes for future traffic between Phnom Penh/Siem Riep and Da Lat (in Highland of Viet Nam) will also be considered by CAAV and SSCA.

Viet Nam Proposals for New ATS Routes

6.25 The meeting was informed that, in order to reduce flight distance, CAAV would like to propose the following new ATS routes:

a) Siem Riep – UBON – VILAO within Phnom Penh, Bangkok and Vientiane FIRs serving traffic between Ha Noi and Siem Riep.

b) POPET - Siem Riep within Phnom Penh FIR serving traffic between Ho Chi Minh City and Siem Riep

d) LPB – CMA-BGO, NAN-TATEL or any other suitable option within Bangkok and Yangon FIRs serving traffic between Hanoi and Yangon.

6.26 With regard to the proposals by Viet Nam in para 6.24 above, Thailand advised that they would study all these proposals mentioned in **Appendix G** to the Report which also included a new entry/exit point into the Yangon FIR. Each proposal requires coordination with Thai Military authorities due to the many military areas around Chiang Mai and in proximity to the Thai/Myanmar and Thai/Cambodia borders. Progress on coordination with these authorities will be advised to Viet Nam when available.

Unidirectional Crossing Routes in the South China Sea

6.27 The meeting noted that previous meetings of the task force have discussed this issue with no clear arrangement for change yet to be confirmed. It was recalled that 4 specific crossing routes had been previously mentioned for consideration in the establishment of parallel pairs of unidirectional routes crossing the major traffic flow, to replace the existing single bidirectional routes which are presently in place. These are:

a) M768 Brunei to TSN
b) L628 Manila to PCA
c) A461 Manila to Hong Kong
d) B462/ B348 Manila to Taipei

6.28 The meeting was advised that, whatever changes are considered, the unidirectional pairs should commence at a single point which may be the departure airport in many instances, then diverging to a lateral spacing of 50 to 60 NM, depending on future requirements regarding RNP4 capability. They would then parallel each other prior to crossing the primary traffic flow and once clear of that flow, commence convergence back to a single route. This last process would be within surveillance coverage.

6.29 Another consideration to take into account would be whether the longitudinal spacing on these parallel routes should be 80NM or 50NM, depending on CPDLC/DCPC ability. This could vary depending on which pair of crossing routes is being considered.

6.30 The meeting was advised that, when looking at the specifics of each pair of routes, it should evaluate whether the subject pair of routes would be designed using the present route as one of the routes and adding another route either left or right, or designing 2 new routes and deleting the present route altogether. Factors to be taken into consideration should include:

a) Other routes in close proximity to the new routes which may mean positioning the new route(s) to remain clear of another published ATS route;

b) Radar surveillance capability with regard to proposed changes;

c) Benefits and efficiencies in the new design of the crossing routes;

d) With the benefits gained on unidirectional crossing routes, sharing of some flight level allocations with the primary route system.

<u>Establishment of a Small Working Group (SWG) to produce the new crossing routes</u>

6.31 The meeting decided to use the agreed methodology and establish a SWG to move forward on this initiative, taking into consideration all the aspects needed when introducing a new route design and structure.

6.32 It is also suggested that the SWG looks at each pair of crossing routes individually as their design may change depending on other issues in each area. Notwithstanding this suggestion, from an operational safety and efficiency point of view, a decision to change the present method of flight level allocation needs to be uniform along all crossing routes in the area under consideration.

6.33 The SWG/1 meeting observed that an analysis of data collected by the Collation and Analysis personnel, gave a clear indication of the traffic disposition and numbers of aircraft operating on the main NW/SE traffic flow compared to the traffic on the crossing routes mentioned above. A copy of these statistics is shown in **Appendix H** to the report.

6.34 An intensive discussion took place on this item with various thoughts brought forward. Notwithstanding some positive comments on the proposal by several States, unfortunately there was no clear agreement on the unidirectional crossing routes proposal at this time. It was finally decided that more time was needed by key parties concerned and that this item should be carried forward until the next meeting of the task force which would give States concerned more time to consider the proposal together with additional data collected to assist the task force in their decision making process.

6.35 China advised that a major objective of a route restructure was to increase the overall capacity of the present system. This can be achieved by both establishment of unidirectional routes and/or the reduction of longitudinal spacing requirement on the present routes. China commented that the initial step to increase capacity should be firstly to study the feasibility of a reduction of longitudinal spacing requirements instead of establishment of new **uni**directional routes. China considered that it was important to identify the best strategy to be used to satisfy the growing demand.

Agenda Item 7: Develop a Coordinated Plan for Implementation of Actions Agreed by the Meeting

7.1 The meeting updated the Task List which is at **Appendix I** to this Report.

Agenda Item 8: Any Other Business

Contingency Plans for Southeast Asia States

8.1 Taking into account the significant numbers of natural disasters which have occurred within the Asia and Pacific Region over the past decades, it was decided that a reminder of State responsibilities in the production of suitable Contingency Plans in association with neighbouring FIRs should be highlighted so that a continued flow of aircraft through the affected area could be achieved, or specific instructions as necessary to divert around the area affected.

8.2 One of the most crucial areas where a sound contingency plan is important, concerns natural disasters. This phenomena could be contained in one FIR or cover multiple FIRs within one State or adjacent States of the affected area.

8.3 Due to the geographic features of many parts of the APAC region, there have been several occasions where the potential for disruption to aviation facilities have taken place. As an example, volcanic disturbances have occurred causing closure of airspace over particular areas. At other times, severe flooding of vast tracks of land has seen many lives lost and economies severely affected as well as mobilization of thousands of people away from the affected area. Another destructive event has been tsunami’s which have caused havoc to many nations over a wide area.

8.4 In this respect, the aviation sector has been fortunate so far in that there has been little disruption to air traffic services. Nevertheless the meeting is reminded that States should be prepared to activate a well established contingency plan to be implemented if this scenario occurs.

8.5 The meeting was reminded that, in light of the longstanding difficulties in Contingency Planning, APANPIRG/16 considered (Conclusion 16/15) that an ICAO Special Implementation Project (SIP) would be a suitable means for facilitating the development of contingency plans. Contingency plans would be developed for a selected State, which could then be used as a model for other States. In addition to addressing the contingency provisions of Annex 11, the SIP would be used to identify and prioritize other contingency factors that could impact the continuity of civil aviation operations, with a view to using the output of the SIP in a workshop or seminar format to assist other States of the Region. The completed model was based on the two Indonesian FIRs and was sent to all APAC States for their guidance in developing their own contingency plans for their airspace concerned.

8.6 In case a State had not received this model, a copy was provided in **Appendix J** to this Report.

8.7 The meeting was further advised that, although circumstances where a State was unable to provide all the services listed in their AIP, this should not generally result in the closure of international airspace. Situations where difficult circumstances were being experienced by a ground unit were always regrettable, however contingency planning should make adequate provision for ongoing operations (including humanitarian operations) by putting in place alternative arrangements that may include assistance from neighbouring States to temporarily provide services in the affected airspace.

8.8 The meeting acknowledged that one of the major thrusts of this contingency plan model dealt with the coordination and cooperation of the neighbouring FIRs. Of major concern was loss of communications by the State directly affected by the disaster and the necessary agreements with other States in assisting aircraft to communicate with another ACC. Another area was the harmonization of ATS routes crossing the FIR boundary with a neighbouring State(s).

8.9 The meeting observed that, in the age of ultra long haul operations whereby a flight was airborne for 15 hours and crossed a large number of FIRs, timely contingency planning arrangements was required to ensure that sudden circumstances, where an airspace or FIR en-route was not able to be used, did not arise.

8.10 It was emphasized to the meeting that on many occasions, to ensure that airlines and the travelling public have minimum disruption during a natural disaster, a contingency plan of one State has the agreed consensus of the neighbouring FIRs, to ensure a productive and successful plan.

8.11 The meeting is also reminded that in this context the provisions of Attachment D to ICAO Annex 11 comprises the primary reference and all States are encouraged to take note of these provisions.

8.12 In discussion these important issues, the follow précis of comments from States is provided below:

Cambodia

8.13 Cambodia advised that they are in the process of preparing their Contingency Plan and will take into consideration the points mentioned in this Report. They are including a section on the complete closure of their ACC. Cambodia also advised that they will seek coordination and cooperation with neighbouring States such as Laos, Thailand and Viet Nam.

Thailand

8.14 Thailand advised that they are considering various scenarios in their Contingency Plan preparations and intend to coordinate with their neighbours during preparation. They are in the final preparation phase and also coordinating with DCA Thailand on this important matter.

Malaysia

8.15 Malaysia advised that they are preparing 2 Contingency Plan for both The Kuala Lumpur FIR and the Kota Kinabalu FIR. Both plans will be coordinated with Singapore and other neighbouring States.

Philippines

8.16 The Philippines have drafted their Contingency Plan based on the Indonesia Model. Thay are now waiting for ratification of the Plan.

Viet Nam

8.17 Viet Nam has taken action to develop their Contingency Plan based on the ICAO version. They have also expanded the CP to include the Approach and Tower components in the Plan. They are also in the process of coordinating with their neighbours as well as flight level allocations with the Singapore ACC.

Singapore

8.18 Singapore has completed extensive coordination with their neighbouring FIRs and is in final stages of harmonizing the contingency plan with Indonesia and Viet Nam. Singapore plans to harmonize the contingency plan in the near future with Malaysia and Philippines.

Indonesia

8.19 Indonesia has developed their Contingency Plan in 2007 under the auspices of the ICAO Special Implementation project (SIP). They intend to meet with Malaysia in October to coordinate and harmonize their CP. Other initiatives include meeting with Australia and other adjacent States. Indonesia has also kindly provided the meeting a copy of draft LOA between Indonesia and neighboring States on contingency plan activation in Appendix XX to this Report.

China

8.20 China advised that they already have a Contingency Provision in place for natural disasters to cover domestic contingencies. They are in receipt of the Indonesian CP and will work on developing an International Model.

Hong Kong China

8.21 Hong Kong China has a draft Contingency Plan based on the ICAO model (Indonesian FIRs) and will continue to work to finalization of the Plan.

8.22 IATA congratulated all States at the meeting in their development of appropriate Contingency Plans. They encouraged States to keep moving forward in the development of these Plans and to communicate clearly with their neighbours, looking at linkages between adjacent FIRs. They also mentioned that in one respect ATFM could be classified as a contingency plan to cope with excessive traffic handling.

Agenda Item 9: Date and Venue for the Next Meeting

9.1 It was proposed and agreed that the next meeting will be over 5 days from 22-26 November 2010.

Closing of the Meeting

9.2 In closing the meeting, the Acting Chairman, Mr. Lucius Wai-chuen Fan thanked all participants for their cooperation and willingness to move forward on this project. He further expressed his appreciation to all participants in accepting him to act as Chairman to this important meeting.

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LIST OF WORKING PAPERS (WPs) AND INFORMATION PAPERS (IPs)

WORKING PAPERS

NUMBER	AGENDA	WORKING PAPERS	PRESENTED BY
WP/1	1	Provisional Agenda	Secretariat
WP/2	7	Update SEA-RR/TF Task List	Secretariat
WP/3	2	Review of SEA-RR/TF/2 Meeting	Secretariat
WP/4	6	Unidirectional crossing Routes in South China Sea area	Secretariat
WP/5	6	Changing ATS Routes to RNAV	Secretariat
WP/6	8	Contingency Plans for Southeast Asia States	Secretariat
WP/7	6	ATS Route Implementation and Proposals for New Routes	Viet Nam
WP/8	6	Proposed New ATS Route M752	Thailand
WP/9	4	Sub-Regional SSR Radar, VHF and ADS-B Coverage	Thailand
WP/10	4	Traffic Data Analysis by the Data Collection and Analysis Small Working Group 1 (SWG/1)	Singapore Thailand

INFORMATION PAPERS

NUMBER	AGENDA	INFORMATION PAPERS	PRESENTED BY
IP/1	-	List of Working Papers (WPs) and Information Papers (IPs)	Secretariat

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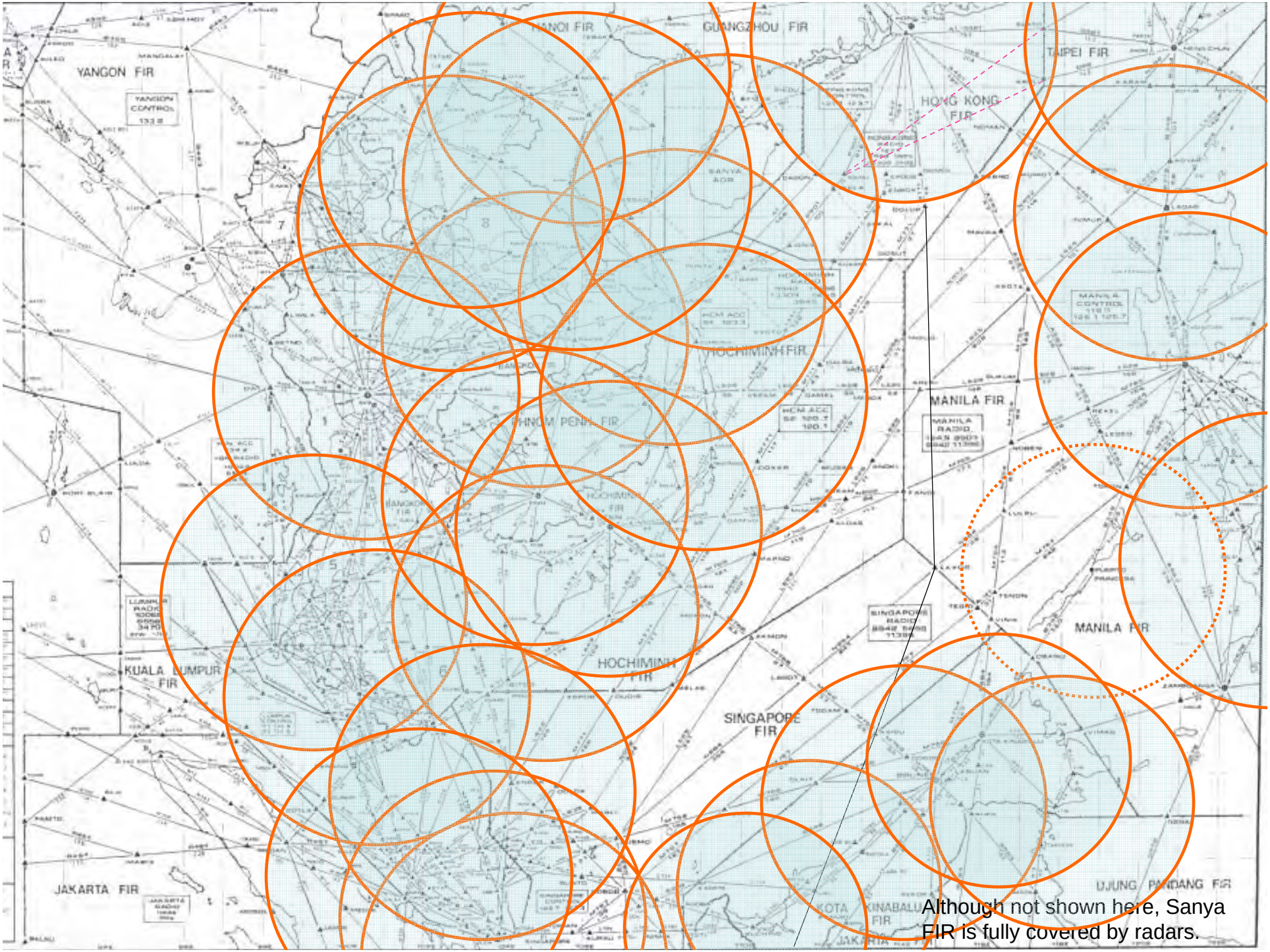

YANGON FIR
GUANGZHOU FIR
TAIPEI FIR
HONG KONG FIR
HOCHIMINH FIR
PHNOM PENH FIR
MANILA FIR
KUALA LUMPUR FIR
SINGAPORE FIR
JAKARTA FIR
UJUNG PANDANG FIR
Although not shown here, Sanya FIR is fully covered by radars.

Southeast Asia
Route Review Task Force

Traffic Data Analysis
SEA-RR/TF/3

24 – 27 August 2010

Jointly Presented by
Singapore & Thailand

Data Collection Participation

Data Collection Participation

FIR	January 2010	Februar y 2010	March 2010	April 2010	May 2010	June 2010	July 2010
RPHI (Manila FIR)	Yes	Yes	Yes	Yes	Yes		
VHHK (Hong Kong FIR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VTBB (Bangkok FIR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
VVGL (Ha Noi FIR)	Yes	Yes		Yes	Yes	Yes	Yes
VVTS (Ho Chi Minh FIR)	Yes	Yes	Yes	Yes (Partial)	Yes	Yes	Yes
WBFC (Kota Kinabalu FIR)	Yes	Yes	Yes	Yes			
WMFC (Kuala Lumpur FIR)	Yes	Yes					
WSFC (Singapore FIR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ZJSA (Sanya FIR)	Yes	Yes	Yes		Yes	Yes	Yes

Data Elements: January 2010

January 2010	Registration	PBN Type	ETD/ATD	ETA/ATA	Entry Exit
RPHI	N/A	N/A	N/A	N/A	Yes
VHHK	Yes	Yes	Yes	Yes	Yes
VTBB	Yes	N/A	Yes	Yes	Yes
VVGL	Most	N/A	All ETD Some ATD	All ETA Some ATA	Yes
VVTS	N/A	N/A	N/A	N/A	Yes
WBFC	Most	Yes	Most	Most	Yes
WMFC	Most	Yes	N/A	N/A	Yes
WSFC	Yes	Yes	No ETD All ATD	No ETA All ATA	Yes
ZJSA	Most	Yes	N/A	N/A	Yes

Data Elements: February 2010

February 2010	Registration	PBN Type	ETD/ATD	ETA/ATA	Entry Exit
RPHI					
VHHK	Yes	Yes	Yes	Yes	Yes
VTBB	Yes	N/A	Yes	Yes	Yes
VVGL	Most	Yes	Int'l ETD Some ATD	No ETA Some ATA	Yes
VVTS	N/A	Yes	N/A	N/A	Yes
WBFC	Yes	Yes	Yes	Yes	Yes
WMFC	Yes	Yes	Yes	Yes	Yes
WSFC	Yes	N/A	Yes	Yes	Yes
ZJSA	Most	Yes	N/A	N/A	Yes

Data Elements: March 2010

March 2010	Registration	PBN Type	ETD/ATD	ETA/ATA	Entry Exit
RPHI	N/A	N/A	RPLL ETD	RPLL ETA	Yes
VHHK	Yes	Yes	Yes	Yes	Yes
VTBB	Yes	N/A	Yes	Yes	Yes
VVGL	Partial	Yes	Int'l ETD Some ATD	No ETA Some ATA	Yes
VVTS	N/A	Partial	N/A	N/A	Yes
WBFC	Yes	Yes	WB ETD/ATD	WB ETA/ATA	Yes
WMFC					
WSFC	Yes	N/A	Yes	Yes	Yes
ZJSA	Most	Yes	N/A	N/A	Yes

Data Elements: April 2010

April 2010	Registration	PBN Type	ETD/ATD	ETA/ATA	Entry Exit
RPHI	N/A	N/A	RPLL ETD	RPLL ETA	Yes
VHHK	Yes	Yes	Yes	Yes	Yes
VTBB	Yes	N/A	Yes	Yes	Yes
VVGL	Partial	Yes	Int'l ETD Some ATD	No ETA Some ATA	Yes
VVTS	Partial	Partial	Partial	Partial	Yes
WBFC	Yes	Yes	WB ETD/ATD	WB ETA/ATA	Yes
WMFC					
WSFC	Yes	N/A	Yes	Yes	Yes
ZJSA	Most	Yes	N/A	N/A	Yes

Data Elements: May 2010

May 2010	Registration	PBN Type	ETD/ATD	ETA/ATA	Entry Exit
RPHI	N/A	N/A	RPLL ETD	RPLL ETA	Yes
VHHK	Yes	Yes	Yes	Yes	Yes
VTBB	Yes	N/A	Yes	Yes	Yes
VVGL	Partial	Yes	Int'l ETD Some ATD	Partial	Yes
VVTS	Partial	Partial	Partial No ATD	Partial No ATD	Yes
WBFC	Yes	Yes	WB ETD/ATD	WB ETA/ATA	Yes
WMFC					
WSFC	Yes	N/A	Yes	Yes	Yes
ZJSA	Most	Yes	N/A	N/A	Yes

Data Elements: June 2010

June 2010	Registration	PBN Type	ETD/ATD	ETA/ATA	Entry Exit
RPHI					
VHHK	Yes	Yes	Yes	Yes	Yes
VTBB	Yes	N/A	Yes	Yes	Yes
VVGL	Partial	Yes	Int'l ETD Some ATD	Partial	Yes
VVTS	Partial	Partial	Partial No ATD	Partial No ATD	Yes
WBFC					
WMFC					
WSFC	Yes	N/A	Yes	Yes	Yes
ZJSA	Most	Yes	N/A	N/A	Yes

Data Elements: July 2010

July 2010	Registration	PBN Type	ETD/ATD	ETA/ATA	Entry Exit
RPHI					
VHHK	Yes	Yes	Yes	Yes	Yes
VTBB	Yes	N/A	Yes	Yes	Yes
VVGL	Partial	Yes	Int'l ETD Some ATD	Partial	Yes
VVTS	Partial	Partial	Partial No ATD	Partial No ATD	Yes
WBFC					
WMFC					
WSFC	Yes	N/A	Yes	Yes	Yes
ZJSA	Most	Yes	N/A	N/A	Yes

City Pair Traffic Distribution

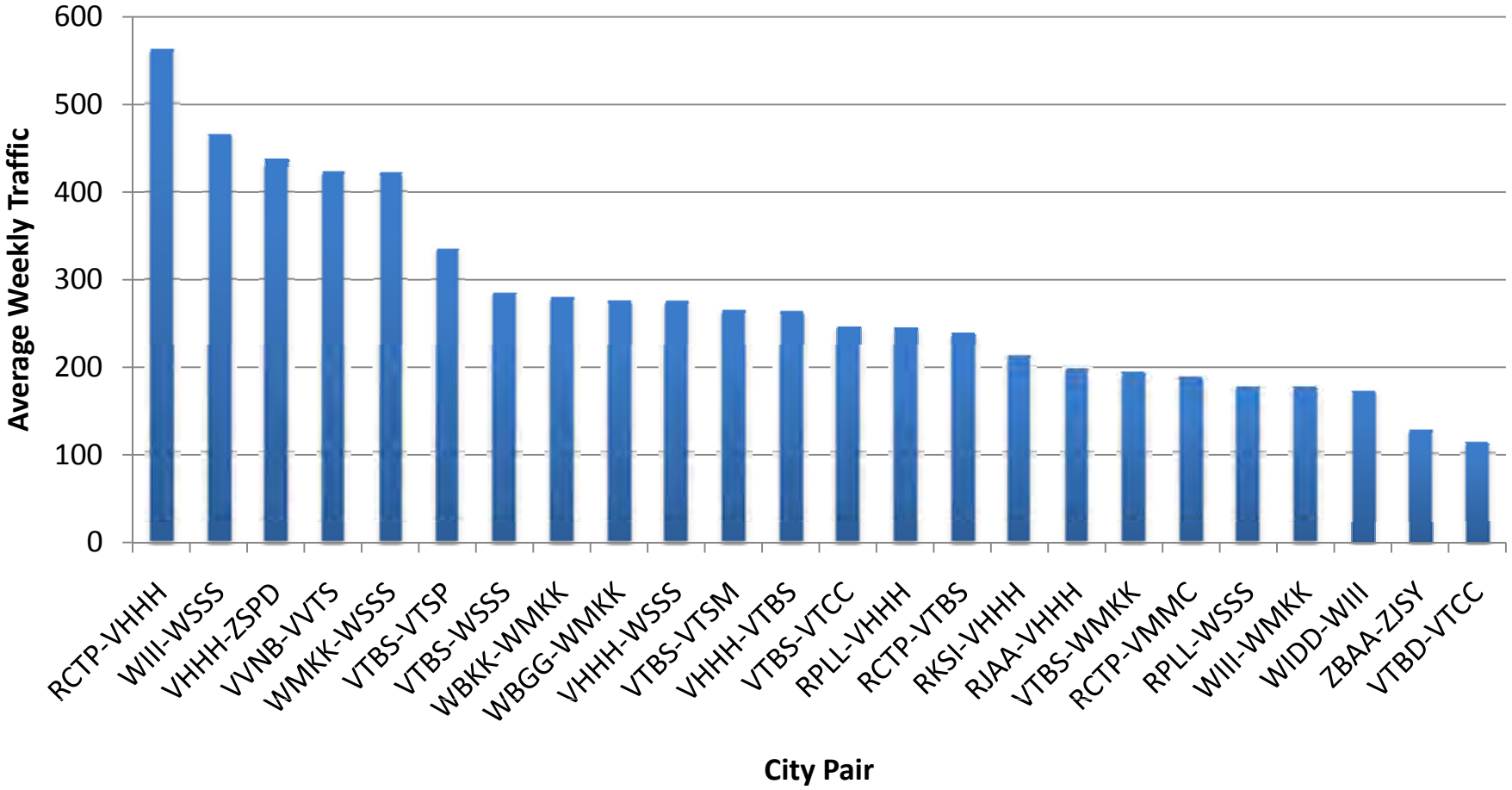
Source:

Selective FIRs

January – May 2010 Data

Top-20 City Pair Traffic Distribution

Average Traffic Loading on Top 20 City Pairs
January 2010 - May 2010

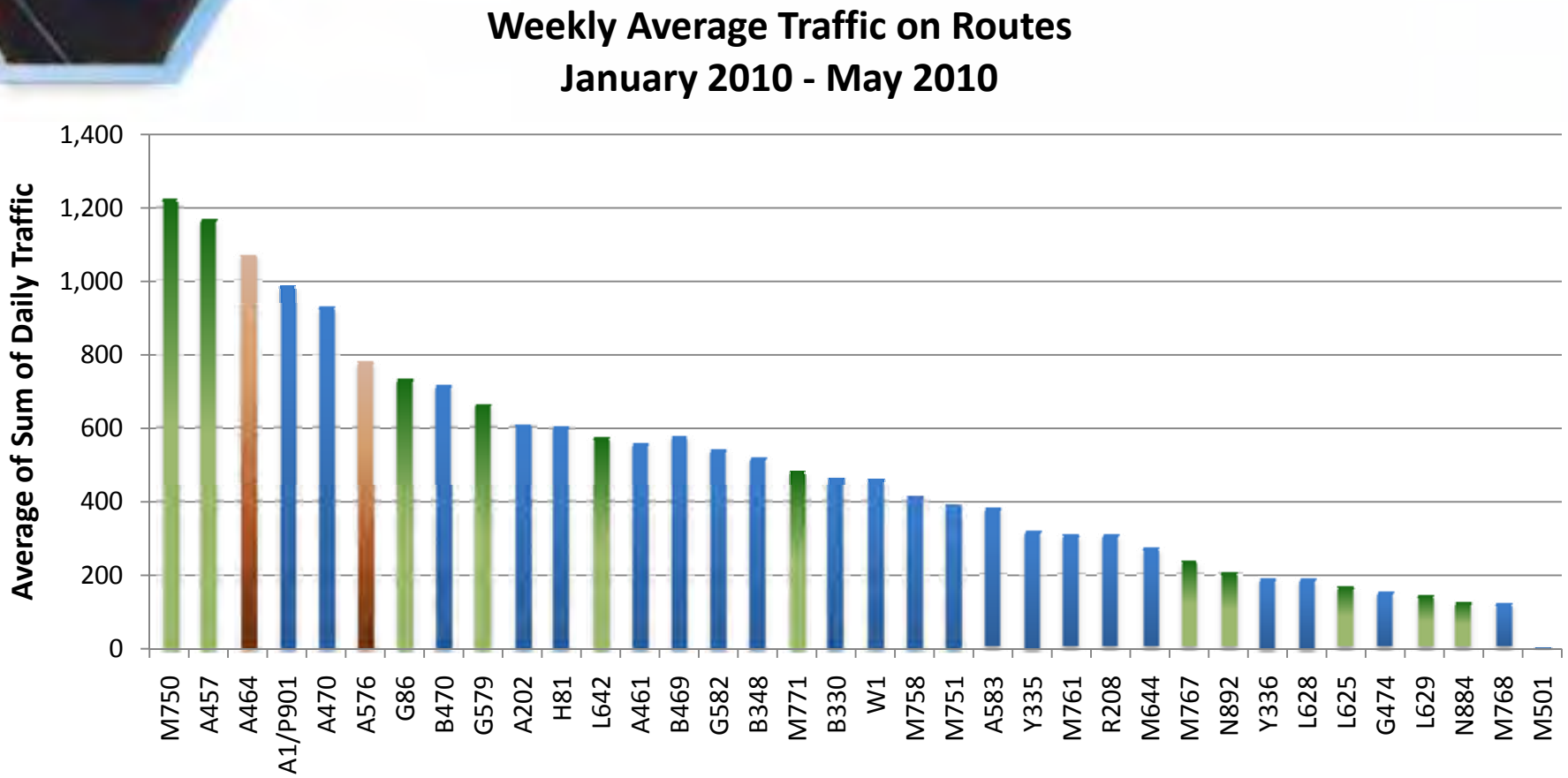


Traffic Distribution on Current ATS Route Structure

Source:

January – May 2010 Data

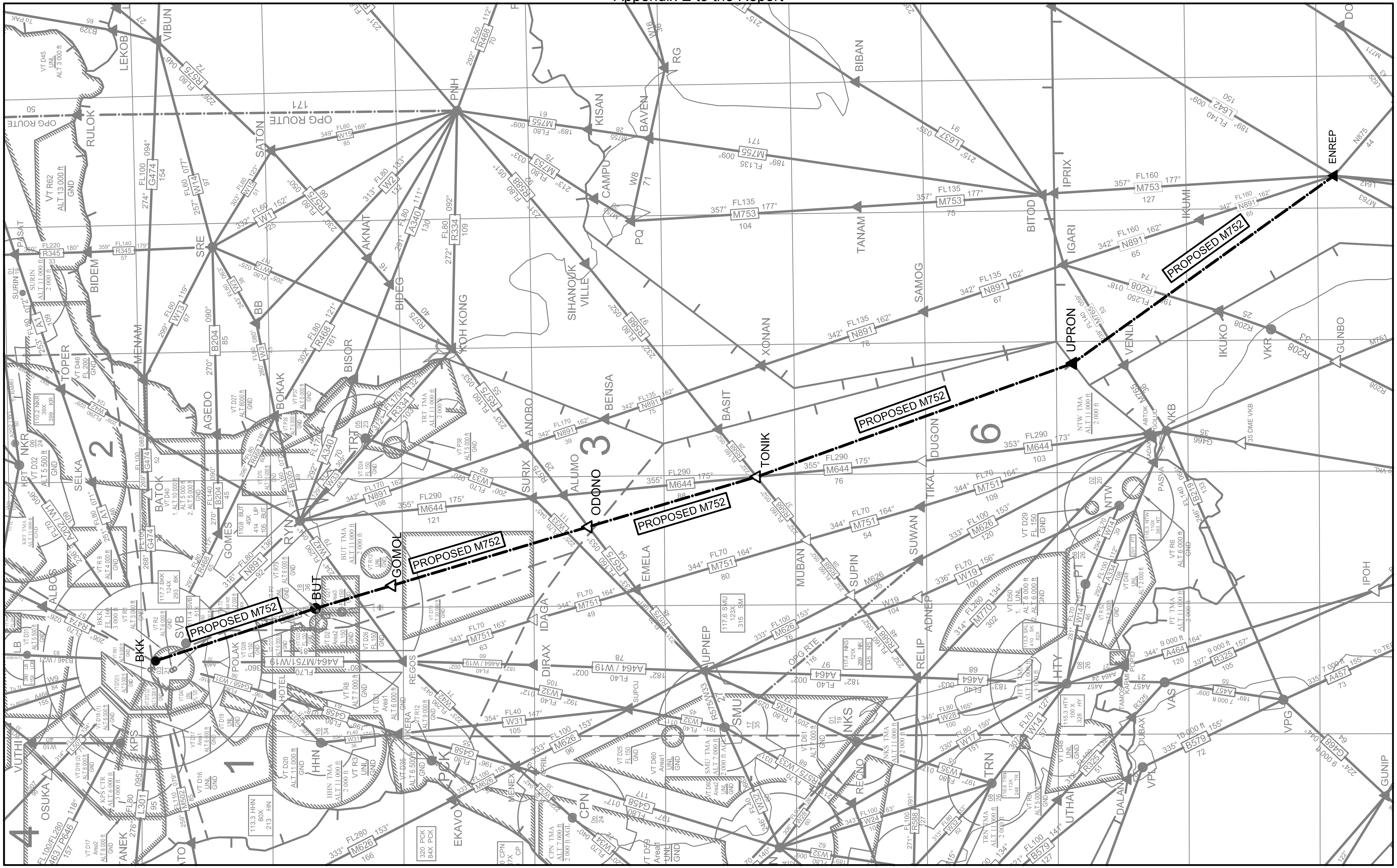
Weekly Traffic on Routes



Green Bars: uni-directional routes

Blue Bars: bi-directional routes

Brown Bars: bi-directional routes with uni-directional arrangements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LEKOB
RULOK
BIDEM
MENAM
TOPER
NKR
SELKA
BATOK
AGEDO
BOKAK
BISOR
BIDEG
AKNAT
GOMES
POLAK
SVB
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PCK
EKAVO
MENEX
CPN
SURIX
ALUMO
ANOBO
BENSA
BASIT
XONAN
SIHANOUK VILLE
KISAN
BAVEN
CAMPU
PQ
RG
BIBAN
TANAM
SAMOG
BITOD
IPRIX
IGARI
IKUMI
VENLI
IKUKO
VKR
GUNBO
VKB
DUGON
TIKAL
SUWAN
SUPIN
MUBAN
EMELA
IDAGA
DIRAX
UPNEP
SMU
NKS
RECNO
RELIP
ADNEP
TRN
HTY
NTW
PT
VAS
VPG
DUBAX
DALAN
UTHAI
IPOH
GUNIP
HHN
KPS
ANEK
OSUKA
VUTHI
ALBOS
OPG ROUTE
OPG RTE
M752
M753
M755
M644
M751
M626
M770
N891
R468
R575
R588
R334
R208
A464
A457
R325
B579
G468
L642
L637
W14
W15
W1
W2
W3
W33
W19
W31
W32
W35
W28
W24
W17
A1
G474
B204
A340
R345
M502
L301
M646
G458
A464/M751/W19
1
2
3
4
6

Report on Small Working Group (SWG/2)
To discuss possible changes from ATS routes to RNAV routes

At the request of SEA-RR/TF/3, Mr. John Wagstaff, IFATCA Representative, agreed to act as the moderator for the SWG/2.

1. The Small Working Group/2 (SWG/2) consisted of representatives from 10 States and two international organisations.

2. The SWG reviewed WP/5, Changing ATS Routes to RNAV, and noted that whilst the majority of newly established routes have been classified as RNAV routes, the requirements for RNAV classification should now also be applied to many of the long established ATS routes. IATA advised the SWG of the benefits that RNAV routes can bring to operators. The SWG was also advised that the current equipage of airline fleets could easily meet the basic navigation specifications of RNP 10, RNP 4 and RNAV 5. This however was only for the navigation specifications and did not represent any communications or surveillance requirements that may be associated, such as for RNP 4 30/30 separations. As previously mentioned, these are separate requirements and may be more difficult to achieve

3. It was emphasised that any changes from ATS to RNAV would need to be coordinated on a regional basis as some of the ATS routes passed beyond the area under consideration by the meeting,

4. The meeting then considered which ATS routes in their airspace could be classified as RNAV routes. Each State provided details of ATS routes that were either being actively reclassified or considered as RNAV routes. It was noted that some States had already implemented a High/Low airspace division which provided RNAV classification for the high levels whilst retaining the ATS route designator for the lower levels.

5. The SWG was very productive due to the cooperation of all participants in discussions on this subject. The information provided showed that the States are aware of the benefits of RNAV nomenclature and are actively working to upgrade their procedures to provide a more efficient service to airline operators.

6. IATA commented on the positive approach of all representatives at both the SWG and the Task Force itself. They were gratified with the significant amount of action occurring within each State, including the initiative in the redesignation of traditional routes into RNAV routes and the implementation of new RNAV routes.

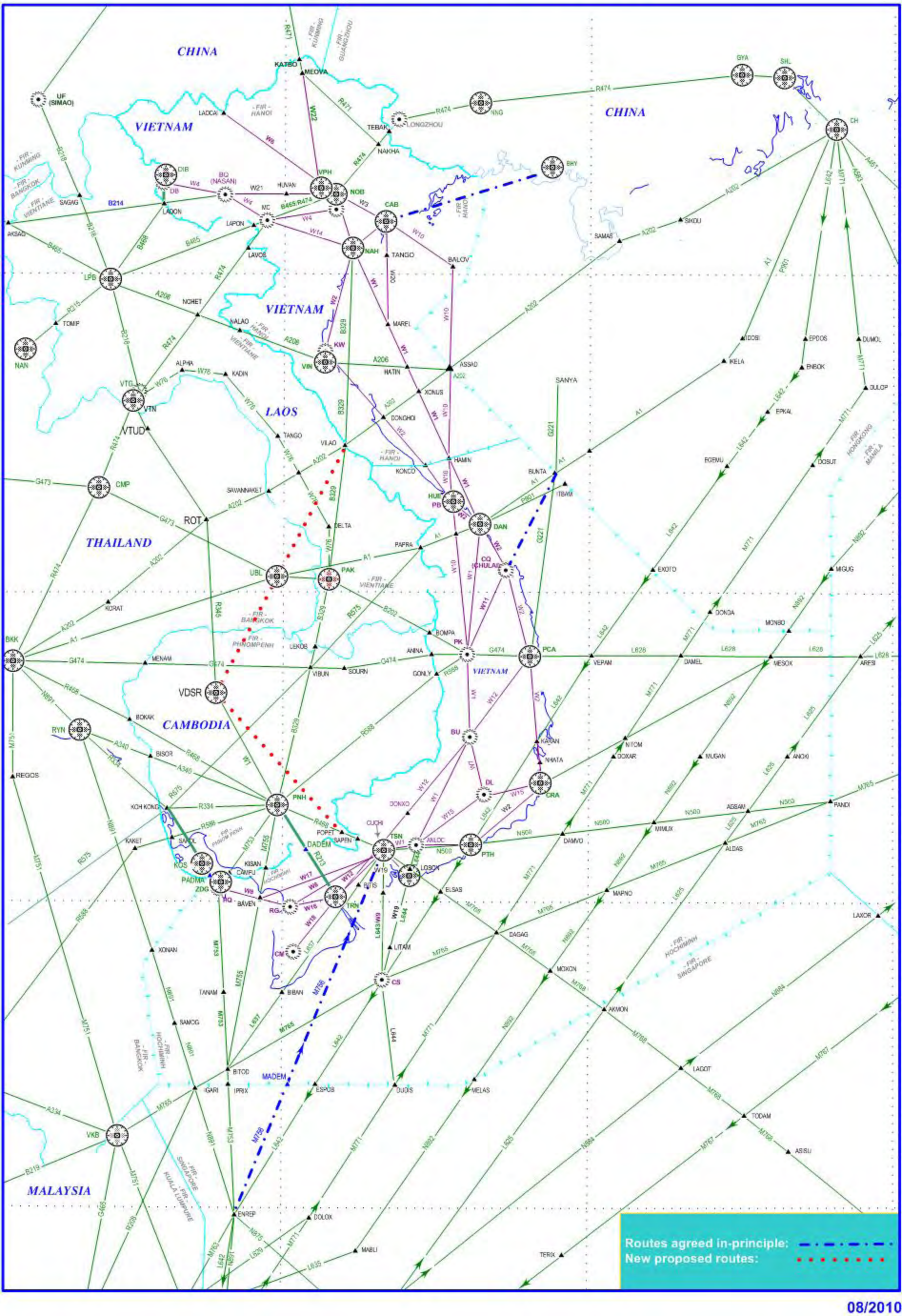
7. IATA further advised the SWG/2 that the traffic data analysis provided a good starting point to allocate priorities based on those non RNAV routes with greater traffic needs. However the benefits were not just in the primary flows but could be realised on all routes. By States continuing to develop their own programs as well as considering proposals from others, the platform was in place to deliver long term efficiencies region wide. The challenge is to not exclude any proposal but rather consider how each proposal can be delivered.

8. The following Chart shows the present and intended progress by States on changing their ATS to RNAV routes in coordination with their neighbours.

Cambodia	G474, R468 B329, R588, R575	RNAV procedures already in use Planned RNAV classification
China	A1, A202	Radar surveillance, 40 NM spacing in use
Hong Kong, China	A461, A583 A1, A202	RNAV classification being coordinated with Philippines Radar Surveillance, 40NM spacing in use
Indonesia	A461, R340, B472, B473	Working on change for RNAV classification. Indonesia will work with Philippines and Australia on RNAV classification.
Laos	B218, R474, B329	Plans for reclassification
Malaysia	B348	Singapore, Malaysia and Philippines agree to the upgrading of B348 to RNAV route until Manila – Taipei FIR boundary. Philippines will coordinate with Taipei FIR accordingly.
Philippines	A461, A583 B348 A590	Discussions with Hong Kong Coordination with Malaysia and Taiwan Coordination with Japan (already RNAV procedures in Japan
Singapore	B348,	Coordination with Malaysia
Thailand	A464, G458	Domestic routes – plan in place
Vietnam	R471	Plan in place - Many RNAV routes implemented

……..

CHART OF PROPOSED NEW ATS ROUTES

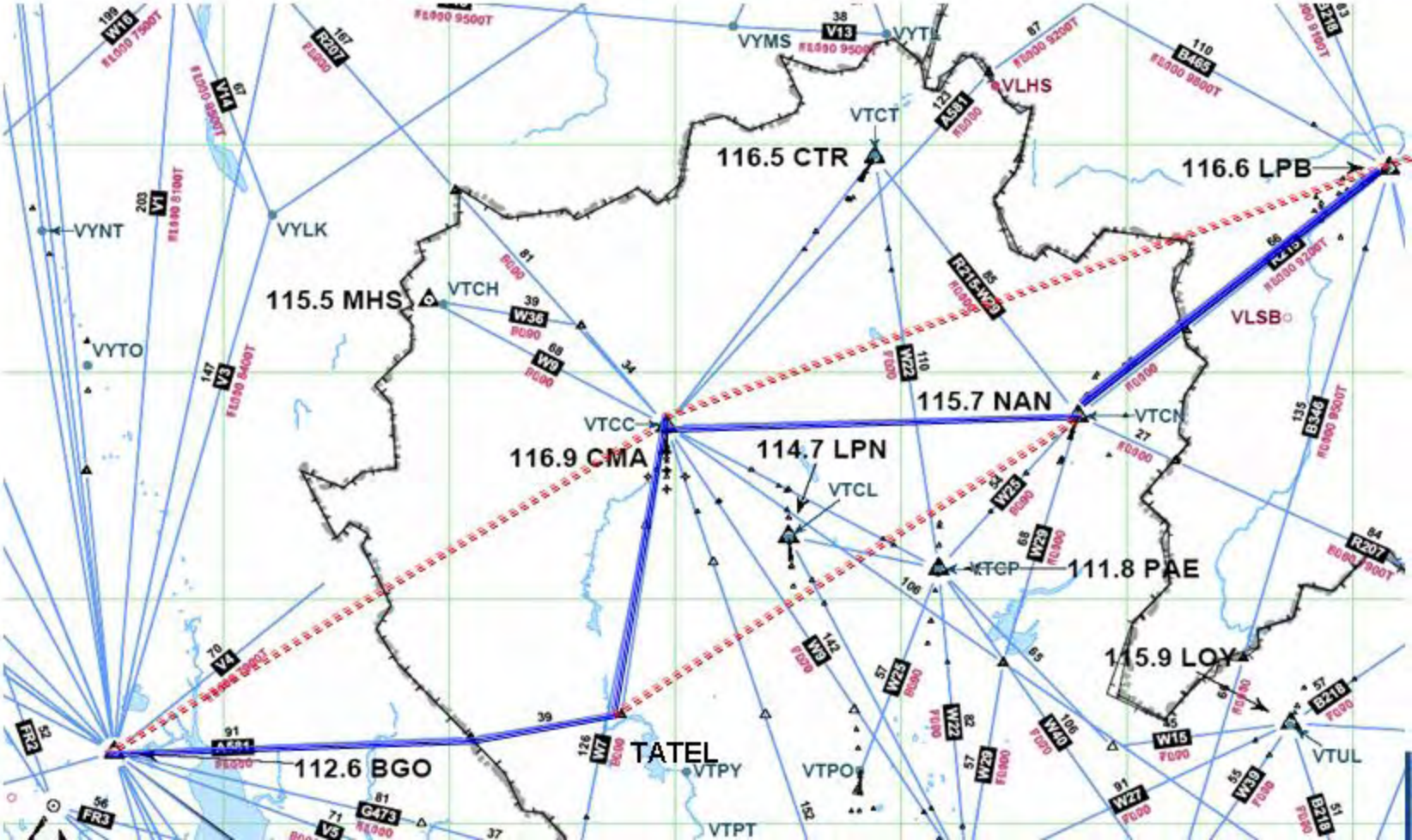


08/2010

CHART OF PROPOSED NEW ATS ROUTE/SEGMENT FOR TRAFFIC HAN - RGN

ATS route/segment LPB –CMA-BGO: Reducing 07 minutes for traffic between HAN – RGN

ATS route/segment PAE –TATEL: Reducing 05 minutes for traffic between HAN – RGN

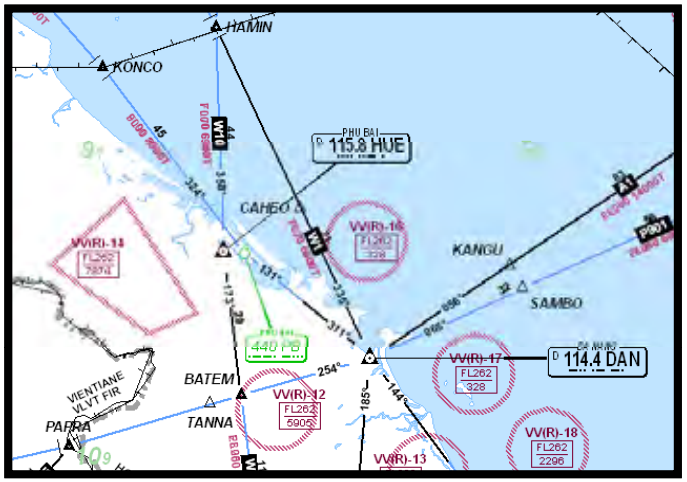


Hourly Traffic Count on Crossing Routes

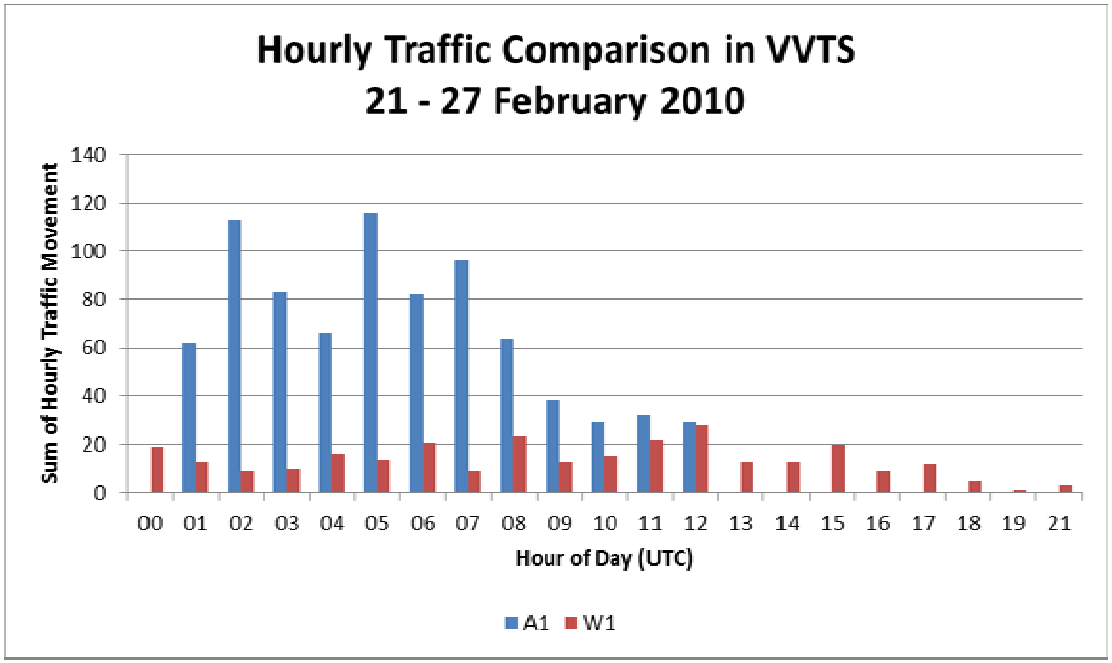
Source:

January – May 2010 Data

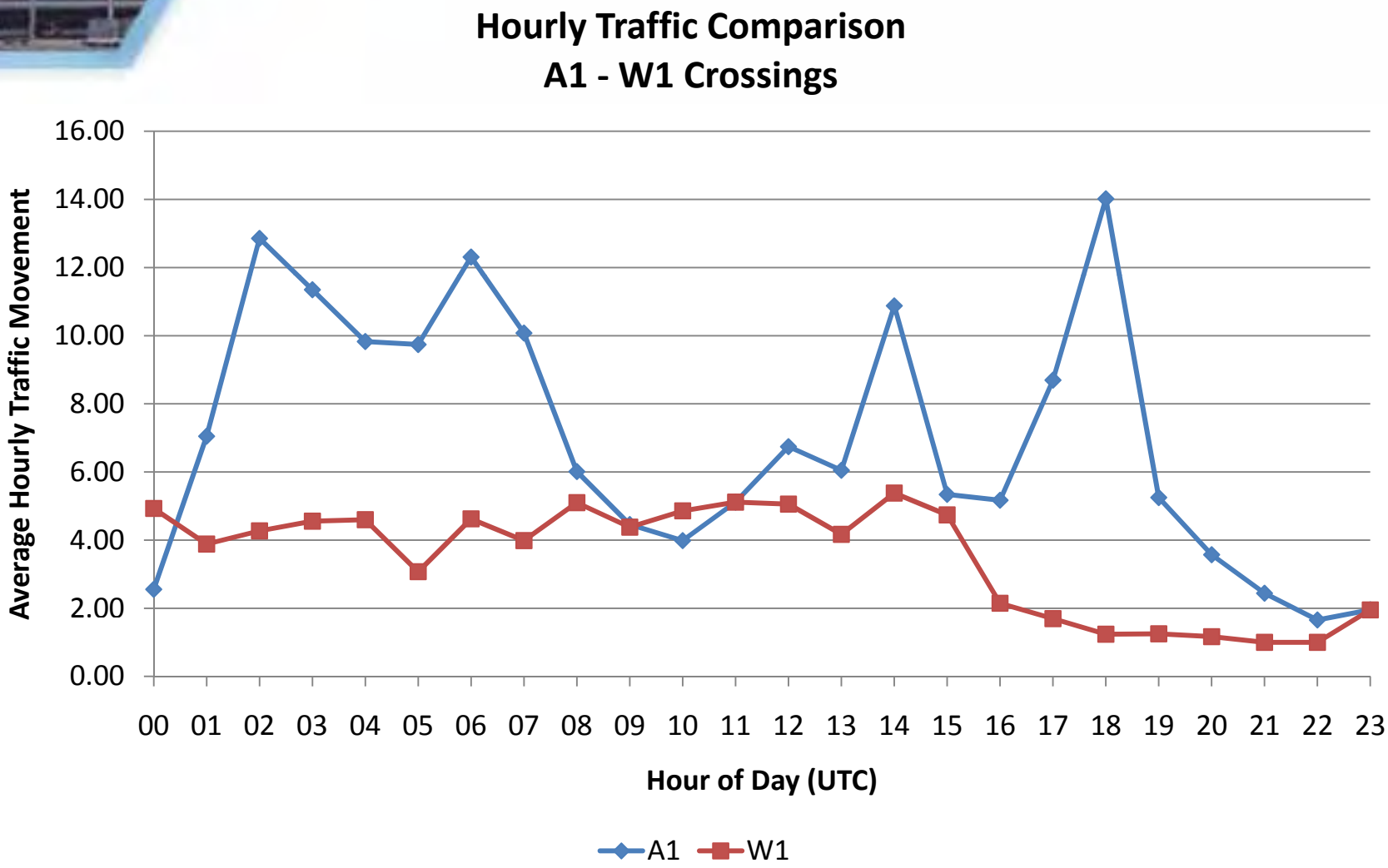
A1 – W1 Crossing



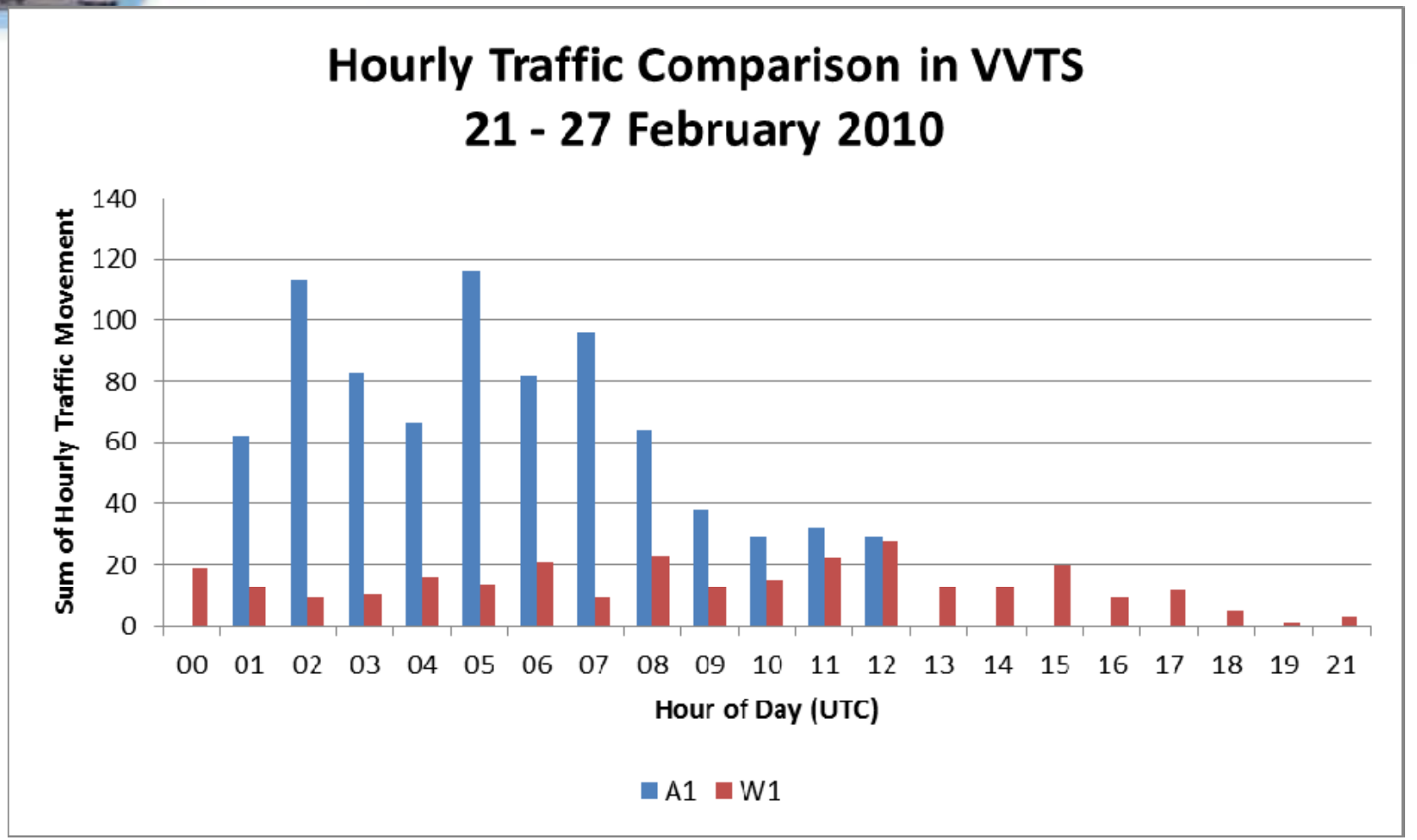
Waypoints:
A1: PAPRA
W1: HAMIN



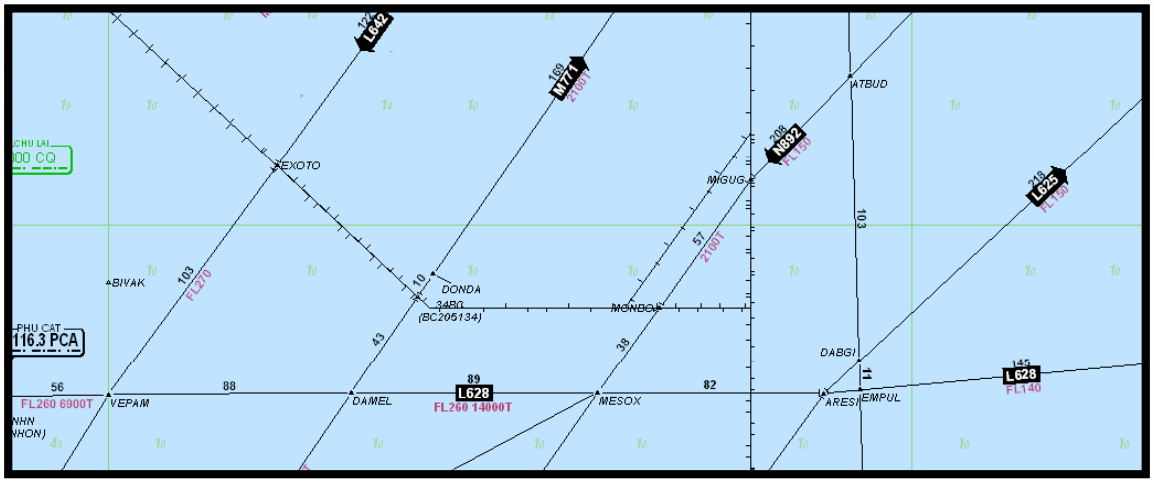
A1 – W1 Crossing

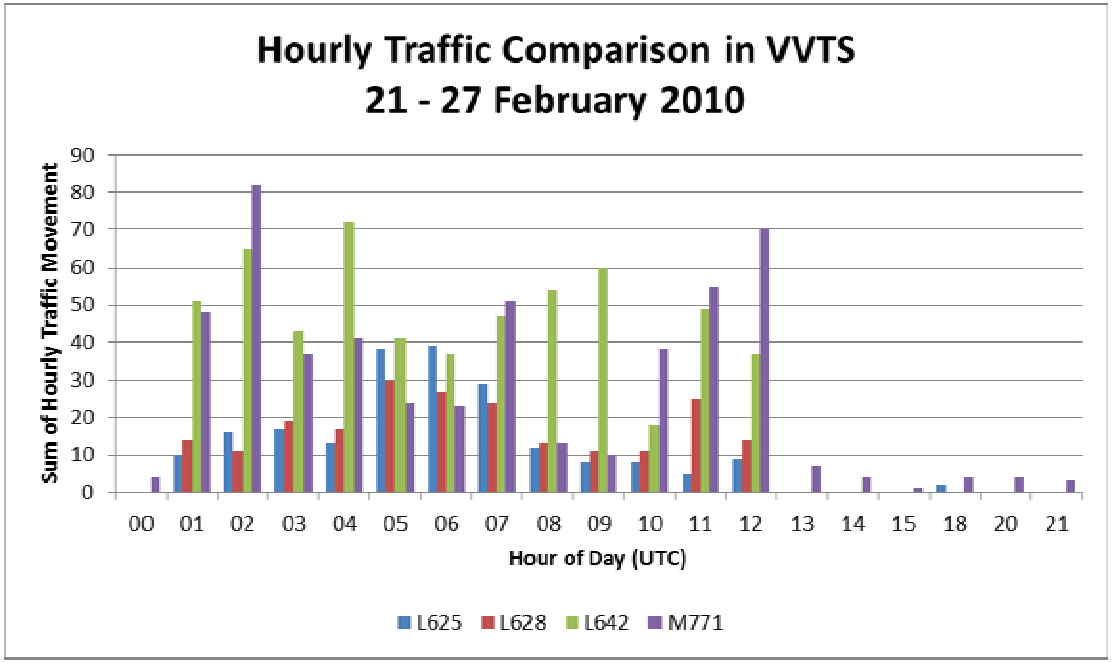


A1 – W1 Crossing



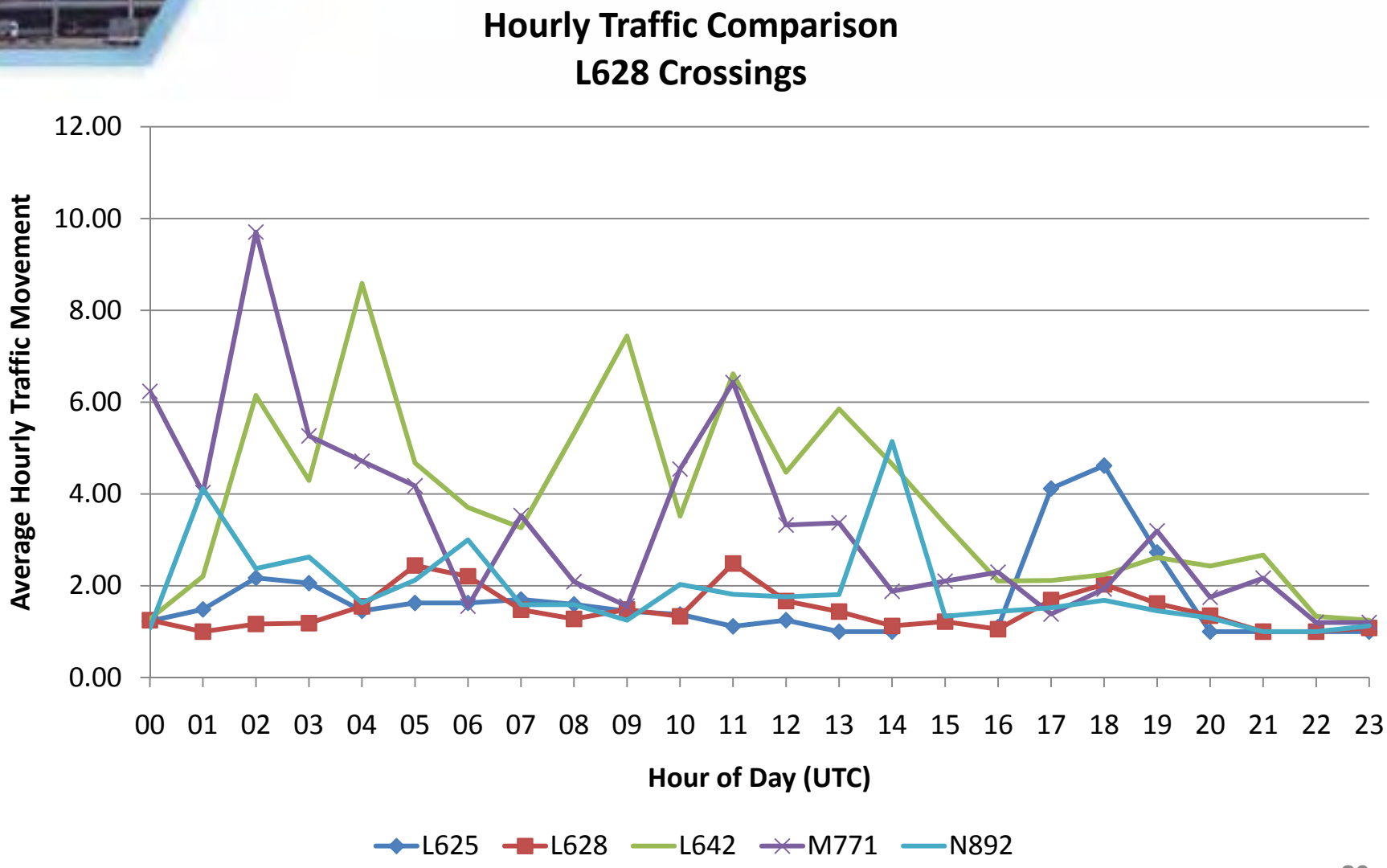
L628 / L642, M771, N892 and L625 Crossing



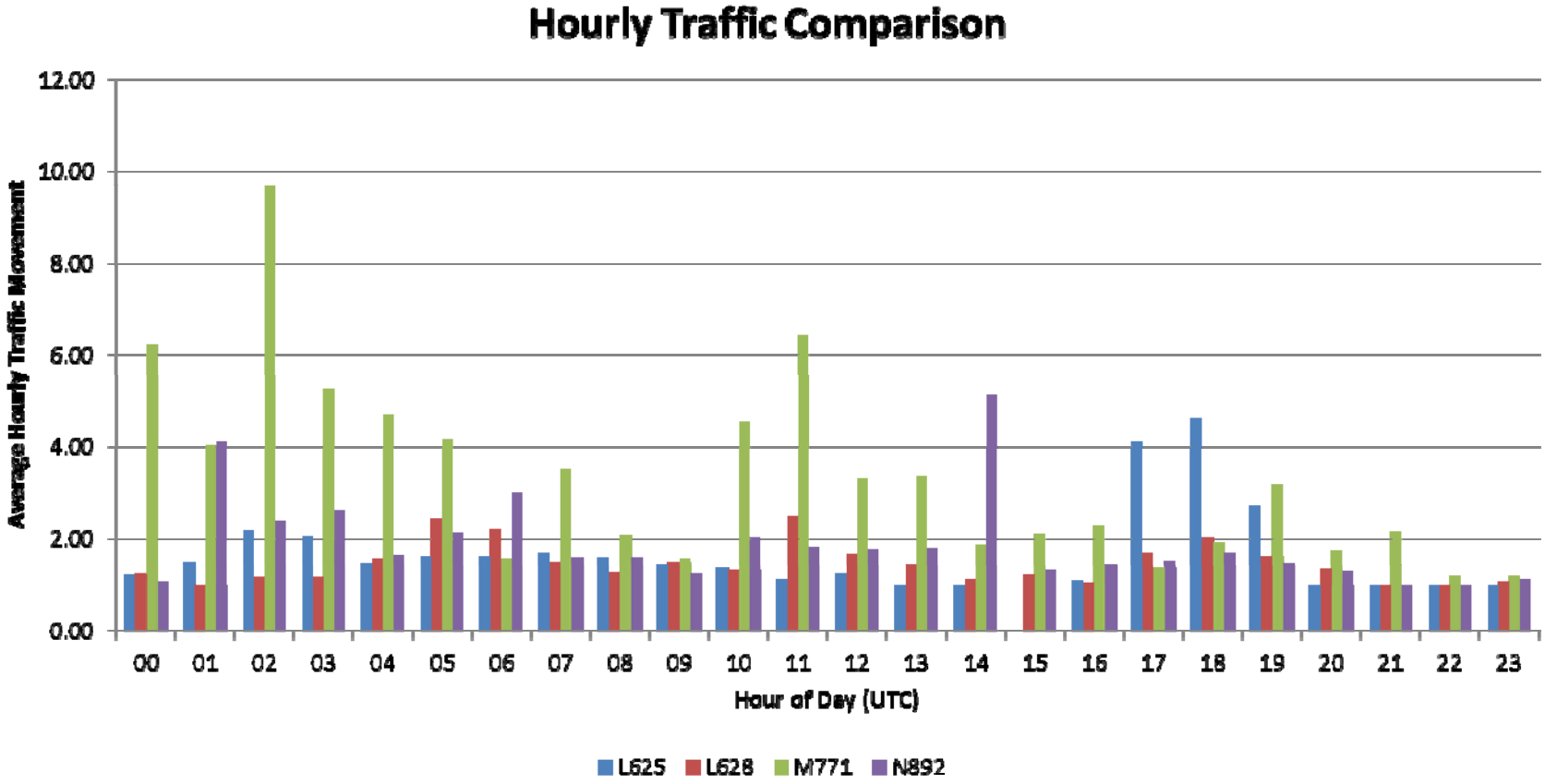


Waypoints:
L628: ARESI
L642: EXOTO
M771: DONDA
N892: MIGUG
L625: ARESI

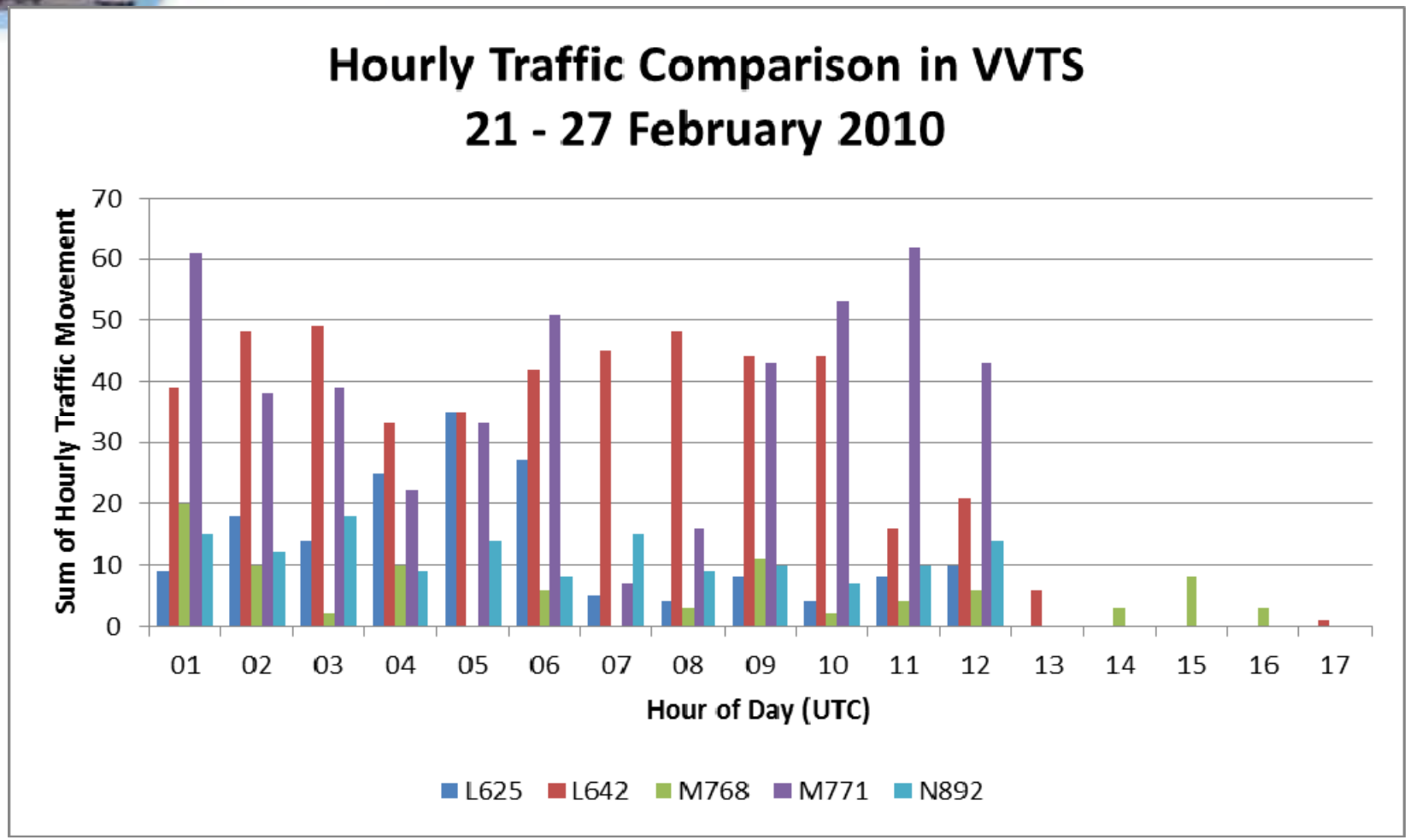
L628 / L642, M771, N892 and L625 Crossing



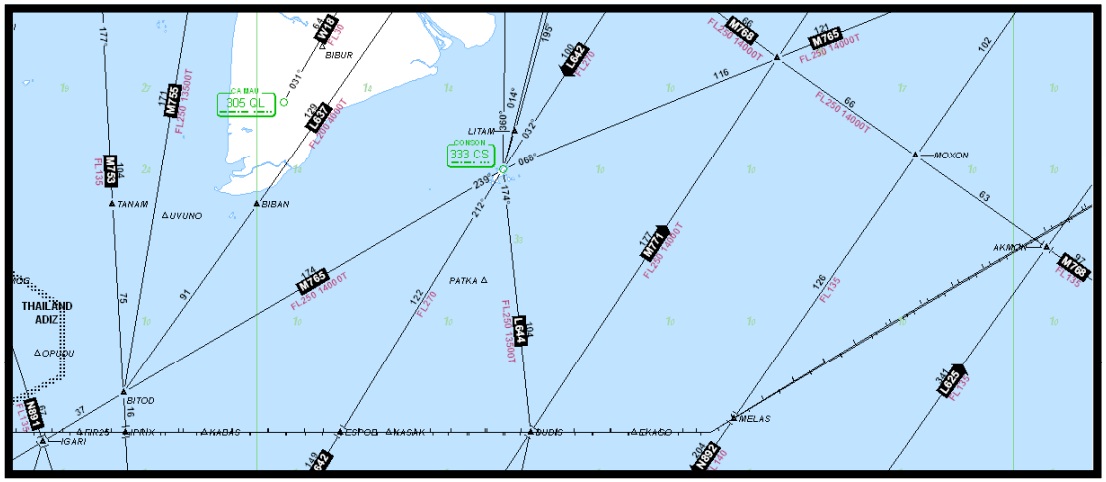
L628 / L642, M771, N892 and L625 Crossing

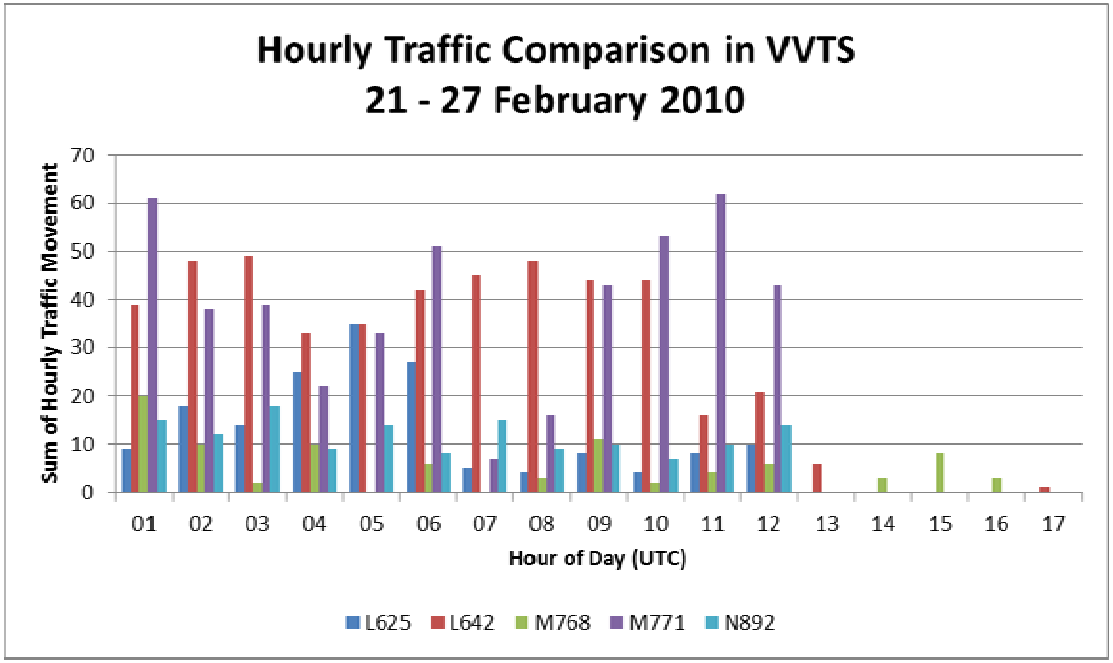


M768 / L642, M771, N892 and L625 Crossing



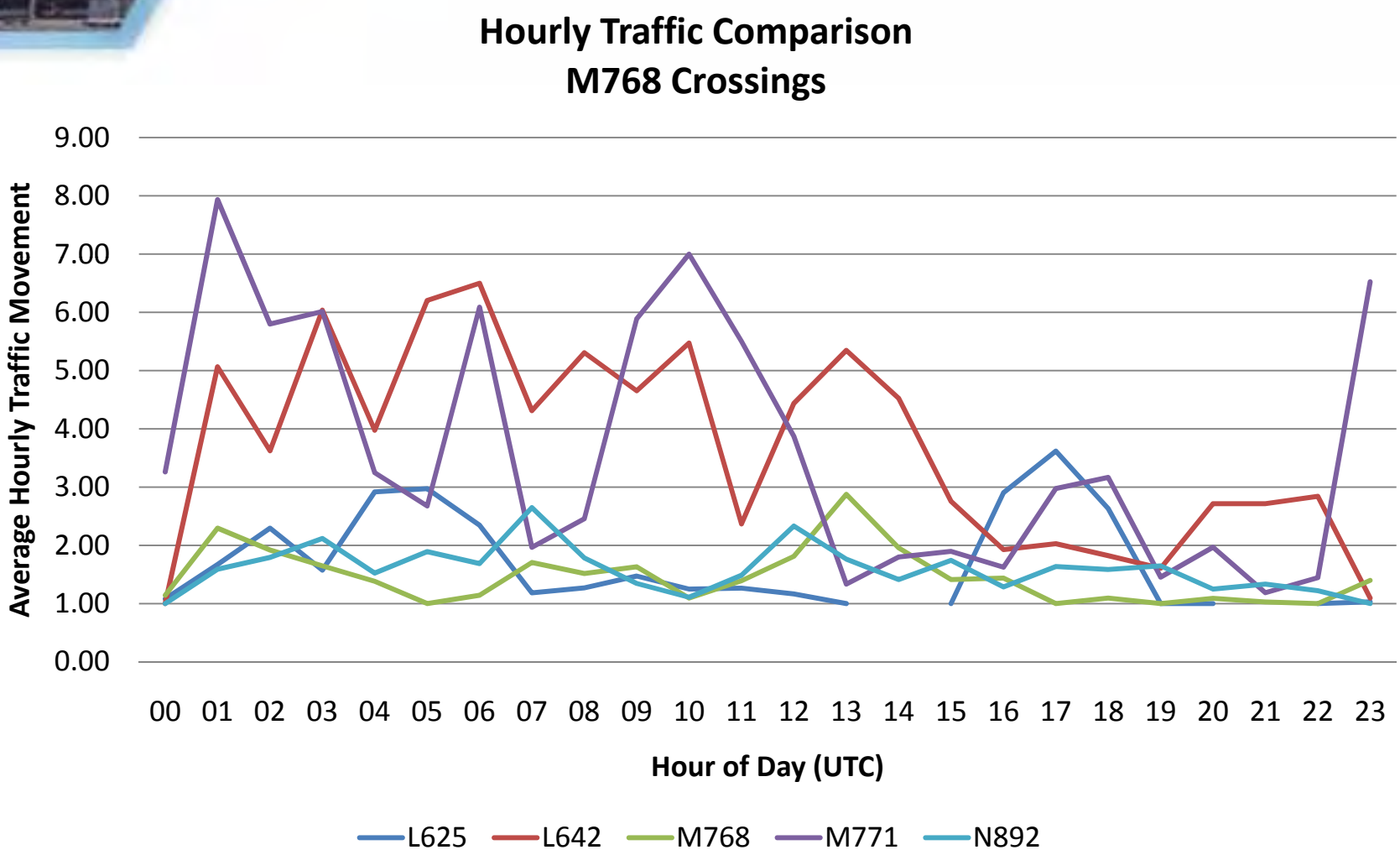
M768 / L642, M771, N892 and L625 Crossing



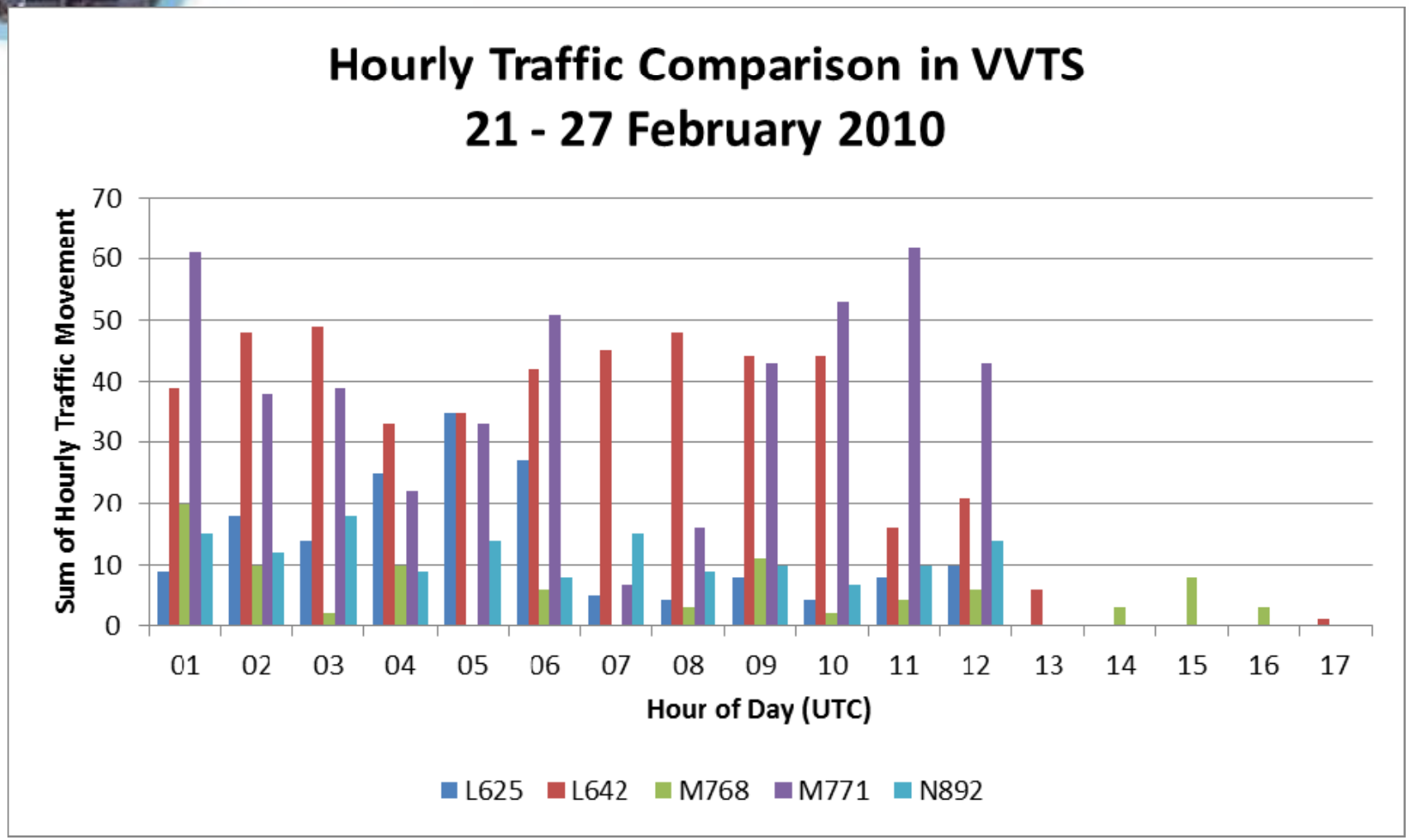


Waypoints:
M768: AKMON
L642: ESPOB
M771: DUDIS
N892: MELAS
L625: AKMON

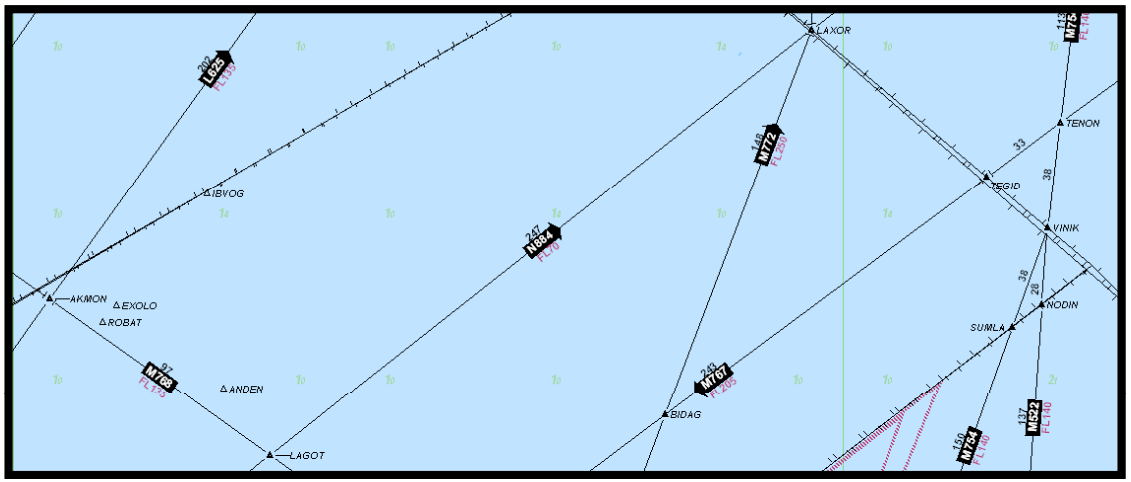
M768 / L642, M771, N892 and L625 Crossing

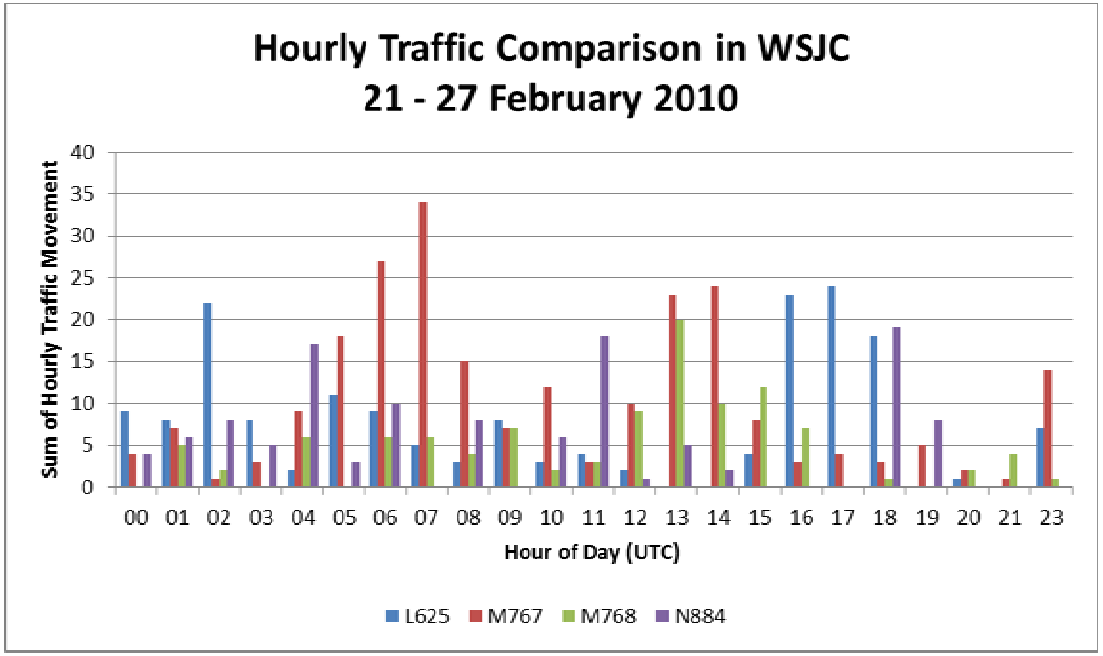


M768 / L642, M771, N892 and L625 Crossing



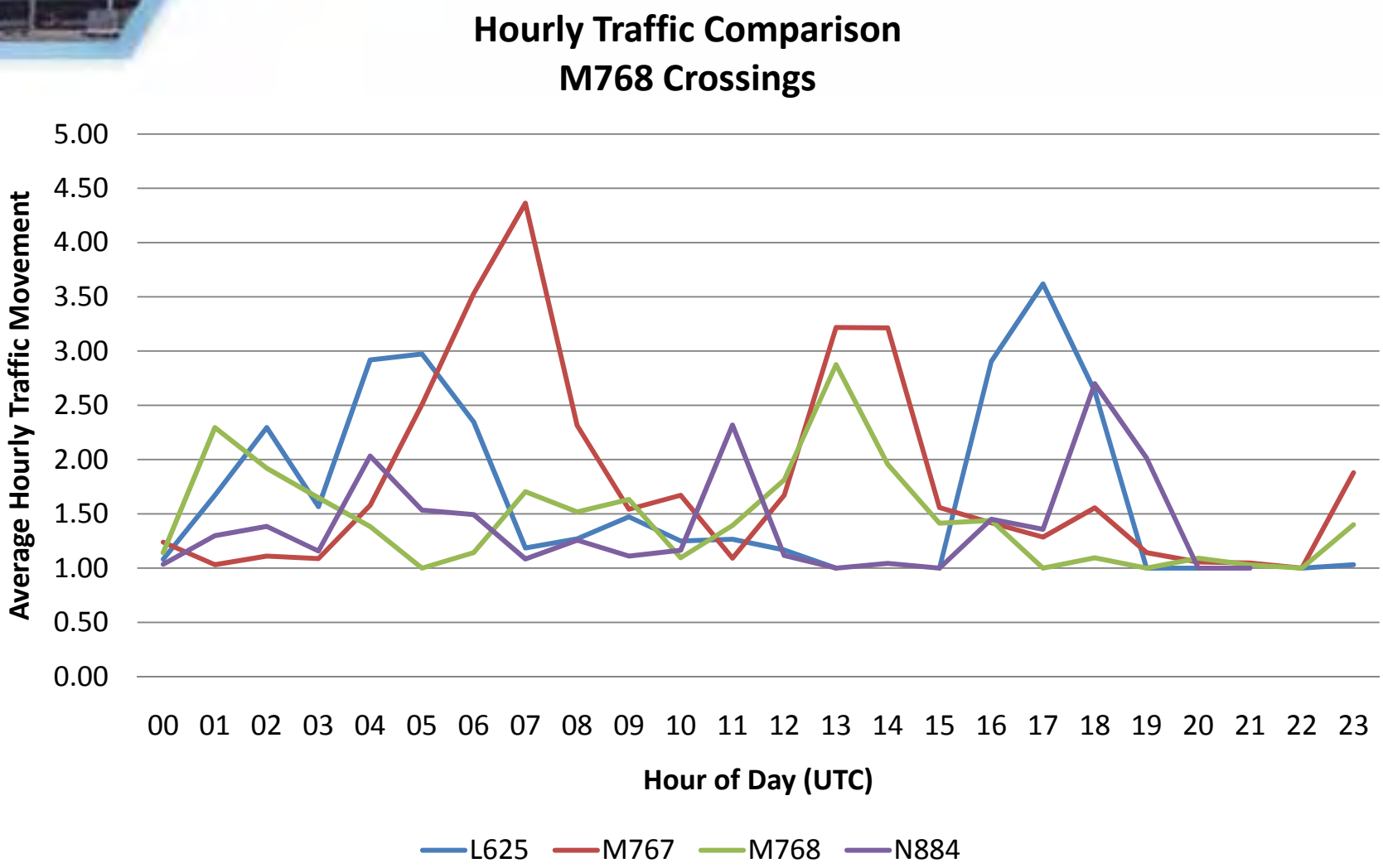
M768 / L625, N884 and M767 Crossing



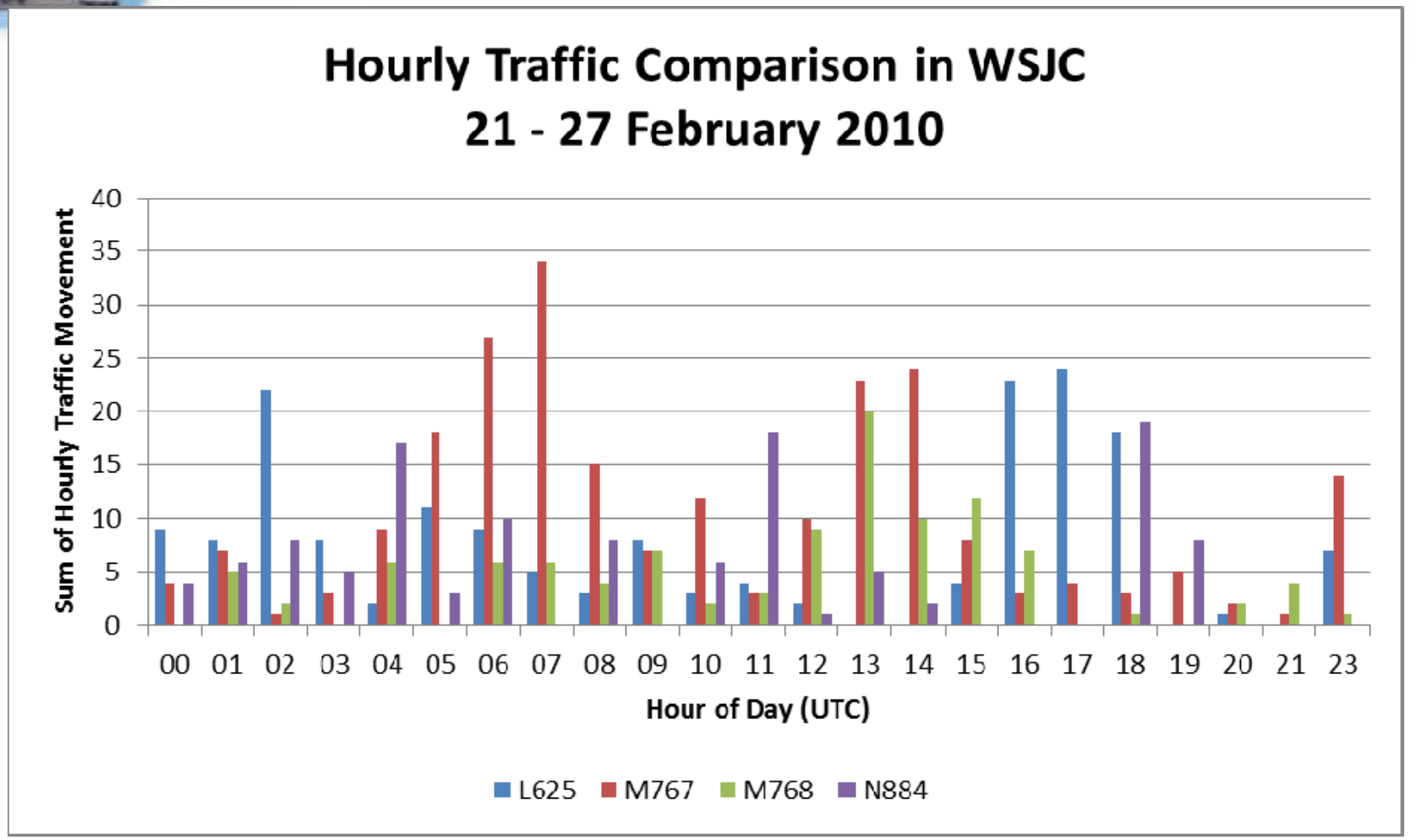


Waypoints:
M768: AKMON
L625: AKMON
N884: LAXOR
M767: TEGID

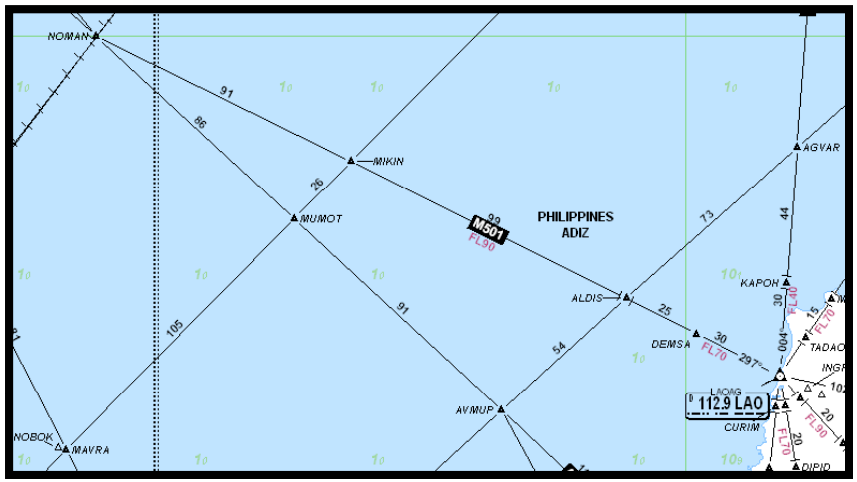
M768 / L625, N884 and M767 Crossing

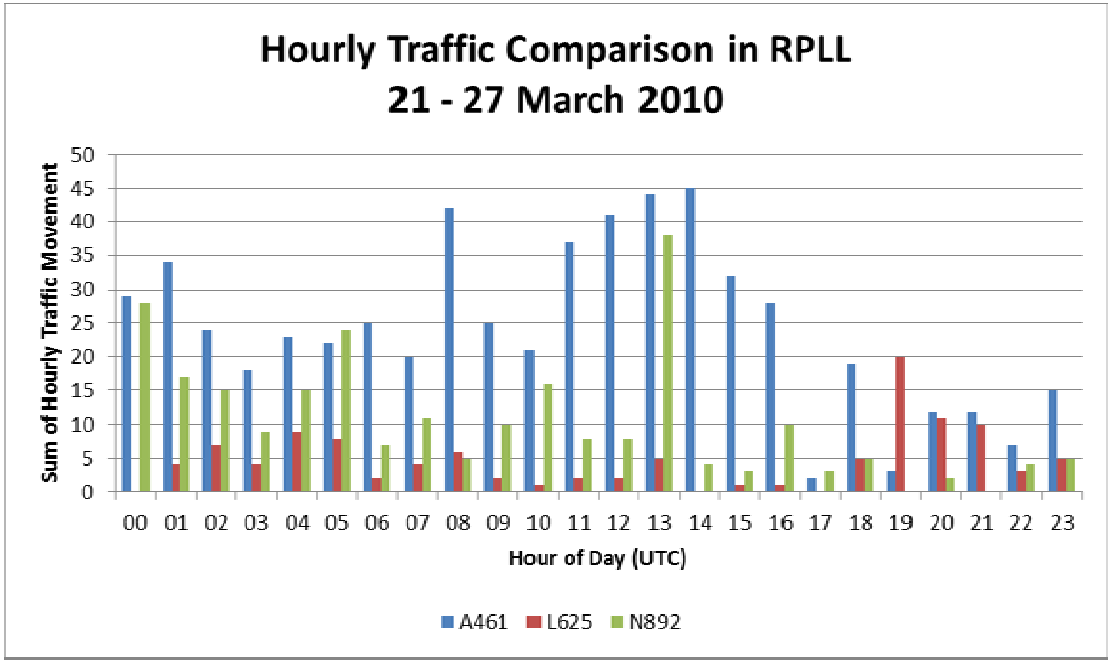


M768 / L625, N884 and M767 Crossing



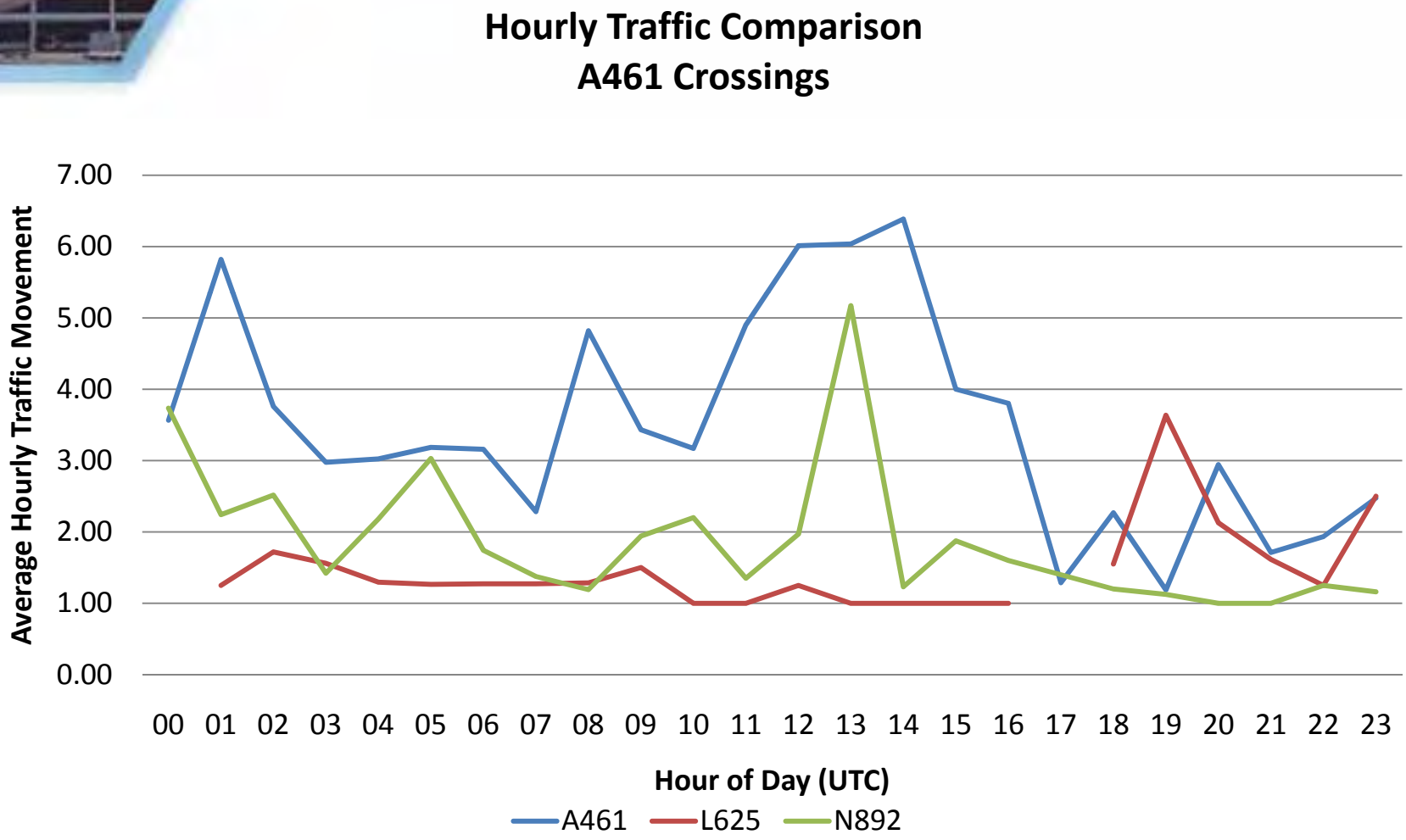
A461 / N892 and L625 Crossing



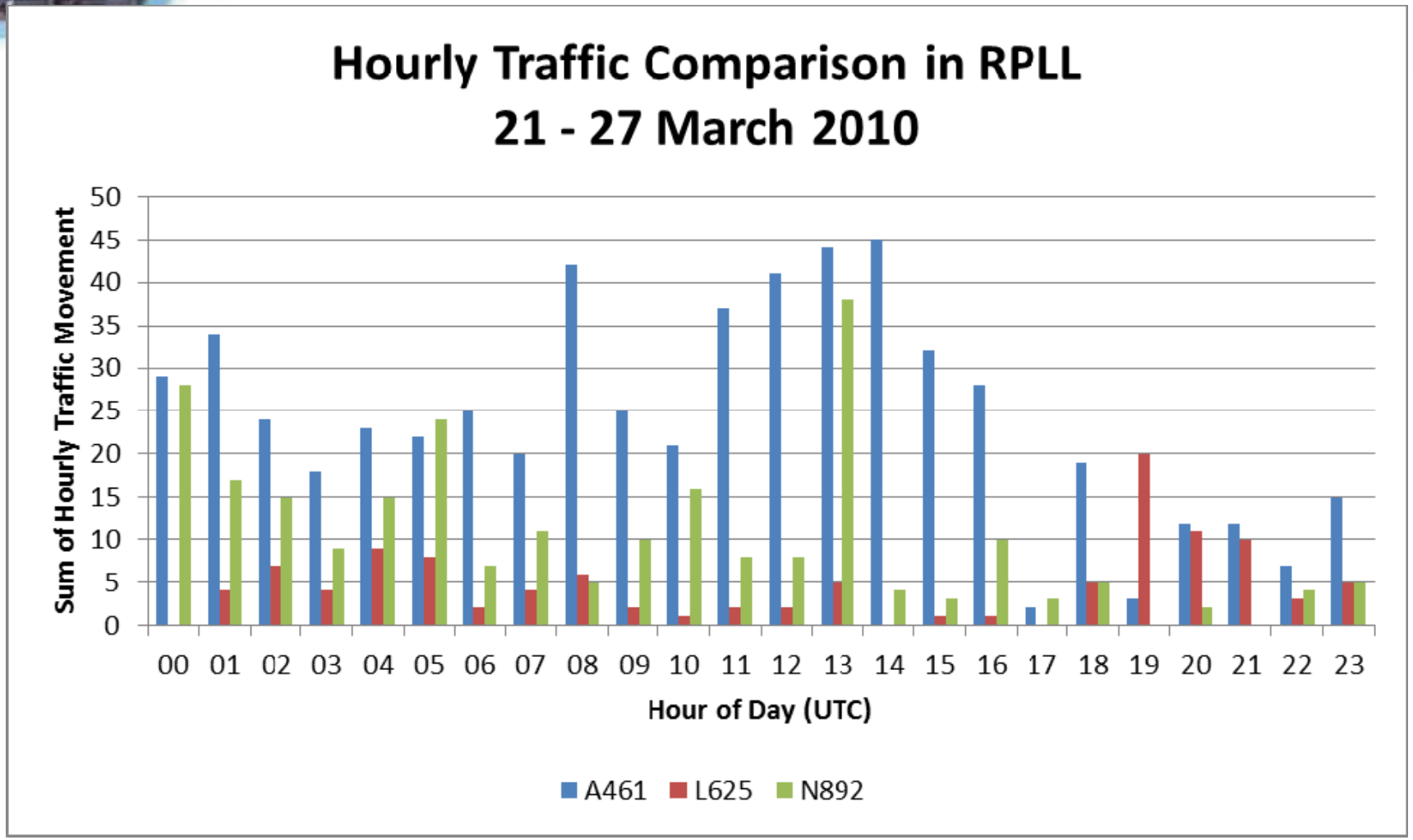


Waypoints:
A461: NOMAN
N892: KABAM
L625: MEVIN

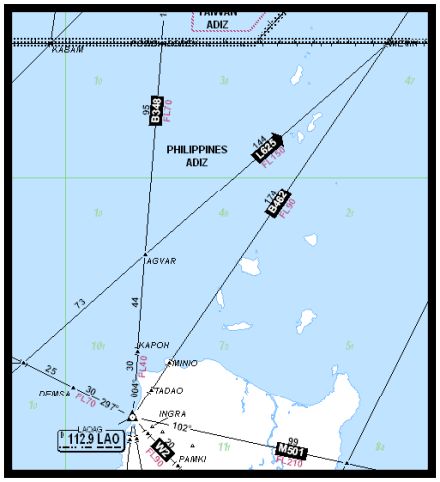
A461 / N892 and L625 Crossing

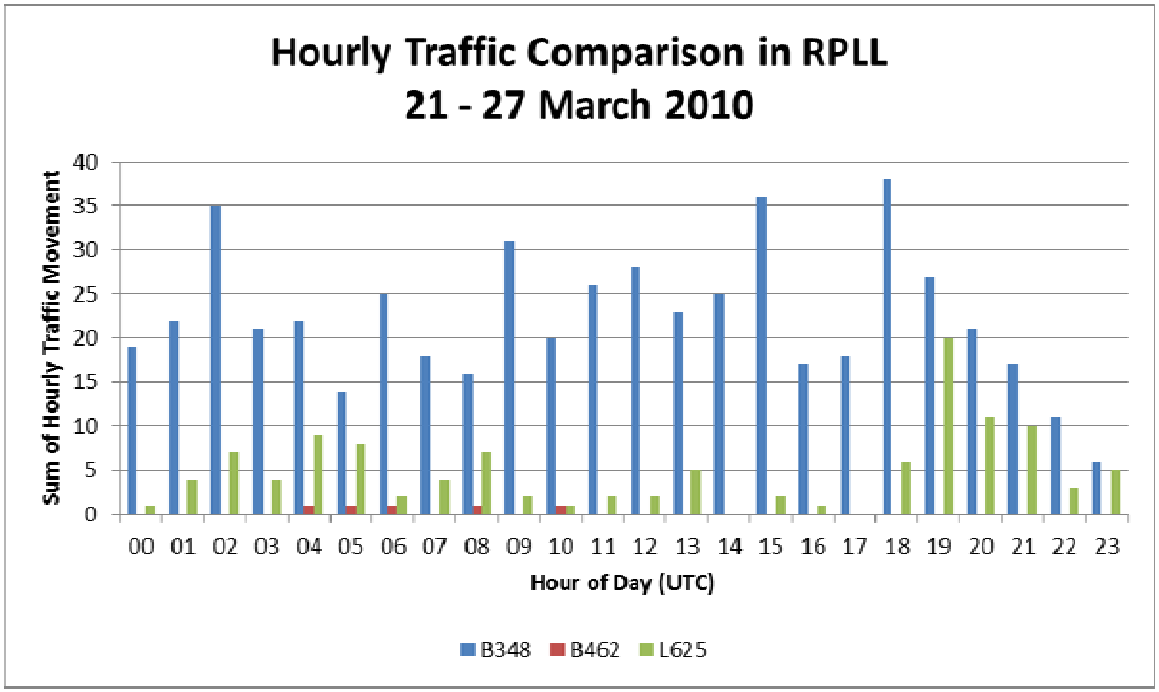


A461 / N892 and L625 Crossing



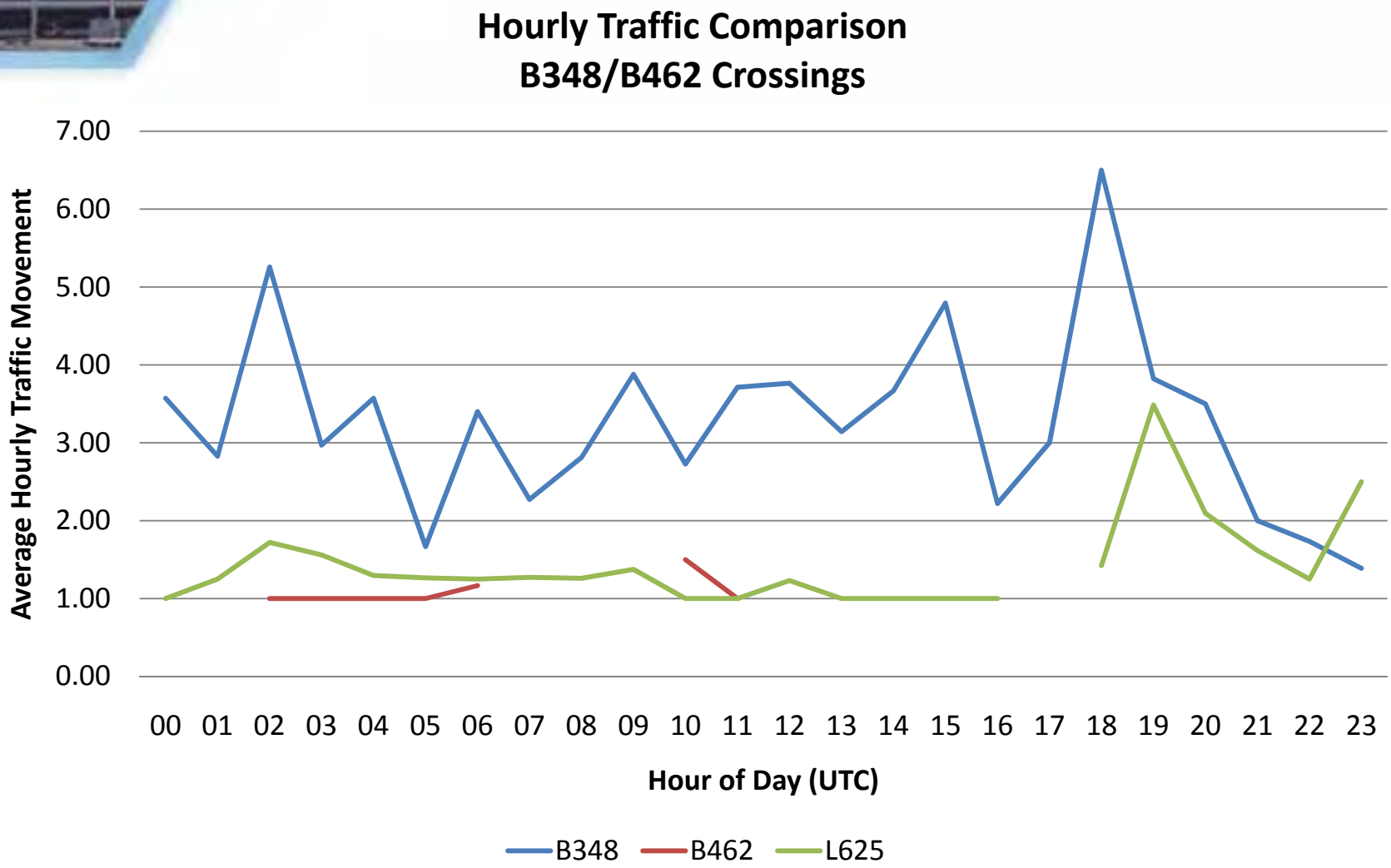
B348, B462 / L625 Crossing



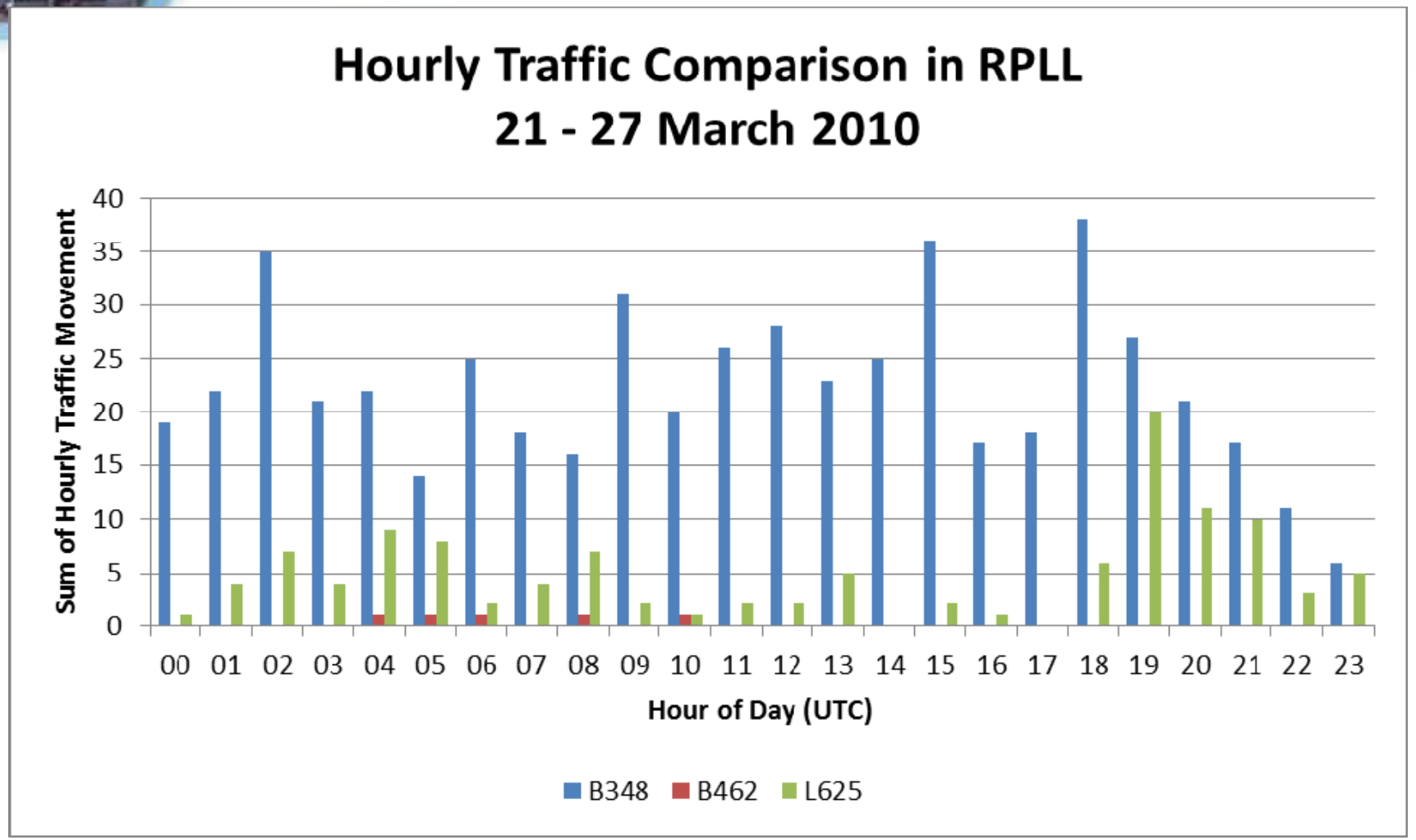


Waypoints:
B348: POTIB
B462: MEVIN
L625: MEVIN

B348, B462 / L625 Crossing



B348, B462 / L625 Crossing



TASK LIST

SN	Activity	Start	Completed	Present Status	Group Responsible
	Identify Operational Need				
	Agree on operational needs for a route review in South China Sea area	Dec. 09		ongoing	SEASMA
	Safety Assessment				
	Review available summary data (non-compliant aircraft, aberrant aircraft etc)	Dec. 09		ongoing	SEASMA
	Examine history of navigational errors and assess possible impact on safety				
	Confirm collision risk model assumptions/parameters are consistent with airspace where the routes are being reviewed	Dec. 09		ongoing	SEA-RR/TF
	Collect weather and turbulence data for analysis	TBD		ongoing	States
	Report monthly navigational errors (including operational errors) to Enroute Monitoring Agency	Dec. 09		ongoing	States
	Collect traffic sample data for safety assessment for the routes under review. ~~50 NM longitudinal separation implementation~~	Aug. 10		ongoing	SEA-RR/TF
	Conduct a Safety Assessment	TBD		TBD	SEASMA
	Feasibility Analysis				
	Examine the operational factors and workload associated with the routes under review.	Dec. 09		ongoing	SEA-RR/TF
	Determination of Requirements (airborne & ground systems)	Dec. 09		ongoing	SEA-RR/TF
	States assess the impact of the routes to be implemented on controller automation systems and plan for upgrades/modifications	Dec. 09		ongoing	SEA-RR/TF
	Aircraft & Operator Approval Requirements				
	Promulgate the operational approval process of PBN requirements	TBD		ongoing	SEA-RR/TF
	Notify States when significant changes occur to the documentation	TBD		ongoing	SEA-RR/TF
	Perform Rulemaking (if required)				
	Recommend State airspace regulatory documentation	TBD		TBD	States
	Perform Necessary Industry & International Co-ordination				
	Establish target implementation date	TBD		TBD	SEA-RR/TF
	Report to ATM/AIS/SAR/SG	Apr. 11		ongoing	SEA-RR/TF
	Process Doc 7030 amendment	TBD		ongoing	SEA-RR/TF

TASK LIST

SN	Activity	Start	Completed	Present Status	Group Responsible
	Publish advance AIC	TBD		ongoing	States
	Publish AIP Amendment on separation/policy procedures	TBD		TBD	SEA-RR/TF
	Review inter-facility coordination procedures	TBD		TBD	SEA-RR/TF
	Finalize changes to Letters of Agreement	TBD		TBD	States
	Approval of Aircraft & Operators				
	Establish approved operations readiness targets	Jun. 11		TBD	SEA-RR/TF
	Assess operator readiness	Jun. 11		TBD	SEA-RR/TF
	Develop Pilot & ATC Procedures				
	Review weather and contingency procedures.	Mar. 11		ongoing	SEA-RR/TF
	Conduct simulation modelling to assess impact	Jun. 11		ongoing	SEA-RR/TF
	Report on simulation activity	Jun. 11		ongoing	SEA-RR/TF
	Develop procedures for handling non-compliant aircraft in ATS documentation	Mar. 11		ongoing	SEA-RR/TF
	Develop mutually acceptable ATC procedures for non-approved State acft to transit the reviewed routes	Mar. 11		ongoing	SEA-RR/TF
	Implement procedures for suspension of the reviewed routes.	Mar. 11		ongoing	SEA-RR/TF
	Liaise with State defense authorities regarding military operations	Mar. 11		ongoing	States
	Pilot & ATC Training				
	Provide Pilot/ATC training documentation based on past experience	Mar. 11		TBD	SEA-RR/TF
	Conduct local training for air traffic controllers	Mar. 11		TBD	States
	Perform System Verificiation				
	Navigational performance monitoring needed to undertake initial safety analysis	Jun. 11		ongoing	SEASMA
	Provide representative traffic movement data to Safety Monitoring Agency	Aug. 10		ongoing	SEA-RR/TF
	Undertake initial safety analysis	Mar. 11		ongoing	SEASMA
	Prepare/maintain regional status report detailing the routes	Mar. 11		ongoing	SEA-RR/TF
	Final Implementation Decision				
	Review aircraft navigational performance and operational errors	TBD			SEA-RR/TF
	Complete ATS State documentation	TBD			States

TASK LIST

SN	Activity	Start	Completed	Present Status	Group Responsible
	Publish Trigger NOTAM	TBD			SEA-RR/TF and States
	Complete readiness assessment	TBD			SEA-RR/TF and States
	Complete safety analysis	TBD			SEASMA
	Declare Initial Operational Capability				
	Monitor System Performance				
	Perform Follow-On Monitoring				SEA-RR/TF
	Adopt New route and associated separation				SEA-RR/TF and States
	Declare Full Operational Capability	TBD			SEA-RR/TF and States
	Meetings				
	SEA-RR/Task Force/1/2/3 (Bangkok)	Dec. 09		ongoing	

INDONESIA AIR TRAFFIC SERVICES

CONTINGENCY PLAN

JAKARTA FIR – PART I

PREPARED BY

Indonesian Contingency Plan Project Team

AIR TRAFFIC SERVICES DIVISION
DIRECTORATE GENERAL OF CIVIL AVIATION, INDONESIA

TABLE OF CONTENTS

FOREWORD

This is the first edition of the Indonesian Air Traffic Management (ATM) Contingency Plan for Air Traffic Services (ATS) for the Upper Airspace of the Jakarta Flight Information Region (FIR). The Contingency Plan will come into effect as determined by the Director General of the Directorate General of Civil Aviation (DGCA), who is the authority for civil aviation operations in Indonesia.

This Contingency Plan (the Plan) is presented in two Parts: Part I for the Jakarta FIR, and Part II for the Ujung Pandang FIR. Part I of the Plan provides for the contingency arrangements to be introduced to permit the continuance of international flights to transit the Jakarta FIR, in the event that the air traffic and support services normally undertaken by the Jakarta Area Control Centre (ACC) should become partially or totally unavailable due to any occurrence that restricts flight operations. Similarly, Part II provides the contingency procedures for the Makassar ACC. In the event of both ACCs becoming inoperative, Parts I and II will be activated catering for the worst case scenario of a total disruption in ATS for the Upper Airspace of the Jakarta and Ujung Pandang FIRs.

The Indonesian territory, which comprises an archipelago of some 17,500 islands extending about 5000 kms mainly in an east/west direction, is located in a major earthquake zone with many active volcanoes. A major earthquake could strike at any time causing serious damage to civil aviation and air navigation services, facilities and infrastructure. With two major ACCs located at Jakarta for the west region and Ujung Pandang for eastern region, it is considered highly unlikely that both facilitates would be out of service simultaneously. However, in the event that one ACC becomes inoperable, and ATS became unavailable, it would take several days to relocate and operate ATS from the remaining ACC and restore a more normal level of service. During this interim period, flight operations in Indonesia would be severely restricted.

This Plan has been developed in close co-operation and collaboration with the civil aviation authorities responsible for the adjacent FIRs and representatives of the users of the airspace. The Indonesian Air Force also has been consulted and recognizes the requirement for the Plan and the civil aviation procedures that apply thereto.

The Plan will be activated by promulgation of a NOTAM issued by the Indonesian International NOTAM Office (NOF) as far in advance as is practicable. However, when such prior notification is impracticable for any reason, the Plan will be put into effect on notification by the designated authority, as authorized by the DGCA. It is expected that the civil aviation authorities concerned, and the airline operators will fully cooperate to implement the Plan as soon as possible.

This Plan has been prepared in coordination with the International Civil Aviation Organization (ICAO) to meet the requirements in ICAO Annex 11 ─ *Air Traffic Services* to provide for the safe and orderly continuation of international flights through Indonesian airspace.

Any proposed amendments to this plan shall be forwarded to:

Director General
Directorate General of Civil Aviation
Jl. Medan Merdeka Barat No. 8
Gedung Karsa Lt. 5
Jakarta, 10110, Indonesia
Tel: (62-21) 3505137
Fax: (62-21) 3505139
Email: dirjenud@indosat.net.id

RECORD OF AMENDMENTS

Amendment Number	Effective Date	Date Entered	Entered By	Paragraph/ Reference

PART I

ATS CONTINGENCY PLAN FOR INTERNATIONAL FLIGHTS TO TRANSIT THE UPPER AIRSPACE OF THE JAKARTA FIR

Effective: 1 August 2007, 0000 (UTC)

1. OBJECTIVE

1.1 The Air Traffic Management (ATM) Contingency Plan, Part I contains arrangements to ensure the continued safety of air navigation in the event of partial or total disruption of air traffic services in the Jakarta FIR in accordance with ICAO Annex 11 ─ *Air Traffic Services,* Chapter 2, paragraph 2.29. The Contingency Plan provides the ATS procedures and contingency route structure using existing airways in most cases that will allow aircraft operators to transit the Jakarta FIR.

1.2 This Contingency Plan does not address arrangements for aircraft arriving and departing at Indonesian airports or for domestic flight operations within the territory of Indonesia.

2. STATES AND FIRS AFFECTED

2.1 In the event that the Director General, DGCA activates this Contingency Plan, the civil aviation authorities of the adjacent FIRs will be notified in accordance with the Operation Coordination Agreement (OCA) established between the States concerned. The adjacent States, FIRs and ACCs directly affected by this Contingency Plan are as follows:

a) Australia

Melbourne FIR (ACC)

b) India

Chennai FIR (ACC)

c) Malaysia

Kota Kinabalu FIR (ACC)
Kuala Lumpur FIR (ACC)

d) Singapore

Singapore FIR (ACC)

e) Sri Lanka

Colombo FIR (ACC)

f) Indonesia

Ujung Pandang FIR (ACC)

2.2 The contact details of the civil aviation authorities and organizations concerned are contained in **Appendix 1A.** These details should be kept up to date and relevant information provided to the DGCA as soon as practicable**.**

3. MANAGEMENT OF THE CONTINGENCY PLAN

3.1 The contingency measures set out in this Plan are applicable in cases of foreseeable events caused by unexpected interruptions in ATS caused by natural occurrences or other circumstances, which, in one way or another, may impair or totally disrupt the provision of ATS and/or of the related support services in the Jakarta FIR.

3.2 The following arrangements have been put in place to ensure that the management of the Contingency Plan provides for international flights to proceed in a safe and orderly fashion through the Upper Airspace of the Jakarta FIR.

Central Coordinating Committee

3.3 As soon as practicable in advance of, or after a contingency event has occurred, the Director General, DGCA shall convene the Central Coordinating Committee (CCC) comprised of representatives from:

1) Directorate General of Civil Aviation

2) PT (Persero) Angkasa Pura I (ATS provider for the Ujung Pandang FIR and operator of major airports in the eastern region)

3) PT (Persero) Angkasa Pura II (ATS provider for the Jakarta FIR and operator of major airports in the western region)

4) Indonesian Air Force

5) Ministry of Defense

6) Representative from the airlines committee

7) Meteorological and Geophysical Agency

8) Other participants as required

3.4 The CCC shall oversee the conduct of the Contingency Plan and in the event that the Jakarta ACC premises are out of service for an extended period, make arrangements for and facilitate the temporary relocation of the Jakarta ACC at the Ujung Pandang ACC and the restoration of ATS services. The terms of reference for the CCC will be determined by the DGCA.

3.5 Contact details of the members of the CCC are provided in **Appendix 1B**.

ATM Operational Contingency Group

3.6 The ATM Operational Contingency Group (AOCG) will be convened by the CCC with a primary responsibility to oversee the day to day operations under the contingency arrangements, and coordinate operational ATS activities, 24 hours a day, throughout the contingency period. The terms of reference of the AOCG will be determined by the CCC. The AOCG will include specialized personnel from the following disciplines:

- Air traffic services (ATS)
- Aeronautical telecommunication (COM)
- Aeronautical meteorology (MET)
- Aeronautical information services (AIS)
- ATS equipment maintenance service provider

The mission of the AOCG shall include:

i) review and update of the Contingency Plan as required;

ii) keep up to date at all times of the contingency situation;

iii) organize contingency teams in each of the specialized areas;

iv) keep in contact with and update the ICAO Asia and Pacific Regional Office, operators and the IATA Regional Office;

v) exchange up-to-date information with the adjacent ATS authorities concerned to coordinate contingency activities;

vi) notify the designated organizations in Indonesia of the contingency situation sufficiently in advance and/or as soon as possible thereafter;

vii) take the necessary action for issuing NOTAMs according to the corresponding contingency situation, this plan or as otherwise needed (example NOTAMS are provided in **Appendix 1C**). If the situation is foreseeable sufficiently in advance, a NOTAM will be issued 48 hours in advance.

4. CONTINGENCY ROUTE STRUCTURE

4.1 In the event of disruption of the ATC services provided by Jakarta ACC, contingency routes will be introduced to ensure safety of flight and to facilitate limited flight operations commensurate with the prevailing conditions. Existing ATS routes form the basis of the contingency routes to be used, and a flight level assignment scheme introduced to minimize potential points of conflict and to limit the number of aircraft operating simultaneously in the system under reduced air traffic services. The contingency route structure for international flights is detailed in **Appendix 1D.** Additional contingency routes will be introduced as and when circumstances require, such as in the case of volcanic ash clouds forming.

4.2 In regard to domestic operations, if circumstances dictate, all flights shall be temporarily suspended until a full assessment of the prevailing conditions has been determined and sufficient air traffic services restored. A decision to curtail or restart domestic operations will be made by the CCC.

4.3 Aircraft on long-haul international flights and special operations (e.g. Search and Rescue (SAR), State aircraft, humanitarian flights, etc), shall be afforded priority in accordance with this plan.

4.4 International operators affected by the suspension of all operations from Indonesian airports will be notified by the relevant airport authority when operations may be resumed, and flight planning information will be made available pertaining to that airport. International flights who have received such approval may be required to flight plan via domestic routes to join international contingency routes.

4.5 International operators may elect to avoid the Indonesian airspace and route to the west around the Jakarta FIR via the Melbourne and Colombo FIRs to the Chennai and Kuala Lumpur FIRs and vice versa. The contingency routes to be used in this scenario will be provided by the ATS authorities concerned.

5. AIR TRAFFIC MANAGEMENT AND CONTINGENCY PROCEDURES

Reduced ATS and provision of flight information services (FIS)

5.1 During the contingency critical period, ATS including ATC, may not be available, particularly with regard to availability of communications and radar services. In cases where service are not available, a NOTAM will be issued providing the relevant information, including an expected date and time of resumption of service. The contingency plan provides for limited flight information and alerting services to be provided by adjacent ACCs.

5.2 The Indonesian airspace will be divided into two parts, North and South along latitude 05 00 00S then along the existing FIR boundary of the Jakarta and Ujung Pandang FIRs. FIS and flight monitoring will be provided by the designated ATS authorities for the adjacent FIRs on the contingency routes that enter their respective FIRs. A chart depicting the airspace arrangement is provided in **Appendix 1E**.

5.3 The primary means of communication will be by VHF or HF radio except for aircraft operating automatic dependent surveillance (ADS) and controller /pilot data link communication (CPDLC) systems. When CPDLC has been authorized for use by the relevant ATC authority, this will become the primary means of communication with HF as secondary. In the case of ADS automatic position reporting, this replaces voice position reporting and CPDLC or HF will become the secondary means. Details of the communication requirements are provided in **Appendix 1F.**

ATS Responsibilities

5.4 During the early stages of a contingency event, ATC may be overloaded and tactical action taken to reroute aircraft on alternative routes not included in this Plan.

5.5 In the event that ATS cannot be provided in the Jakarta FIR a NOTAM shall be issued indicating the following:

a) time and date of the beginning of the contingency measures;

b) airspace available for landing and overflying traffic and airspace to be avoided;

c) details of the facilities and services available or not available and any limits on ATS provision (e.g., ACC, APPROACH, TOWER and FIS), including an expected date of restoration of services if available;

d) information on the provisions made for alternative services;

e) any changes to the ATS contingency routes contained in this Plan;

f) any special procedures to be followed by neighbouring ATS units not covered by this Plan;

g) any special procedures to be followed by pilots; and

h) any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

5.6 In the event that the Indonesian International NOTAM Office is unable to issue the NOTAM, the (alternate) International NOTAM Office at Singapore and/or Brisbane will take action to issue the NOTAM of closure airspace upon notification by the DGCA or its designated authority, e.g. the ICAO Asia and Pacific Regional Office.

Aircraft Separation

5.7 Aircraft separation criteria will be applied in accordance with the *Procedures for Air Navigation Services-Air Traffic Management* (PANS-ATM, Doc 4444) and the *Regional Supplementary Procedures* (Doc 7030).

5.8 The longitudinal separation will be 15 minutes. However, this may be reduced to 10 minutes in conjunction with application of the Mach number technique in light of developments and as authorized by the DGCA by the appropriate OCA.

5.9 The route structure provides for lateral separation of 100 NM and in cases where this is less, and for crossing routes, a standard minimum vertical separation will be applied.

Flight level restrictions

5.10 Where possible, aircraft on long-haul international flights shall be given priority with respect to cruising levels.

Aircraft position reporting

5.11 Pilots will continue to make routine position reports in line with normal ATC reporting procedures.

VFR operations

5.12 VFR flights shall not operate in the Jakarta FIR if there are extensive disruptions to ATC facilities, except in special cases such as State aircraft, Medivac flights, and any other essential flights authorized by the DGCA.

Procedures for ATS Units

5.13 The ATS units providing ATC services will follow their unit emergency operating procedures and activate the appropriate level of contingency procedures in line with the Operational Coordination Agreement. These procedures include the following:

a) the Jakarta ACC on determining that ATS may be reduced due to a contingency event, will inform pilots by the controller responsible of the emergency condition and advise if it is likely that the ACC will be evacuated and ATS suspended. In the event of it becoming necessary to evacuate the ACC building, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication;

b) during the period the contingency procedures are in effect, flight plan messages must continue to be transmitted by operators to the Jakarta ACC and to the Ujung Pandang ACC via the AFTN using normal procedures;

Note: Depending on the phase of emergency and circumstances, the Indonesian NOF may be suspended and alternative AFTN service introduced, e.g. at the Jakarta Airport Tower and Ujung Pandang ACC. Also, the NOF of adjacent ATS authorities may be used to issue Indonesian NOTAMs.

c) on notification by DGCA, Indonesia, the ATS authorities operating the ACCs of the adjacent FIRs, viz. Chennai, Colombo, Kota Kinabalu, Kuala Lumpur, Ujung Pandang, Melbourne, and Singapore will activate the contingency procedures in accordance with their respective Operational Coordination Agreement;

d) the adjacent ACC responsible for aircraft entering for transit of the Jakarta FIR must communicate, not less than 30 minutes beforehand, the estimated time over 0500 S;

e) the ACC responsible for aircraft entering the Jakarta FIR will instruct pilots to maintain the last flight level assigned and speed (MACH number if applicable) while overflying the Jakarta FIR;

f) the ACC responsible will not authorize any change in flight level or speed (MACH number, if applicable) later than 10 minutes before the aircraft enters the Jakarta FIR, except in the case specified in h) below;

g) to facilitate arrival and departures at Singapore on the following route sectors, aircraft may climb and descend under the control of Singapore ACC in line with normal operating procedures:

- R469 - From Pekan Baru (PKU) to TAROS;
- G579 - From Palembang (PLB) to PARDI; and
- B470 - From ANITO to Pangkal Pinang (PKP)

h) the ACC responsible prior to aircraft entering the Jakarta FIR will instruct aircraft that they must communicate with the next (downstream) ATC unit 10 minutes before the estimated time of 0500 S; and

i) aircraft may also chose to avoid the Indonesia airspace, and the controlling authorities of the FIRs concerned will provide alternative contingency routes as appropriate and these will be published by NOTAM.

Transition to contingency scheme

5.14 During times of uncertainty when airspace closures seem possible, aircraft operators should be prepared for a possible change in routing while en-route, familiarization of the alternative routes outlined in this Contingency Plan, as well as those which may be promulgated by a State via NOTAM or AIP.

5.15 In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all aircraft in their airspace, what airspace is being closed and to stand by for further instructions.

5.16 ATS providers should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to any request by aircraft and react commensurate with safety.

Review of OCAs

5.17 The ATS providers concerned should review the effectiveness of current coordination requirements and procedures in light of contingency operations or short notice of airspace closure, and make any necessary adjustments to the Contingency Plan and OCAs.

6. PILOTS AND OPERATOR PROCEDURES

Filing of flight plans

6.1 Flight planning requirements for the Jakarta FIR are to be followed in respect to normal flight planning requirements contained in the Indonesia Aeronautical Information Publication (AIP) and as detailed at **Appendix 1G.**

Overflight approval

6.2 Aircraft operators must obtain normal over flight approval from the DGCA, Indonesia prior to operating flights through the Jakarta FIR.

Pilot operating procedures

6.3 Aircraft overflying the Jakarta FIR shall follow the following procedures:

a) all aircraft proceeding along the ATS routes established in this Contingency Plan will comply with the instrument flight rules (IFR) and will be assigned a flight level in accordance with the flight level allocation scheme applicable to the route(s) being flown as specified in Appendix 1D;

b) flights are to file a flight plan using the Contingency Routes specified in Appendix 1D, according to their airport of origin and destination;

c) pilots are to keep a continuous watch on the specified contingency frequency as specified in Appendix 1F and transmit in English position information and estimates line with normal ATC position reporting procedures;

d) pilots are to maintain during their entire flight time within Jakarta FIR, the flight level last assigned by the last ACC responsible prior to the aircraft entering the Jakarta FIR, and under no circumstances change this level and Mach Number, except in cases of emergency and for flight safety reasons. In addition, the last SSR transponder assigned shall be maintained or, if no transponder has been assigned, transmit on SSR code 2000;

e) aircraft are to reach the flight level last assigned by the responsible ACC at least 10 minutes before entering the Jakarta FIR or as otherwise instructed by the ATC unit in accordance with the OCA with Indonesia;

f) pilots are to include in their last position report prior to entering the Jakarta FIR, the estimated time over the entry point of the Jakarta FIR and the estimated time of arrival over the relevant exit point of the Jakarta FIR;

g) pilots are to contact the next adjacent ACC as soon as possible, and at the latest, ten (10) minutes before the estimated time of arrival over 0500 S;

h) whenever emergencies and/or flight safety reasons make it impossible to maintain the flight level assigned for transit of Jakarta FIR, pilots are to climb or descend well to the right of the centerline of the contingency route, and if deviating outside the Jakarta FIR, to inform immediately the ACC responsible for that airspace. Pilots are to make blind broadcast on 121.5 MHz of the relevant emergency level change message (comprising the aircraft call sign, the aircraft position, the flight levels being vacated and crossed, etc);

i) not all operational circumstances can be addressed by this Contingency Plan and pilots are to maintain a high level of alertness when operating in the contingency airspace and take appropriate action to ensure safety of flight.

Interception of civil aircraft

6.4 Pilots need to be aware that in light of current international circumstances, a contingency routing requiring aircraft to operate off normal traffic flows, could result in an intercept by military aircraft. Aircraft operators must therefore be familiar with international intercept procedures contained in ICAO Annex 2 –*Rules of the Air*, paragraph 3.8 and Appendix 2, Sections 2 and 3.

6.5 The Indonesian Air Force may intercept civil aircraft over the territory of Indonesia in the event that a flight may not be known to and identified by the military authority. In such cases, the ICAO intercept procedures contained in Annex 2 (reproduced in **Appendix 1H**) will be followed by the Indonesian Air Force, and pilots are to comply with instructions given by the pilot of the intercepting aircraft. In such circumstances, the pilot of the aircraft being intercepted shall broadcast information on the situation.

6.6 If circumstances lead to the closure of the Indonesian airspace and no contingency routes are available through the Jakarta and Ujung Pandang FIRs, aircraft will be required to route around the Indonesian airspace. As much warning as possible will be provided by the appropriate ATS authorities in the event of the complete closure of Indonesian airspace.

6.7 Pilots need to continuously guard the VHF emergency frequency 121.5 MHz and should operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on a discrete code assigned by ATC or select code 2000 if ATC has not assigned a code.

7. COMMUNICATION PROCEDURES

Degradation of Communication - Pilot Radio Procedures

7.1 When operating within the contingency airspace of the Jakarta FIR, pilots should use normal radio communication procedures where ATS services are available. These will be in accordance with the communication procedures in this Plan or as otherwise notified by NOTAM.

7.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots should try the next applicable frequency, e.g. if en-route contact is lost then try the next appropriate frequency, that is, the next normal handover frequency. Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of ~~no~~ communication with ATC, the pilot should continue to make routine position reports on the assigned frequency, and also broadcast positions on the specified contingency frequency.

Communication frequencies

7.3 A list of frequencies to be used for the contingency routes and the ATS units providing FIS and air-ground communication monitoring for the Jakarta FIR is detailed at Appendix 1F

8. AERONAUTICAL SUPPORT SERVICES

Aeronautical Information Services (AIS)

8.1 A NOTAM contingency plan will be developed to ensure continuation of the NOTAM service for the Jakarta FIR in support of contingency operations. The NOTAMs will establish the actions to be taken in order to reduce the impact of the failures in the air traffic services. The NOTAMs will also establish the necessary coordination and operational procedures that would be established before, during and after any Contingency phase.

8.2 NOTAM services will be provided by neighboring AIS authorities in accordance with OCAs.

Meteorological Services (MET)

8.3 The Indonesian Meteorological and Geophysical Agency (MGA) is the designated meteorological authority of Indonesia. MGA is also the provider of meteorological services for the international and domestic air navigation. In order to comply with the ICAO requirements on aeronautical meteorology specified in Annex 3, Meteorological Service for International Air Navigation and the ASIA/PAC Air Navigation Plan – Doc 9673, MGA should ensure regular provision of the following products and services:

a) aerodrome observations and reports – local MET REPORT and SPECIAL, as well as WMO-coded METAR and SPECI; METAR and SPECI should be provided for all international aerodromes listed in the AOP Table of ASIA/PAC Basic ANP and FASID Table MET 1A;

b) terminal aerodrome forecast - TAF as per the requirements indicated in FASID Table MET 1A;

c) SIGMET for the two Indonesian FIRs – Jakarta and Ujung Pandang; SIGMET should be issued by the meteorological watch offices (MWO) designated in FASID Table MET 1B – WIII and WAAA;

d) Information for the ATS units (TWR, APP, ACC) as agreed between the meteorological authority and the ATS units concerned;

e) Flight briefing and documentation as per Annex 3, Chapter 9.

8.4 It is expected that the Indonesia MET services would continue to be available in the event of an ATS contingency situation. However, should ATS services for the Jakarta FIR be withdrawn, timely MET information may not be immediately available to pilots in flight. Alternative means of obtaining up to date MET information concerning the Jakarta FIR will be provided to the extent possible through the adjacent ATS authorities. In addition, alternative means of OPMET information transmission to the regional OPMET data bank Singapore and both WAFCs (London and Washington), which offers available contingency for the global dissemination of OPMET information will be attempted, e.g. making use of the communication networks of communication service providers (ARINC and SITA).

9. SEARCH AND RESCUE

Notification and Coordination

9.1 ACCs involved in this Contingency Plan are required to assist as necessary to ensure that the proper Search and Rescue (SAR) authorities are provided with the information necessary to support downed aircraft or aircraft with an in-flight emergency in respect to the Jakarta FIR.

9.2 The SAR authority responsible for the Jakarta FIR is the Jakarta Rescue Coordination Centre (Jakarta RCC/Jakarta SAR Office)

IDD	62-21-5501512 and 3521111
Fax	62-21-5501513 and 34832884
AFTN	WIIIYKYX
Email	basarnas@indo.net.id

9.3 Each ACC shall assist as necessary in the dissemination of INCERFA, ALERFA and DETRESFA in respect to incidents in the Jakarta FIR.

9.4 In the event that the Jakarta ACC is not available, the responsibility for coordinating with the Jakarta RCC for aircraft emergencies and incidents involving the Jakarta FIR will be undertaken by the Ujung Pandang ACC. The CCC will take appropriate steps to ensure that SAR information is made available to the Jakarta RCC. The AOCG will also oversee SAR coordination and disseminate relevant contact information.

9.5 In the event that both Jakarta and Ujung Pandang ACCs are not available, there are 24 hour-alert SAR Offices (JRCCs) throughout Indonesia coordinated by the National SAR Agency (BASARNAS) to ensure the provision of SAR services in the Indonesian SSR.

INDONESIA AIR TRAFFIC MANAGEMENT

CONTINGENCY PLAN

UJUNG PANDANG FIR – PART II

PREPARED BY

Indonesian Contingency Plan Project Team

AIR TRAFFIC SERVICES DIVISION
DIRECTORATE GENERAL OF CIVIL AVIATION, INDONESIA

TABLE OF CONTENTS

FOREWORD

This is the first edition of the Indonesian Air Traffic Management (ATM) Contingency Plan for Air Traffic Services (ATS) for the Upper Airspace of the Ujung Pandang Flight Information Region (FIR). The Contingency Plan will come into effect as determined by the Director General of the Directorate General Civil Aviation (DGCA), who is the authority for civil aviation operations in Indonesia.

This Contingency Plan (the Plan) is presented in two Parts: Part I for the Jakarta FIR, and Part II for the Ujung Pandang FIR. Part I of the Plan provides for the contingency arrangements to be introduced to permit the continuance of international flights to transit the Jakarta FIR, in the event that the air traffic and support services normally undertaken by the Jakarta Area Control Centre (ACC) should become partially or totally unavailable due to any occurrence that restricts flight operations. Similarly, Part II provides the contingency procedures for the Ujung Pandang ACC. In the event of both ACCs becoming inoperative, Parts I and II will be activated catering for the worst case scenario of a total disruption in ATS for the Upper Airspace of the Jakarta and Ujung Pandang FIRs.

The Indonesian territory, which comprises an archipelago of some 17,500 islands extending about 5000 kms mainly in an east/west direction, is located in a major earthquake zone with many active volcanoes. A major earthquake could strike at any time causing serious damage to civil aviation and air navigation services, facilities and infrastructure. With two major ACCs located at Jakarta for the west region and Ujung Pandang for eastern region, it is considered highly unlikely that both facilitates would be out of service simultaneously. However, in the event that one ACC becomes inoperable, and ATS became unavailable, it would take several days to relocate and operate ATS from the remaining ACC and restore a more normal level of service. During this interim period, flight operations in Indonesia would be severely restricted.

This Plan has been developed in close co-operation and collaboration with the civil aviation authorities responsible for the adjacent FIRs and representatives of the users of the airspace. The Indonesian Air Force also have been consulted and recognize the requirement for the Plan and the civil aviation procedures that apply thereto.

The Plan will be activated by promulgation of a NOTAM issued by the Indonesian International NOTAM Office (NOF) as far in advance as is practicable. However, when such prior notification is impracticable for any reason, the Plan will be put into effect on notification by the designated authority, as authorized by the DGCA. It is expected that the civil aviation authorities concerned and the airline operators will fully cooperate to implement the Plan as soon as possible.

This Plan has been prepared in coordination with the International Civil Aviation Organization (ICAO) to meet the requirements in ICAO Annex 11 ─ *Air Traffic Services* to provide for the safe and orderly continuation of international flights through Indonesian airspace.

Any proposed amendments to this plan shall be forwarded to:

Director General
Directorate General of Civil Aviation
Jl. Medan Merdeka Barat No. 8
Gedung Karsa Lt. 5
Jakarta, 10110, Indonesia
Tel: (62-21) 3505137
Fax: (62-21) 3505139
Email: dirjenud@indosat.net.id

RECORD OF AMENDMENTS

Amendment Number	Effective Date	Date Entered	Entered By	Paragraph/ Reference

PART II

ATM CONTINGENCY PLAN FOR INTERNATIONAL FLIGHTS TO TRANSIT THE UPPER AIRSPACE OF THE UJUNG PANDANG FIR

Effective: 1 August 2007, 0000 (UTC)

1. OBJECTIVE

1.1 The Air Traffic Management (ATM) Contingency Plan, Part II contains arrangements to ensure the continued safety of air navigation in the event of partial or total disruption of air traffic services in the Ujung Pandang FIR in accordance with ICAO Annex 11 ─ *Air Traffic Services,* Chapter 2, paragraph 2.29. The Contingency Plan provides the ATS procedures and contingency route structure using existing airways in most cases that will allow aircraft operators to transit the Ujung Pandang FIR.

1.2 This Contingency Plan does not address arrangements for aircraft arriving and departing at Indonesian airports or for domestic flight operations within the territory of Indonesia.

2. STATES AND FIRS AFFECTED

2.1 In the event that the Director General, DGCA activates this Contingency Plan, the civil aviation authorities of the adjacent FIRs will be notified in accordance with Operational Coordination Agreement (OCA) established between the States concerned. The adjacent States, FIRs and ACCs directly affected by this Contingency Plan are as follows:

a) Australia

Brisbane FIR (ACC)

b) Malaysia

Kota Kinabalu FIR (ACC)

c) United States of America

Oakland FIR (ACC)

d) Philippines

Manila FIR (ACC)

e) Papua New Guinea

Port Moresby FIR (ACC)

f) Indonesia

Jakarta FIR (ACC)

2.2 The contact details of the civil aviation authorities and organizations concerned are contained in **Appendix 2A.** These details should be kept up to date and relevant information provided to the DGCA as soon as practicable**.**

3. MANAGEMENT OF THE CONTINGENCY PLAN

3.1 The contingency measures set out in this Plan are applicable in cases of foreseeable events caused by unexpected interruptions in ATS caused by natural occurrences or other circumstances, which, in one way or another, may impair or totally disrupt the provision of ATS and/or of the related support services in the Ujung Pandang FIR.

3.2 The following arrangements have been put in place to ensure that the management of the Contingency Plan provides for international flights to proceed in a safe and orderly fashion through the Upper Airspace of the Ujung Pandang FIR.

Central Coordinating Committee

3.3 As soon as practicable in advance of, or after a contingency event has occurred, the Director General, DGCA shall convene the Central Coordinating Committee (CCC) comprised of representatives from:

1) Directorate General of Civil Aviation

2) PT (Persero) Angkasa Pura I (ATS provider for the Ujung Pandang FIR and operator of major airports in the eastern region)

3) PT (Persero) Angkasa Pura II (ATS provider for the Jakarta FIR and operator of major airports in the western region)

4) Indonesian Air Force

5) Ministry of Defense

6) Representative from the airlines committee

7) Meteorological and Geophysical Agency

8) Other participants as required

3.4 The CCC shall oversee the conduct of the Contingency Plan and in the event that the Ujung Pandang ACC premises are out of service for an extended period, make arrangements for and facilitate the temporary relocation of the Ujung Pandang ACC at the Jakarta ACC and the restoration of ATS services. The terms of reference for the CCC will be determined by the DGCA.

3.5 Contact details of the members of the CCC are provided in **Appendix 2B**.

ATM Operational Contingency Group

3.6 The ATM Operational Contingency Group (AOCG) will be convened by the CCC with a primary responsibility to oversee the day to day operations under the contingency arrangements, and coordinate operational ATS activities, 24 hours a day, throughout the contingency period. The terms of reference of the AOCG will be determined by the CCC. The AOCG will include specialized personnel from the following disciplines:

- Air traffic services (ATS)
- Aeronautical telecommunication (COM)
- Aeronautical meteorology (MET)
- Aeronautical information services (AIS)
- ATS equipment maintenance service provider

The mission of the AOCG shall include taking the following action:

i) review and update of the Contingency Plan as required;

ii) keep up to date at all times of the contingency situation;

iii) organize contingency teams in each of the specialized areas;

iv) keep in contact with and update the ICAO Asia and Pacific Regional Office, operators and the IATA Regional Office;

v) exchange up-to-date information with the adjacent ATS authorities concerned to coordinate contingency activities;

vi) notify the designated organizations in Indonesia of the contingency situation sufficiently in advance and/or as soon as possible thereafter; and

vii) issue NOTAMs according to the corresponding contingency situation, this plan or as otherwise needed (example NOTAMS are provided in **Appendix 2C**). If the situation is foreseeable sufficiently in advance, a NOTAM will be issued 48 hours in advance.

4. CONTINGENCY ROUTE STRUCTURE

4.1 In the event of disruption of the ATC services provided by Ujung Pandang ACC, contingency routes will be introduced to ensure safety of flight and to facilitate limited flight operations commensurate with the prevailing conditions. Existing ATS routes form the basis of the contingency routes to be used, and a flight level assignment scheme introduced to minimize potential points of conflict and to limit the number of aircraft operating simultaneously in the system under reduced air traffic services.

4.2 The contingency route structure for international flights is detailed in **Appendix 2D.** Additional contingency routes will be introduced as and when circumstances require, such as in the case of volcanic ash clouds forming.

4.3 In regard to domestic operations, if circumstances dictate, all flights shall be temporarily suspended until a full assessment of the prevailing conditions has been determined and sufficient air traffic services restored. A decision to curtail or restart domestic operations will be made by the CCC.

4.4 Aircraft on long-haul international flights and special operations (e.g. Search and Rescue (SAR), State aircraft, humanitarian flights, etc), shall be afforded priority for levels at FL290 and above.

4.5 International operators affected by the suspension of all operations from Indonesian airports will be notified by the relevant airport authority when operations may be resumed, and flight planning information will be made available pertaining to that airport. International flights who have received such approval may be required to flight plan via domestic routes to join international contingency routes.

4.6 International operators may elect avoid the Ujung Pandang FIR to the east routing via the Brisbane, Port Moresby and Oakland FIRs to the Manila and Kota Kinabalu FIRs. The contingency routes to be used in this scenario will be provided by the ATS authorities concerned.

5. AIR TRAFFIC MANAGEMENT AND CONTINGENCY PROCEDURES

Reduced ATS and provision of flight information services (FIS)

5.1 During the contingency critical period, ATS including ATC, may not be available, particularly with regard to availability of communications and radar services. In cases where service are not available, a NOTAM will be issued providing the relevant information, including an expected date and time of resumption of service. The contingency plan provides for limited flight information and alerting services to be provided by adjacent ACCs.

5.2 The Indonesian airspace will be divided into two parts, North and South along latitude 05 00 00S then along the existing FIR boundary of the Jakarta and Ujung Pandang FIRs. FIS and flight monitoring will be provided by the designated ATS authorities for the adjacent FIRs on the contingency routes that enter their respective FIRs. A chart depicting the airspace arrangement is provided in **Appendix 2E**.

5.3 The primary means of communication will be by VHF or HF radio except for aircraft operating automatic dependent surveillance (ADS) and controller/pilot data link communication (CPDLC) systems. When CPDLC has been authorized for use by the relevant ATC authority, this will become the primary means of communication with HF as secondary. In the case of ADS automatic position reporting, this replaces voice position reporting and CPDLC or HF will become the secondary means. Details of the communication requirements are provided in **Appendix 2F.**

ATS Responsibilities

5.4 During the early stages of a contingency event, ATC may be overloaded and tactical action taken to reroute aircraft on alternative routes not included in this Plan.

5.5 In the event that ATS cannot be provided in the Ujung Pandang FIR a NOTAM shall be issued indicating the following:

a) time and date of the beginning of the contingency measures;

b) airspace available for landing and overflying traffic and airspace to be avoided;

c) details of the facilities and services available or not available and any limits on ATS provision (e.g., ACC, APPROACH, TOWER and FIS), including an expected date of restoration of services if available;

d) information on the provisions made for alternative services;

e) any changes to the ATS contingency routes contained in this Plan;

f) any special procedures to be followed by neighbouring ATS units not covered by this Plan;

g) any special procedures to be followed by pilots; and

h) any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

5.6 In the event that the Indonesian International NOTAM Office is unable to issue the NOTAM, the (alternate) International NOTAM Office at Singapore and/or Brisbane will take action to issue the NOTAM of closure airspace upon notification by the DGCA or its designated authority, e.g. the ICAO Asia and Pacific Regional Office.

Aircraft Separation

5.7 Aircraft separation criteria will be applied in accordance with the *Procedures for Air Navigation Services-Air Traffic Management* (PANS-ATM, Doc 4444) and the *Regional Supplementary Procedures* (Doc 7030).

5.8 The longitudinal separation will be 15 minutes. However, this may be reduced to 10 minutes in conjunction with application of the Mach number technique in light of developments and as authorized by the DGCA by the appropriate OCA.

5.9 The route structure provides for lateral separation of 100 NM and in cases where this is less, and for crossing routes, a standard vertical separation will be applied.

Flight level restrictions

5.10 Where possible, aircraft on long-haul international flights shall be given priority with respect to cruising levels.

Aircraft position reporting

5.11 Pilots will continue to make routine position reports in line with normal ATC reporting procedures.

VFR operations

5.12 VFR flights shall not operate in the Ujung Pandang FIR if there are extensive disruptions to ATC facilities, except in special cases such as State aircraft, Medivac flights, and any other essential flights authorized by the DGCA.

Procedures for ATS Units

5.13 The ATS units providing ATC services will follow their unit emergency operating procedures and activate the appropriate level of contingency procedures in line with the operational Letter of Agreement. These procedures include the following:

a) the Ujung Pandang ACC on determining that ATS may be reduced due to a contingency event, will inform pilots by the controller responsible of the emergency condition and advise if it is likely that the ACC will be evacuated and ATS suspended. In the event of it becoming necessary to evacuate the ACC building, the unit evacuation procedures will be activated, and time permitting, controllers will make an emergency evacuation transmission on the radio frequency in use providing pilots with alternate means of communication;

b) during the period the contingency procedures are in effect, flight plan messages must continue to be transmitted by operators to the Jakarta ACC and to the Ujung Pandang ACC via the AFTN using normal procedures;

Note: The Ujung Pandang ACC.AFTN is routed through the Jakarta Airport AMSC for the NOF.

c) on notification by DGCA, Indonesia, the ATS authorities operating the ACCs of the adjacent FIRs, viz. Brisbane, Kota Kinabalu, Oakland, and Manila will activate the contingency procedures in accordance with their respective Operational Coordination Agreement;

d) the adjacent ACC responsible for aircraft entering for transit of the Ujung Pandang FIR must communicate not less than 30 minutes beforehand, the estimated time over 0500 S;

e) the ACC responsible for aircraft entering the Ujung Pandang FIR will instruct pilots to maintain the last flight level assigned and speed (MACH number if applicable) while overflying the Ujung Pandang FIR;

f) the ACC responsible will not authorize any change in flight level or speed (MACH number, if applicable) later than 10 minutes before the aircraft enters the Ujung Pandang FIR, except in the case specified in h) below;

g) the ACC responsible prior to aircraft entering the Ujung Pandang FIR will inform aircraft that they must communicate with the next (downstream) ATC unit 10 minutes before the estimated time of 0500 S; and

h) operators may also chose to avoid the Indonesia airspace, and the controlling authorities of the FIRs concerned will provide alternative contingency routes as appropriate and these will be published by NOTAM.

Transition to contingency scheme

5.14 During times of uncertainty when airspace closures seem possible, aircraft operators should be prepared for a possible change in routing while en-route, familiarization of the alternative routes outlined in this Contingency Plan, as well as those which may be promulgated by a State via NOTAM or AIP.

5.15 In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all aircraft in their airspace, what airspace is being closed and to stand by for further instructions.

5.16 ATS providers should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to any request by aircraft and react commensurate with safety.

Review of OCAs

5.17 The ATS providers concerned should review the effectiveness of current coordination requirements and procedures in light of contingency operations or short notice of airspace closure, and make any necessary adjustments to the Contingency Plan and OCAs.

6. PILOTS AND OPERATOR PROCEDURES

Filing of flight plans

6.1 Flight planning requirements for the Ujung Pandang FIR are to be followed in respect to normal flight planning requirements contained in the Indonesia Aeronautical Information Publication (AIP) and as detailed at **Appendix 2G.**

Overflight approval

6.2 Aircraft operators must obtain overflight approval from the DGCA, Indonesia prior to operating flights through the Ujung Pandang FIR.

Pilot operating procedures

6.3 Aircraft overflying the Ujung Pandang FIR shall follow the following procedures:

a) all aircraft proceeding along the ATS routes established in this Contingency Plan will comply with the instrument flight rules (IFR) and will be assigned a flight level in accordance with the flight level allocation scheme applicable to the route(s) being flown as specified in **Appendix 2D**;

b) flights are to file flight plan using the Contingency Routes specified in **Appendix 2D**, according to their airport of origin and destination;

c) pilots are to keep a continuous watch on the specified contingency frequency as specified in **Appendix 2F** and transmit in English position information and estimates in line with normal ATC position reporting procedures;

d) pilots are to maintain during their entire flight time within Ujung Pandang FIR, the flight level last assigned by the last ACC responsible prior to the aircraft entering the Ujung Pandang FIR, and under no circumstances change this level and Mach Number, except in cases of emergency and for flight safety reasons. In addition, the last SSR transponder assigned shall be maintained or, if no transponder has been assigned, transmit on SSR code 2000;

e) aircraft are to reach the flight level last assigned by the responsible ACC at least 10 minutes before entering the Ujung Pandang FIR or as otherwise instructed by the ATC unit in accordance with the OCA with Indonesia;

f) pilots are to include in their last position report prior to entering the Ujung Pandang FIR, the estimated time over the entry point of the Ujung Pandang FIR and the estimated time of arrival over the relevant exit point of the Ujung Pandang FIR;

g) pilots are to contact the next adjacent ACC as soon as possible, and at the latest, ten (10) minutes before the estimated time of arrival over 0500 S;

h) whenever emergencies and/or flight safety reasons make it impossible to maintain the flight level assigned for transit of Ujung Pandang FIR, pilots are to climb or descend well to the right of the centerline of the contingency route, and if deviating outside the Ujung Pandang FIR, to inform immediately the ACC responsible for that airspace. Pilots are to make blind broadcast on 121.5 MHz of the relevant emergency level change message (comprising the aircraft call sign, the aircraft position, the flight levels being vacated and crossed, etc);

i) not all operational circumstances can be addressed by this Contingency Plan and pilots are to maintain a high level of alertness when operating in the contingency airspace and take appropriate action to ensure safety of flight.

Interception of civil aircraft

6.4 Pilots need to be aware that in light of current international circumstances, a contingency routing requiring aircraft to operate off normal traffic flows, could result in an intercept by military aircraft. Aircraft operators must therefore be familiar with international intercept procedures contained in ICAO Annex 2 –*Rules of the Air*, paragraph 3.8 and Appendix 2, Sections 2 and 3.

6.5 The Indonesian Air Force may intercept civil aircraft over the territory of Indonesia in the event that a flight may not be known to and identified by the Indonesian Air Force. In such cases, the

ICAO intercept procedures contained in Annex 11, Attachment C (reproduced in **Appendix 2I**) will be followed by the military authority, and pilots are to comply with instructions given by the pilot of the intercepting aircraft. In such circumstances, the pilot of the aircraft being intercepted shall broadcast information on the situation.

6.6 If circumstances lead to the closure of the Indonesian airspace and no contingency routes are available through the Jakarta and Ujung Pandang FIRs, aircraft will be required to route around the Indonesian airspace. As much warning as possible will be provided by the appropriate ATS authorities in the event of the complete closure of Indonesian airspace.

6.7 Pilots need to continuously guard the VHF emergency frequency 121.5 MHz and should operate their transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes. Transponders should be set on a discrete code assigned by ATC or select code 2000 if ATC has not assigned a code.

7. COMMUNICATION PROCEDURES

Degradation of Communication - Pilot Radio Procedures

7.1 When operating within the contingency airspace of the Ujung Pandang FIR, pilots should use normal radio communication procedures where ATS services are available. These will be in accordance with the communication procedures in this Plan or as otherwise notified by NOTAM.

7.2 If communications are lost unexpectedly on the normal ATS frequencies, pilots should try the next applicable frequency, e.g. if en-route contact is lost then try the next appropriate frequency, that is, the next normal handover frequency. Pilots should also consider attempting to contact ATC on the last frequency where two-way communication had been established. In the absence of no communication with ATC, the pilot should continue to make routine position reports on the assigned frequency, and also broadcast positions on the specified contingency frequency.

Communication frequencies

7.3 A list of frequencies to be used for the contingency routes and the ATS units providing FIS and air-ground communication monitoring for the Ujung Pandang FIR is detailed at **Appendix 2F**.

8. AERONAUTICAL SUPPORT SERVICES

Aeronautical Information Services (AIS)

8.1 A NOTAM contingency plan will be developed to ensure continuation of the NOTAM service for the Ujung Pandang FIR in support of contingency operations. The NOTAMs will establish the actions to be taken in order to reduce the impact of the failures in the air traffic services. The NOTAMs will also establish the necessary coordination and operational procedures that would be established before, during and after any contingency phase.

8.2 NOTAM services will be provided by neighboring AIS authorities in accordance with OCAs.

Meteorological Services (MET)

8.3 The Indonesian Meteorological and Geophysical Agency (MGA) is the designated meteorological authority of Indonesia. MGA is also the provider of meteorological services for the international and domestic air navigation. In order to comply with the ICAO requirements on

aeronautical meteorology specified in Annex 3, Meteorological Service for International Air Navigation and the ASIA/PAC Air Navigation Plan – Doc 9673, MGA should ensure regular provision of the following products and services:

a) aerodrome observations and reports – local MET REPORT and SPECIAL, as well as WMO-coded METAR and SPECI; METAR and SPECI should be provided for all international aerodromes listed in the AOP Table of ASIA/PAC Basic ANP and FASID Table MET 1A;

b) terminal aerodrome forecast - TAF as per the requirements indicated in FASID Table MET 1A;

c) SIGMET for the two Indonesian FIRs – Jakarta and Ujung Pandang; SIGMET should be issued by the meteorological watch offices (MWO) designated in FASID Table MET 1B – WIII and WAAA;

d) information for the ATS units (TWR, APP, ACC) as agreed between the meteorological authority and the ATS units concerned;

e) Flight briefing and documentation as per Annex 3, Chapter 9.

8.4 It is expected that the Indonesia MET services would continue to be available in the event of an ATS contingency situation. However, should ATS services for the Ujung Pandang FIR be withdrawn, timely MET information may not be immediately available to pilots in flight. Alternative means of obtaining up to date MET information concerning the Ujung Pandang FIR will be provided to the extent possible through the adjacent ATS authorities. In addition, alternative means of OPMET information transmission to the regional OPMET data bank Singapore and both WAFCs (London and Washington), which offers available contingency for the global dissemination of OPMET information will be attempted, e.g. making use of the communication networks of communication service providers (ARINC and SITA).

9. SEARCH AND RESCUE

Notification and Coordination

9.1 ACCs involved in this Contingency Plan are required to assist as necessary to ensure that the proper Search and Rescue (SAR) authorities are provided with the information necessary to support downed aircraft or aircraft with an in-flight emergency in respect to the Ujung Pandang FIR.

9.2 The SAR authority responsible for the Ujung Pandang FIR is the Makassar Rescue Coordination Centre (Makassar RCC/Makassar SAR Office)

IDD	62-411-554111
Fax	62-411-554852
AFTN	WAAAYCYE
E-mail	basarnas@indo.net.id

9.3 Each ACC shall assist as necessary in the dissemination of INCERFA, ALERFA and DETRESFA in respect to incidents in the Ujung Pandang FIR.

9.4 In the event that the Ujung Pandang ACC is not available, the responsibility for coordinating with the Jakarta RCC for aircraft emergencies and incidents involving the Ujung Pandang FIR will be undertaken by the Jakarta ACC. The CCC will take appropriate steps to ensure that SAR information is made available to the Jakarta RCC. The AOCG will also oversee SAR coordination and disseminate relevant contact information.

9.5 In the event that both Jakarta and Ujung Pandang ACCs are not available, there are 24 hour-alert SAR Offices (JRCCs) throughout Indonesia coordinated by the National SAR Agency (BASARNAS) to ensure the provision of SAR services in the Indonesian SSR.
