



ICAO

International Civil Aviation Organization  
North American, Central American and Caribbean Office

WORKING PAPER

E/CAR/DCA/26 — WP/28  
25/11/15

**Twenty-sixth Directors of Civil Aviation of the Eastern Caribbean Meeting (E/CAR/DCA/26)  
New Orleans, United States, 1 - 3 December 2015**

- Agenda Item 6:           6.3    Implementation of Air Navigation under the NAM/CAR Regional Performance Based Air Navigation Implementation Plan (RPBANIP)**  
**6.3.2   E/CAR/CATG/2 Meeting**

**NAM/CAR ANIWG PERFORMANCE-BASED NAVIGATION (PBN) TASK FORCE REPORT**

(Presented by the PBN Rapporteur)

<b>EXECUTIVE SUMMARY</b>	
This Working Paper presents the updated progress report on the NAM/CAR ANIWG PBN Task Force (TF) taking into consideration its work programme and its applicability to the E/CAR Region and the follow-up activities emanating from the Second NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/2) and the Second Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG/2) Meeting Conclusions.	
<b>Action:</b>	Suggested actions are listed in Section 4.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Safety</li><li>• Air Navigation Capacity and Efficiency</li><li>• Economic Development of Air Transport</li><li>• Environmental Protection</li></ul>
<i>References:</i>	<ul style="list-style-type: none"><li>• NAM/CAR RPBANIP Ver 3.0</li><li>• Fifth North American, Central American and Caribbean Directors of Civil Aviation Meeting (NACC/DCA/5) Final Report</li><li>• Second NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/2)</li><li>• PBN Taskforce teleconferences</li><li>• Second Eastern Caribbean Civil Aviation Technical Group (E/CAR/CATG/2) Final Report</li><li>• Report on PBN Survey NAM/CAR Region (2014)</li></ul>

**1.           Introduction**

1.1           Following the E/CAR CATG/2 Meeting, it was decided that the issues related to PBN implementation within the E/CAR Region could be handled under the NAM/CAR ANI/WG PBN Taskforce, and reported to the ATM Committee. States/Territories within the E/CAR Region were encouraged to join the NAM/CAR ANI/WG PBN Taskforce, and to participate in the Teleconferences.

Additionally, it was agreed that an E/CAR Airspace Concept Design Subgroup would be formed under the ATM Committee.

1.2 The tasks in the PBN TF Work Programme were developed in order to:

- Identify deficiencies and constraints with Regional PBN implementation, and to propose solutions that would facilitate resolution of such problems
- Develop and review material needed to meet the ICAO initiative on the introduction of Approach Procedure with Vertical Guidance (APV) approaches including Barometric Vertical Navigation (BARO-VNAV) and Required Navigation Performance-Authorization Required (RNP-AR) as part of the PBN initiative
- Assist in coordination with PBN routes within the CAR Region as well as with adjacent regions to ensure Global harmonization

## 2. PBN TF Progress and Results

2.1 Following the poor response by NACC States and Territories to the first PBN Survey, State Letter EMX0129 – (28 February 2014), an updated PBN survey (EMX 0654, dated on 14 July 2015) was promulgated by the ICAO NACC Regional Office with the intention of acquiring information from those States/Territories which did not respond to the first survey as well as receiving updated information from those which had. Unfortunately, only limited responses were received from E/CAR States, and some were received well after the deadline date which had already been extended by ICAO NACC Regional Office through EMX0882 dated on 26 August 2015. According to information received from ICAO NACC Regional Office valid at 3 November 2015, E/CAR States which have provided a response to EMX0654/EMX0882, are:

- Barbados
- French Antilles
- Trinidad and Tobago
- UK Overseas Territories (Anguilla, British Virgin Islands and Montserrat)

2.2 Following correspondence through ATM Committee Rapporteur to E/CAR States on 4 November 2015, it was recognized that Saint Lucia responded to the 2014 PBN Survey, but did not submit responses to the 2015 survey; Antigua and Barbuda submitted a survey response to the NAMCAR ANI/WG PBN Rapporteur on 17 November 2015 and were advised that it should also be submitted to the ICAO NACC Regional Office.

2.3 Due to the late and limited responses, the final report for this survey is still being worked on.

2.4 The Workshop on Regional Implementation on Performance-Based Navigation (PBN) Airspace Redesign for the CAR Region, 4 to 8 May 2015, provided a platform for discussion between adjacent States/Territories and Organizations on airspace harmonization.

2.5 An initial analysis of the current airspace structure within the Caribbean Region shows a lack of ATM harmonization which does not facilitate efficient coordination and provision of Air Traffic Control (ATC) service. Based on the 2014 PBN survey analysis (**Appendix A**) some of the issues identified are:

- The lack of information on reliable statistics on air operations growth in the States
- Lack of coordination of PBN implementation activities with the users
- Lack of update of training programmes for pilots and controllers
- The design of some Terminal Control Areas (TMAs) is not appropriate in view of the new aircraft navigation capabilities, such as:
  - Published flight tracks are lengthy, exceeding TMAs boundaries, infringing non controlled airspace
  - Some waypoints have been established in uncontrolled “G” class airspace, causing confusions to the pilots
  - Instrument Flight Rules (IFR) and Visual Flight Rules (VFR) tracks are not segregated to cover ATC operational needs
  - Some published tracks have resulted in ATS hot spots provoking TCAS report releases
- Not all automated ATS equipment have been updated for appropriate processing of flight plans in accordance with procedures with ICAO Doc 4444 — *Air Traffic Management*
- Not all States have issued suitable regulation for PBN operational certification and approval
- Some ATC units present ATS capacity limitations due to lack of qualified personnel
- Not all States have developed PBN national training plans
- Successful PBN implementation is closely dependent on the implementation of ATFM. Capacity gains derived by PBN airspace design are maximized by the proper management of traffic.

2.6 Trinidad and Tobago submitted a PBN Airspace Redesign Concept for the Piarco FIR (Eastern Caribbean Region) to the ICAO NACC Regional Office on 29 March 2015. Trinidad and Tobago advised that States/Territories/Organizations which had not already developed an airspace concept aligned with the PBN Concept for the Region were free to use the document as a template for their own plans. The E/CAR ATM Committee Rapporteur distributed the Piarco FIR PBN Re-design Airspace Concept (Draft 1.0) to the members of the E/CAR ATM Committee.

2.7 One of the major issues identified is the lack of expertise and training in PBN related matters. During the task force teleconferences, members were asked to contribute any material they are authorized to share so that others would be able to learn from it. The Task Force member from Canada shared operational material from NAV CANADA’s plan which was very informative. CANSO provided a PBN “Best Practices” document for all to utilize. During the PBN Workshop held in Trinidad and Tobago, 19 – 22 November 2015, the United States distributed detailed training plans used by the Federal Aviation Administration (FAA) for training Air Traffic Controllers on PBN.

2.8 Trinidad and Tobago continues to provide technical assistance to the E/CAR States and Territories in the form of teleconferences, discussions/feedback on airspace plans, hosting of workshops and distribution of technical material etc. In 2014 and 2015, States and Territories were invited to participate in both PBN and ATFM ICAO Go TEAM Missions to Trinidad and Tobago so that they may gain the knowledge and obtain hands-on experience.

2.9 The benefits of PBN implementation are maximised by ATFM. Trinidad and Tobago hosted an ATFM/CDM workshop, 16 – 18 November 2015, followed by a PBN Workshop, 19 - 22 November 2015. Both workshops were well attended and feedback from all participants indicated that they were very successful. Both Workshops were practical in nature and contained many interactive sessions which allowed States/Territories to engage in the Collaborative Decision Making (CDM) process and get hands-on experience in airspace planning and design. Some participants stated that it was the first time they understood the steps necessary to begin their Airspace Concept Planning. During the workshop an E/CAR PBN Airspace Concept Subgroup of the ATM Committee was formed (**Appendix B**), and will be liaising with each other re: the harmonization of airspace plans in the Piarco FIR. It should be noted that representatives from Saint Lucia, Guadeloupe and Dominica were not present at the workshops.

2.10 During these two Workshops the following major issues affecting the E/CAR Region were highlighted:

- The need for Data sharing agreement amongst E/CAR States/Territories and adjacent FIRs
- The need for coordination/harmonization of airspace/route designs and separation standards with adjacent units, including those outside of the Piarco FIR
- Lack of resources (funding, human resources) to adequately pursue implementation of ATFM and PBN initiatives
- Lack of the CDM process with critical stakeholders (Airspace users, Aerodrome Operators, Regulatory bodies, MET etc.) in developing State Air Navigation Plans
- Ineffective medium for E/CAR Regional discussion on ATM issues

2.11 Trinidad and Tobago has held several TELCONs with Brazil, Guyana, Suriname, United States (Miami FIR, San Juan FIR, New York FIR), CANSO, IATA and ICAO on plans for a re-design of the upper airspace routes that flow between North and South America, through the E/CAR Region. Trinidad and Tobago provided the group with an analysis of the North - South traffic through the upper airspace of the Piarco FIR (**Appendix C**) and other parties within the group are currently working on their own analysis. Additionally, the FIRs are coordinating with each other to accept the IATA proposal of forty (40) Nautical Miles (NM) longitudinal separation (utilizing GNSS) crossing their common boundaries. An airspace meeting is tentatively scheduled for late January 2016.

### **3. Recommendations**

3.1 Some of the Air Navigation Service Providers (ANSPs) within the E/CAR Region have requested that the ICAO NACC Regional Office communicate, with their States' decision makers, the importance of PBN implementation and its financial/human resource requirements. It is recommended that these ANSPs officially request this through the ICAO NACC Regional Office.

3.2 During the Workshops in Trinidad and Tobago, the need for face-to-face meetings for some airspace coordination issues were identified. It is recommended that the relevant members of the airspace concept subgroup meet at least once every quarter. Decision makers should take this into consideration and allocate to their budgetary planning.

3.3 E/CAR States/Territories should send their preliminary working/draft airspace concept plans to the ATM Committee Rapporteur by 20 January 2016, in order for it to be considered by Trinidad and Tobago during the Airspace Design meeting scheduled for first quarter of 2016.

3.4 States/Territories should ensure that PBN implementation is conducted in a manner that leads to improvements in safety and efficiency. The appropriate safety and cost-benefit analysis (the use of performance metrics) should accompany any proposed implementation plans.

**4. Suggested Actions**

4.1 The Meeting is invited to:

- a) evaluate the progress of the PBN TF;
  - b) review and approve the PBN TF's recommendations; and
  - c) propose any other action or task, as deemed necessary.
-

# REPORT ON PBN SURVEY NAMCAR REGION (2014)

NAMCAR ANIWG PBN TASKFORCE

JANUARY 2015

## Executive Summary

A PBN implementation status survey (*EMX0129 – 28 FEB 2014*) was prepared by the NAM/CAR Air Navigation Implementation Working Group (ANI/WG) PBN Implementation Airspace Concept Task Force. The survey corresponds to a PBN Task Force deliverable. Its main purpose was to collect information on PBN planning and implementation status from all States and Air Navigation Service Providers in order to update the regional PBN strategy and propose recommendations for improving PBN implementation in the NAM/CAR Regions.

The survey (*EMX0129*) was distributed to the following twenty (20) **States/Territories** and nine (9) **Organisations**:

ANTIGUA AND BARBUDA, ARUBA, BAHAMAS, BARBADOS, BELIZE, CANADA, CAYMAN ISLANDS, CURACAO, FRENCH ANTILLES, GRENADA, HAITI, JAMAICA, NETHERLANDS FOR BONAIRE, SAINT EUSTATIUS AND SABA ISLANDS, SAINT KITTS AND NEVIS, SAINT LUCIA, SAINT VINCENT AND THE GRENADINES, SAINT MAARTEN, TRINIDAD AND TOBAGO, UNITED KINGDOM FOR ANGUILLA; BRITISH VIRGIN ISLANDS; MONTSERRAT, UNITED STATES

ACI/LAC	AIPRORTS COUNCIL INTERNATIONAL/LATIN AMERICA-CARIBBEAN
ALTA	LATIN AMERICA AND CARIBBEAN AIR TRANSPORT ASSOCIATION
CANSO	CIVIL AIR NAVIGATION SERVICES ORGANISATION
CASSOS	CARIBBEAN AVIATION SAFETY AND SECURITY OVERSIGHT SYSTEM
COCESNA	CENTRAL AMERICAN CORPORATION FOR AIR NAVIGATION SERVICES
ECCAA	EASTERN CARIBBEAN CIVIL AVIATION AUTHORITY
IATA	INTERNATIONAL AIR TRANSPORT ASSOCIATION
IFALPA	INTERNATIONAL FEDERATION OF AIR LINE PILOTS ASSOCIATIONS
IFATCA	INTERNATIONAL FEDERATION OF AIR TRAFFIC CONTROLLERS' ASSOCIATIONS

## Survey Responses

The taskforce received responses from the following seven (7) states and one Organization:

CANADA, COSTA RICA, CUBA, HONDURAS, SAINT LUCIA, TRINIDAD AND TOBAGO, UNITED STATES  
COCESNA

## General Review of Responses

While the responses received by the taskforce were limited in number, an analysis of the survey information received revealed that the implementation status in the region could be classified into three categories:

- States/Territories/Organizations that are advanced in their PBN implementation – PBN implementation plans were created and are being followed or modified based on dynamic situations. Resources such as equipment, subject matter experts, specialized PBN training for technical and operational staff are available in-house. Based on operational requirements PBN approach procedures have been implemented at major international airports and are utilized by airline operators. GNSS based procedures are used as a replacement and backup for conventional NAVAIDS and Electronic Terrain and Obstacle Data (e-TOD) are also in use. CCOs and CDOs have been implemented in many aerodromes and there are plans to continue PBN implementation throughout airspace/aerodromes as long as safety and efficiency improvements are required.
- States/Territories/Organizations that are in an intermediate stage of PBN Implementation – PBN implementation plans have been developed and in some instances are being followed. However there are implementation roadblocks such as unavailability of updated equipment, lack of subject matter experts (e.g. Instrument Flight Procedure Designers, Airspace Planners), high cost and unavailability of specialized training, lack of staff, poor CDM with relevant stakeholders etc.
- States/Territories/Organizations that are still formulating their PBN implementation plan – While most States have some type of RNAV approach procedures implemented, based on ICAO resolution A37-11, some do not yet have a complete implementation plan or airspace concept. Some of the issues include lack of understanding by decision makers, financial constraints, lack of staffing, lack of subject matter expertise, lack of specialized training, unavailability of up to date equipment, lack of CDM.

There were also generalized statements regarding the lack of available and accurate data on Aircraft equipage and certification. While some information is available from IATA, not all operators are IATA members and there are many instances where data is unavailable or inaccurate. Some States have tried using FPL data but recognize that this by itself is not enough.

## Recommendations

The PBN Taskforce recommends the following actions to improve the PBN implementation within the Region:

- States/Territories/Organizations need to update the POCs for the NAMCAR ANIWG PBN Taskforce and ensure that the members are provided with the resources to engage in group activities.
- A revised survey to be conducted ASAP to determine current status of PBN implementation throughout the Region. The Survey should be designed to collect information on:
  - PBN Planning status – (Has a plan been developed? Is it based on a valid operational concept? Is it being followed? Is there a project lead?)
  - Effectiveness of current PBN procedures – (Are the procedures that have been implemented being utilized by operators? If so why not? Have they reduced ATCO/Pilot workload?)
  - Roadblocks to implementation – (Decision-makers buy-in, Financial Constraints, Human Resources, Equipage etc.)
  - Areas where specialized training is required
  - States/Territories/Organizations willing to provide assistance to other States – (Provision of documentation, training plans, lending of SMEs etc.)
- States in need of assistance should make an official request to the ICAO NACC Office specifying the areas that they need support in.
- Where required, ICAO NACC Office engage in dialogue with the executive decision maker of the relevant States/Territories/Organizations to ensure the importance of PBN implementation is understood and more critically, highlight the fact that the provision of financial and human resources are required to meet this objective.
- Increased collaboration between States/Territories/Organizations in the region regarding airspace and routing designs to ensure harmonization.
- Under the RLA 09-801 Regional project, the formation of an ad hoc team of specialists consisting of Subject Matter Experts in PBN Implementation Planning, Airspace Design, Instrument Flight Procedure Design, PBN training to assist those States/Territories/Organizations that need assistance with formulating their PBN Plans.

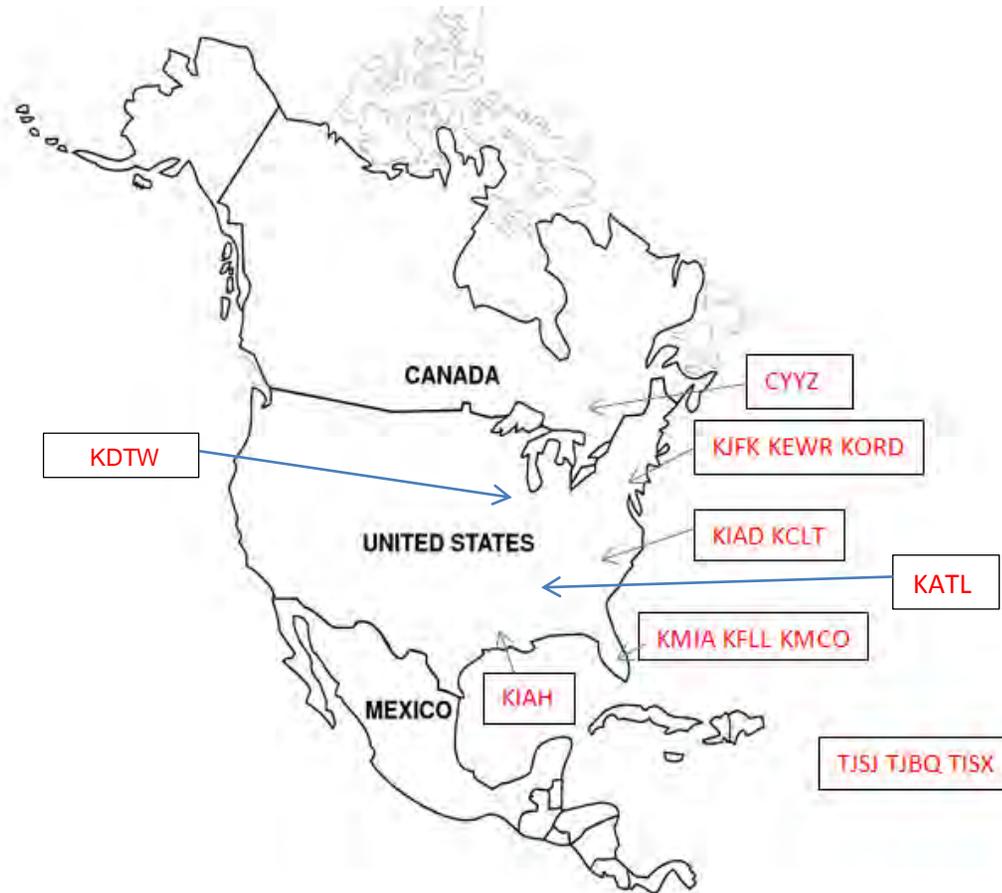
**APPENDIX B**  
**Points of Contact listing for E/CAR Airspace Concept Design Subgroup**

<b>NAME</b>	<b>*COUNTRY/ORG.</b>	<b>POSITION</b>	<b>TELEPHONE</b>	<b>EMAIL</b>
ROBERT ROOPLAL	Trinidad and Tobago Civil Aviation Authority	Air Traffic Management Officer	1 868 66TTCAA ext. 2561 (w)	<a href="mailto:rrooplal@caa.gov.tt">rrooplal@caa.gov.tt</a>
SHENNETH PHILLIPS	Antigua & Barbuda/ V.C. Bird International	V.C Bird ATS Operations Manager	2168 562 0301	<a href="mailto:shennethp@yahoo.com">shennethp@yahoo.com</a>
KENDRICK MASON	Barbados Civil Aviation Department	Instructor - Aviation	1246 420 7342 1246 262 4350	<a href="mailto:kendrick.mason@barbados.gov.bb">kendrick.mason@barbados.gov.bb</a> <a href="mailto:kendrick.h.mason@gmail.com">kendrick.h.mason@gmail.com</a>
AMY CHARLES	St. Lucia Air Sea Ports Authority	TBN	TBN	Amy.Charles@slaspa.com
CHARLES ANTHONY MEADE	Eastern Caribbean Civil Aviation Authority	Director ANS (Ag.)	1268 462 0000	<a href="mailto:ameade@eccaa.aero">ameade@eccaa.aero</a>
RAPHAEL GAMESS	French West Indies Air Navigation Services	Head of ATC Services - Martinique	596 696 96 69 79	<a href="mailto:raphael.gamess@aviation-civile.gouv.fr">raphael.gamess@aviation-civile.gouv.fr</a>
ROSELYN CHARLES	Grenada Airports Authority	Air Traffic Services Manager	1 473 444 4148 1 473 534 5219	<a href="mailto:rcharles@mbiagrenada.com">rcharles@mbiagrenada.com</a>
DALE LYDA OLLIVIERRE	St Vincent and the Grenadines, Airport Department, Ministry of National Security, Air and Sea Port Development	Senior Airport Officer	1784 458 4011 1784 456 5994	<a href="mailto:etjoshua@vincysurf.com">etjoshua@vincysurf.com</a>

-----

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

**CITY PAIRS FOR AIRLINES OVERFLYING PIARCO FIR (NORTH AMERICA-SOUTH AMERICA AND REVERSE)**



DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR



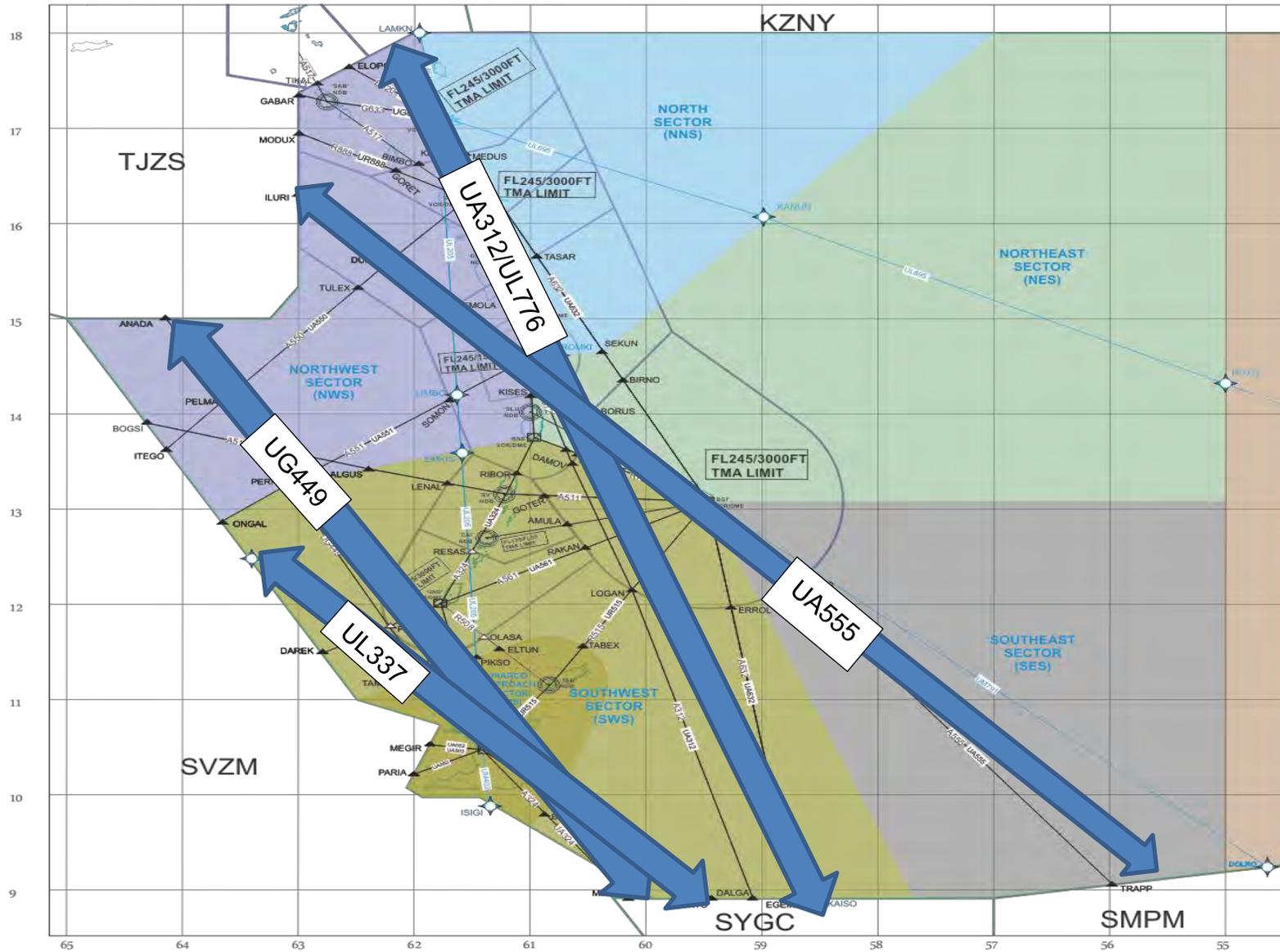
**CITY PAIRS OVERFLIGHTS 27<sup>TH</sup> DEC 2014 to 10<sup>TH</sup> JAN 2015**



	<b>CYYZ</b>	<b>KJFK</b>	<b>KEWR</b>	<b>KORD</b>	<b>KIAD</b>	<b>KDTW</b>	<b>KCLT</b>	<b>KATL</b>	<b>KMIA</b>	<b>KMCO</b>	<b>KIAH</b>	<b>KFLL</b>	<b><u>TOTAL</u></b>
<b>SBGR</b>	28	121	28	12	26	29	0	33	53	79	10	7	<b>426</b>
<b>SBGL</b>	13	46	0	0	0	1	30	30	8	0	14	0	<b>142</b>
<b>SBBE</b>	0	0	0	0	0	0	0	0	4	0	0	0	<b>4</b>
<b>SBBR</b>	0	0	0	0	0	0	0	26	14	0	0	3	<b>43</b>
<b>SBCF</b>	0	0	0	0	0	0	0	0	17	0	0	0	<b>17</b>
<b>SBFZ</b>	0	0	0	1	0	0	0	0	4	0	0	0	<b>5</b>
<b>SBRF</b>	0	0	0	0	0	0	0	0	26	0	0	0	<b>26</b>
<b>SBSV</b>	0	0	0	0	0	0	0	0	16	0	0	0	<b>16</b>
<b>SBKP</b>	0	14	0	0	0	0	0	0	8	0	0	1	<b>23</b>

**702**

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR



**CITY PAIRS OVERFLIGHTS ROUTING (27<sup>TH</sup> DEC 2014 to 10<sup>th</sup> JAN 2015)**

<b>CYYZ-SBGR-CYYZ:</b> (28/426)	<b>CYYZ-SBGL-CYYZ:</b> (13/142)
10/LAMKN ANU UL776 KAISO	3/LAMKN ANU UL776 KAISO
6/ELOPO ANU UA312	1/ELOPO ANU UA312
4/LAMKN ANU UA312 DALGA	1/LAMKN ANU UA312 DALGA
4/18N054W DCT DOLRO	1/ISIGI POS ANADA
4/18N054W DCT 09N054W	7/ANADA UG449 POS MINDA TIM UA312 KOXAM
1/18N054W DCT 09N054W	
1/18N052W DCT 10N048W	

<b>KJFK-SBGR-KJFK:</b> (121/426)	<b>KJFK-SBGL-KJFK:</b> (46/142)	<b>KJFK-SBKP-KJFK:</b> (14/142)
14/ ELOPO ANU UL776 KAISO	2/ISIGI POS ANADA	1/ ELOPO ANU UL776 KAISO
9/LAMKN ANU UA312 DALGA	10/ELOPO ANU UL776 KAISO	4/LAMKN ANU UL776 KAISO
85/ANADA UG449 POS MINDA TIM UA312 KOXAM	1/ELOPO ANU UA312 DALGA	2/ISIGI POS ANADA
11/ANADA UG449 POS KORTO LEPOD UA312 KOXAM	3/LAMKN ANU UA312 DALGA	1/ANADA UG449 MINDA UA324
1/ILURI TRAPP	30/ANADA UG449 POS MINDA TIM UA312 KOXAM	4/ANADA UG449 POS KORTO UA312
1/ISIGI POS ANADA		

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KEWR-SBGR-KEWR (28/426)</b>
8/LAMKN ANU BGI TRAPP
1/ELOPO ANU UL776 KAISO
1/LAMKN ANU UL776 KAISO
2/18N057W DCT 10N054W
2/18N059N DCT TRAPP
11/MINDA POS UG449 ANADA
3/ KAISO UL776 ANU ELOPO
1/DALGA FOF UA555 ILURI

<b>KORD-SBGR-KORD (12/426)</b>	<b>KORD-SBFZ-KORD (1/5)</b>
2/ LAMKN ANU UL776 KAISO	1/ ILURI UA555 BGI DOLRO
10/ ANADA UG449 POS MINDA TIM UA312 KOXAM	

<b>KIAD-SBGR-KIAD (26/426)</b>
2/LAMKN ANU UL776 KAISO
1/ LAMKN ANU UA312 DALGA
1/ ELOPO ANU UL776 KAISO
1/ EGEMA BGI UA555 ILURI
1/ ANADA UG449 POS ISIGI
20/ ANADA UG449 POS MINDA TIM UA312 KOXAM

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KDTW-SBGR-KDTW</b> (29/426)	<b>KDTW-SBGL-KDTW</b> (1/142)
1/ANADA UG449 POS ISIGI	1/ANADA UG449 POS UA324 TIM UA312
12/ANADA UG449 POS KORTO LEPOD UA312 KOXAM	
16/ANADA UG449 POS MINDA TIM UA312 KOXAM	

<b>KCLT-SBGL-KCLT</b> (30/142)
30/ANADA UG449 POS KORTO LEPOD UA312 KOXAM

<b>KATL-SBGR-KATL</b> (33/426)	<b>KATL-SBGL-KATL</b> (30/142)
2/ILURI FOF UA324 POS UA324 MINDA	14/ANADA UG449 POS MINDA TIM UA312 KOXAM
20/ANADA UG449 POS KORTO LEPOD UA312 KOXAM	16/ANADA UG449 POS KORTO LEPOD UA312 KOXAM
<b>KATL-SBGR-KATL</b> (26/142)	
12/ANADA UG449 POS MINDA TIM UA312 KOXAM	
14/ANADA UG449 POS KORTO LEPOD UA312 KOXAM	

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KMIA-SBGR-KMIA</b> (53/426)	<b>KMIA-SBGL-KMIA</b> (8/142)
1/GABAR ANU BGI TRAPP	5/VUDAL POS KORTO LEPOD UA312
10/ANADA UG449 POS MINDA TIM UA312 KOXAM\	1/GABAR ANU UL776 KAISO
42/ANADA UG449 POS KORTO LEPOD UA312 KOXAM	2/ANADA UG449 POS KORTO LEPOD UA312
<b>KMIA-SBBE-KMIA</b> (4/4)	<b>KMIA-SBBR-KMIA</b> (14/43)
4/ANADA UG449 POS KORTO G449	14/ANADA UG449 POS KORTO G449
<b>KMIA-SBCF-KMIA</b> (17/17)	<b>KMIA-SBFZ-KMIA</b> (4/5)
2/ANADA UG449 POS MINDA TIM UG443	4/ILURI UA555 BGI DOLRO
2/VUDAL POS MINDA TIM UG443	
1/VUDAL POS KORTO UG449	
12/ANADA UG449 POS KORTO UG449	
<b>KMIA-SBRF-KMIA</b> (26/26)	<b>KMIA-SBSV-KMIA</b> (16/16)
18/ ILURI UA555 BGI DOLRO	2/ ILURI UA555 BGI DOLRO
8/VUDAL POS KORTO UG449	1/ ILURI UA555 BGI TRAPP
	7/ VUDAL POS KORTO UG449
	6/ ANADA UG449 POS KORTO G449
<b>KMIA-SBKP</b> (8/23)	
6/ANADA UG449 POS MINDA TIM UA312 KOXAM	
2/ANADA UG449 POS KORTO LEPOD UA312 KOXAM	

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KFLL-SBGR-KFLL (7/426)</b>	<b>KFLL-SBKP-KFLL (1/23)</b>
1/ VUDAL POS UA324 MINDA TIM UA312 KOXAM\	1/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM
3/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM	
3/ ANADA UG449 POS MINDA TIM UA312 KOXAM	

<b>KMCO-SBGR-KMCO (79/426)</b>
79/ ANADA UG449 POS MINDA TIM UA312 KOXAM\

<b>KIAH-SBGR-KIAH (10/426)</b>	<b>KIAH-SBGL-KIAH (14/142)</b>
10/ ANADA UG449 POS MINDA TIM UA312 KOXAM\	1/ VUDAL POS UA324 MINDA TIM UA312 KOXAM
	13/ ANADA UG449 POS MINDA TIM UA312 KOXAM

**CITY PAIRS OVERFLIGHTS APRIL 2015 to 4<sup>TH</sup> MAY 2015**



	CYYZ	KJFK	KEWR	KORD	KIAD	KDTW	KCLT	KATL	KMIA	KMCO	KIAH	KFLL	<u>TOTAL</u>
<b>SBGR</b>	30	114	20	11	23	43	1	57	36	60	9	3	<b>407</b>
<b>SBGL</b>	22	54	0	0	0	0	0	27	40	0	10	0	<b>153</b>
<b>SBBE</b>	0	0	0	0	0	0	0	0	7	0	0	0	<b>7</b>
<b>SBBR</b>	0	0	0	0	0	0	0	30	24	0	0	0	<b>54</b>
<b>SBCF</b>	0	0	0	0	0	0	0	0	12	0	0	0	<b>12</b>
<b>SBFZ</b>	0	0	0	0	0	0	0	0	4	0	0	0	<b>4</b>
<b>SBRF</b>	0	0	0	0	0	0	0	0	17	0	0	0	<b>17</b>
<b>SBSV</b>	0	0	0	0	0	0	0	0	19	0	0	0	<b>19</b>
<b>SBKP</b>	0	0	0	0	0	0	0	0	9	15	0	20	<b>44</b>

**717**

**CITY PAIRS OVERFLIGHTS ROUTING (20<sup>TH</sup> APRIL 2015 to 4<sup>TH</sup> MAY 2015)**

<b>CYYZ-SBGR-CYYZ:</b> (30/407)	<b>CYYZ-SBGL-CYYZ:</b> (22/153)
13/LAMKN ANU UL776 KAISO	5/LAMKN ANU UL776 KAISO
2/LAMKN ANU UA312 DALGA	2 /LAMKN ANU UA312 DALGA
15/ ANADA UG449 POS MINDA TIM UA312 KOXAM	10/ ANADA UG449 POS MINDA TIM UA312 KOXAM
5/ ANADA POS UG44 KORTO LEPOD UA312	

<b>KJFK-SBGR-KJFK:</b> (114/407)	<b>KJFK-SBGL-KJFK:</b> (54/153)
8/LAMKN ANU UL776 KAISO	1/ ISIGI POS ANADA
12/ ELOPO ANU UL776 KAISO	6/ ELOPO ANU UL776 KAISO
1/ LAMKN ANU UA312 DALGA	8/ ELOPO ANU UA312 DALGA
88/ ANADA UG449 POS MINDA TIM UA312 KOXAM	8/ LAMKN ANU UA312 DALGA
1/ANADA POS KORTO LEPOD UA312	31/ ANADA UG449 POS MINDA TIM UA312 KOXAM
1/TIKAL ANU UL776 KAISO	
1/ LAMKN ANU UL205 POS ISIGI	
2/ ISIGI POS ANADA	

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KEWR-SBGR-KEWR</b> (20/407)
3/ 18N059N DCT TRAPP
6/ LAMKN ANU UL776 KAISO
2/LAMKN ANU BGI TRAPP
1/ ELOPO ANU UL776 KAISO
6/ MINDA POS UG449 ANADA
2/LAMKN ANU UA312 DALGA

<b>KORD-SBGR-KORD</b> (11/407)
11/ ANADA UG449 POS MINDA TIM UA312 KOXAM

<b>KIAD-SBGR-KIAD</b> (23/407)
3/ LAMKN ANU UL776 KAISO
20/ ANADA UG449 POS MINDA TIM UA312 KOXAM

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KDTW-SBGR-KDTW</b> (43/407)
6/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM
37/ ANADA UG449 POS MINDA TIM UA312 KOXAM

<b>KCLT-SBGR-KCLT</b> (1/407)
1/ ANADA UG449 POS MINDA TIM UA312 KOXAM

<b>KATL-SBGR-KATL</b> (57/407)	<b>KATL-SBGL-KATL</b> (27/153)
2/ VUDAL POS UA324 MINDA TIM UA312 KOXAM	15/ ANADA UG449 POS MINDA TIM UA312 KOXAM
27/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM	12/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM
28/ ANADA UG449 POS MINDA TIM UA312 KOXAM	
<b>KATL-SBBR -KATL</b> (30/153)	
13/ ANADA UG449 POS MINDA TIM UA312 KOXAM	
14/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM	
3/ VUDAL POS UG449 LEPOD UA312 KOXAM	

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KMIA-SBGR-KMIA</b> (36/407)	<b>KMIA-SBGL-KMIA</b> (40/153)
	2/ VUDAL POS KORTO LEPOD UA312
3/ ANADA UG449 POS MINDA TIM UA312 KOXAM	15/ANADA UG449 POS MINDA TIM UA312 KOXAM
33/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM	23/ ANADA UG449 POS KORTO LEPOD UA312
<b>KMIA-SBBE-KMIA</b> (7/7)	<b>KMIA-SBBR-KMIA</b> (24/54)
7/ ANADA UG449 POS KORTO G449	10/ ANADA UG449 POS KORTO G449
	13/ ANADA UG449 POS MINDA TIM UA312 KOXAM
	1/ VUDAL POS KORTO LEPOD UA312
<b>KMIA-SBCF-KMIA</b> (12/12)	<b>KMIA-SBFZ-KMIA</b> (4/4)
7/ ANADA UG449 POS MINDA TIM UG443	4/ ILURI UA555 BGI DOLRO
1/ VUDAL POS MINDA TIM UG443	
4/ ANADA UG449 POS KORTO UG449	

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>KMIA-SBRF-KMIA</b> (17/17)	<b>KMIA-SBSV-KMIA</b> (19/19)
14/ ILURI UA555 BGI DOLRO	4/ ILURI UA555 BGI DOLRO
3/ VUDAL POS KORTO UG449	6/ ILURI UA555 BGI 09N054W
	6/ VUDAL POS KORTO UG449
	3/ ANADA UG449 POS KORTO G449
<b>KMIA-SBKP-KMIA</b> (9/44)	
1/ ANADA UG449 POS MINDA TIM UA312 KOXAM	
8/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM	

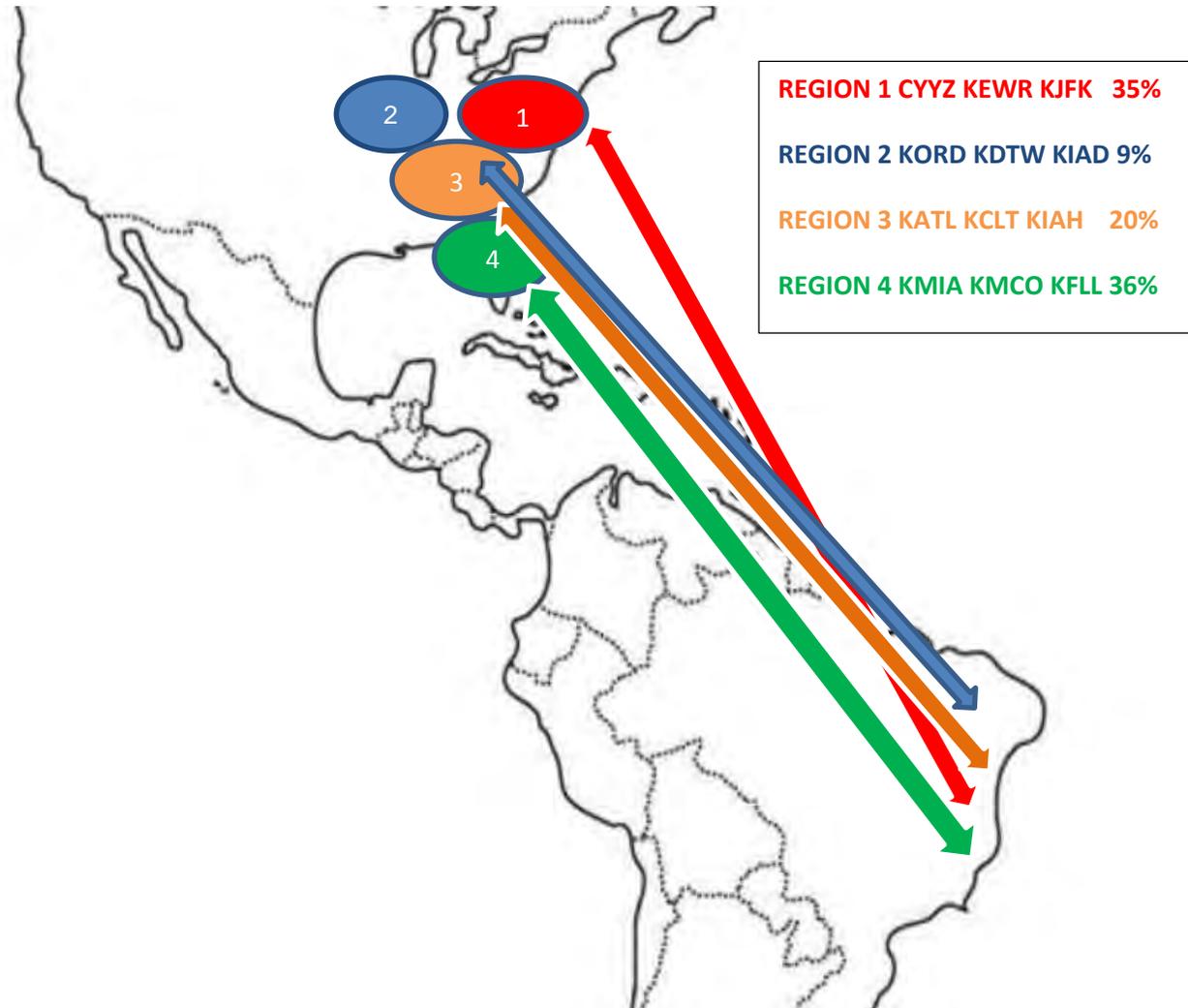
DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>10. KMCO-SBGR-KMCO</b> (60/407)	<b>KMCO-SBKP-KMCO</b> (15/44)
60/ ANADA UG449 POS MINDA TIM UA312 KOXAM\ KOXAM	15/ ANADA UG449 POS KORTO LEPOD UA312

<b>11. KIAH-SBGR-KIAH</b> (9/407)	<b>KIAH-SBGL-KIAH</b> (10/153)
9/ ANADA UG449 POS MINDA TIM UA312 KOXAM\ KOXAM	10/ ANADA UG449 POS MINDA TIM UA312

<b>12. KFLL-SBGR-KFLL</b> (3/407)	<b>KFLL-SBKP-KFLL</b> (20/44)
3/ ANADA UG449 POS KORTO LEPOD UA312 KOXAM\ KOXAM	20/ ANADA UG449 POS KORTO LEPOD UA312

### BI-DIRECTIONAL TRAFFIC NORTH/SOUTH AMERICA



**REGION 1 (492) 35.0%**

**CYYZ**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 93 flights flew CYYZ/SBGL/SBGR/CYYZ.

- 46 flights used LAMKN/ELOPO KAISO/DALGA
- 37 flights used ANADA POS MINDA/KORTO
- 10 flights used 18N054W DCT DOLRO/09N054W/10N048W

**KJFK**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 349 flights flew KJFK/SBGL/SBGR/SBKP/KJFK

- 88 flights used LAMKN/ELOPO KAISO/DALGA
- 260 flights used ANADA POS MINDA/KORTO
- 1 flight used ILURI TRAPP

**KEWR**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 50 flights flew KEWR/SBGR/KEWR

- 25 flights used LAMKN/ELOPO KAISO/DALGA/TRAPP
- 17 flights used ANADA POS MINDA/KORTO
- 1 flight used ILURI TRAPP
- 7 flights used 18N059W/18N057W DCT 10N054W/TRAPP

**REGION 2 (121) 9.0%**

**KORD**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 24 flights flew KORD/SBGR/SBFZ/KORD

- 2 flights used LAMKN/ELOPO KAISO/DALGA
- 21 flights used ANADA POS MINDA/KORTO
- 1 flight used ILURI UA555 BGI DOLRO TRAPP

**KIAD**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 52 flights flew KIAD/SBGR/KIAD

- 7 flights used LAMKN/ELOPO KAISO/DALGA
- 44 flights used ANADA POS MINDA/KORTO/ISIGI
- 1 flight used ILURI UA555 BGI EGEMA

**KDTW**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 45 flights flew KDTW/SBGR/SBGL/KDTW

- 45 flights used ANADA POS MINDA/KORTO/ISIGI

**REGION 3 (280) 20.0%**

**KCLT**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 31 flights flew KDTW/SBGR/SBGL/KDTW

- 31 flights used ANADA POS MINDA/KORTO

**KATL**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 206 flights flew KATL/SBGR/SBGL/SBBR/KATL

- 6 flights used VUDAL POS MINDA
- 198 flights used ANADA POS MINDA/KORTO
- 2 flights used ILURI UA555 BGI EGEMA

**KIAH**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 43 flights flew KIAH/SBGR/SBGL/KIAH

- 1 flight used VUDAL POS MINDA
- 42 flights used ANADA POS MINDA/KORTO

**REGION 4 (511) 36.0%**

**KMIA**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 320 flights flew KMIA/SBGR/SBGL/SBBR/SBBE/SBCF/SBFZ/SBRF/SBSV/SBKP/KMIA

- 36 flights used VUDAL POS MINDA
- 229 flights used ANADA POS MINDA/KORTO
- 53 flights used ILURI UA555 BGI EGEMA
- 2 flights used GABAR ANU BGI TRAPP/KAISO

**KFLL**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 34 flights flew KFLL/SBGR/SBKP/KFLL

- 1 flight used VUDAL POS MINDA
- 33 flights used ANADA POS MINDA/KORTO

**KMCO**

For the periods 27TH DEC 2014 to 10th JAN 2015 & 20TH APRIL 2015 to 4TH MAY 2015 there were 1419 flights. 157 flights flew KMCO/SBGR/SBKP/KMCO

- 157 flights used ANADA POS MINDA/KORTO

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

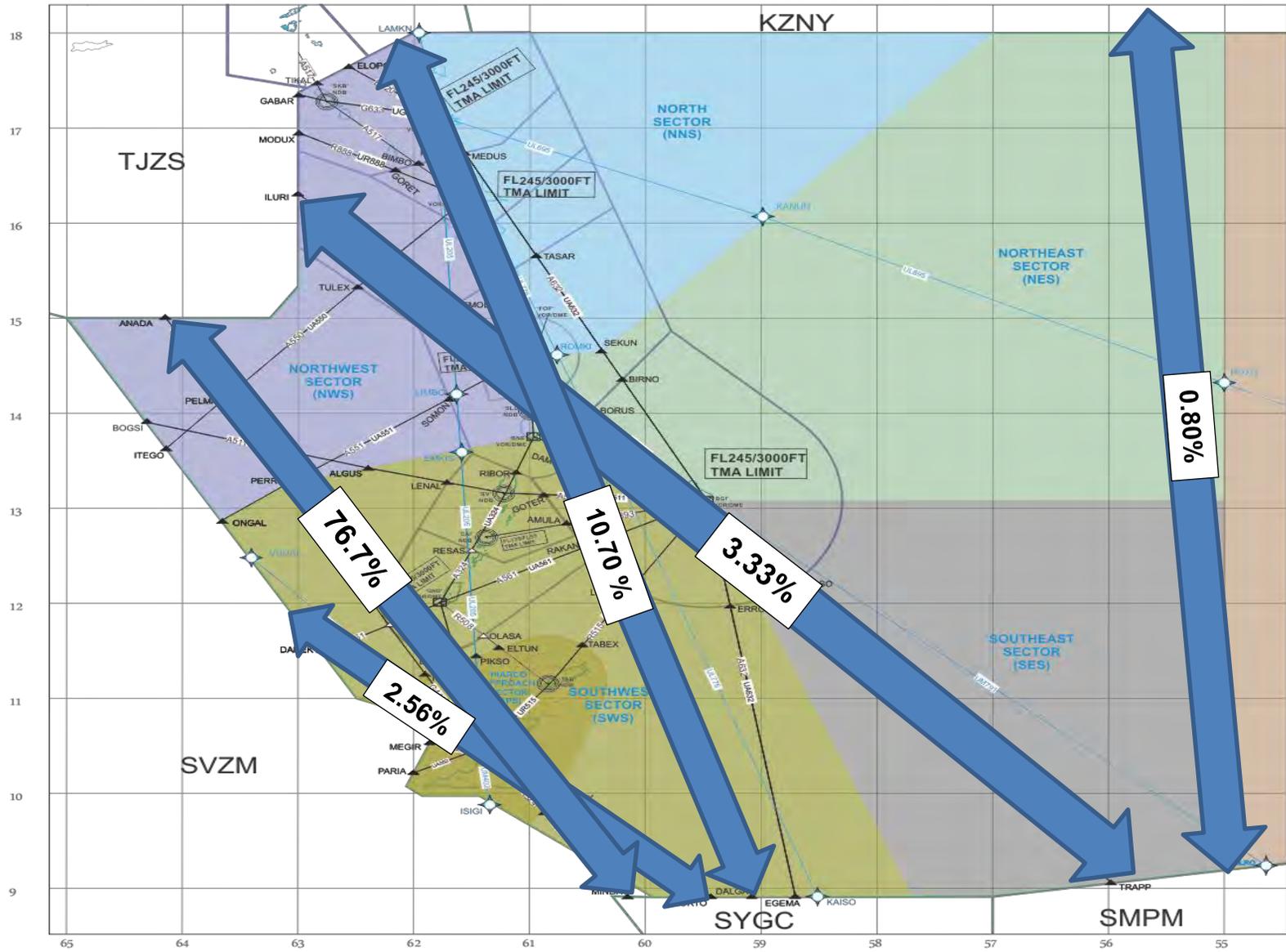
**OVERFLIGHTS ROUTING 27<sup>TH</sup> DEC 2014 to 10<sup>TH</sup> JAN 2015 (TOTAL 702)**

ANADA UG449 POS MINDA	ANADA UG449 POS KORTO	VUDAL POS KORTO UG449	VUDAL POS MINDA TIM UG443	ISIGI POS ANADA	LAMKN ANU UL776 KAISO	LAMKN ANU UA312 DALGA	ELOPO ANU UA312	ELOPO ANU UL776 KAISO	ILURI UA555 BGI DOLRO	ILURI UA555 BGI TRAPP	18N054W DCT 09N054W	18N054W DOLRO	18N57W 10N54W	18N59W TRAPP	18N052W DCT 10N048W	TIKAL ANU UL776 KAISO	DALGA FOF UA555 ILURI
329	179	21	4	8	22	18	8	27	25	2	5	4	2	2	1	1	1
<b>46.8%</b>	<b>25.4%</b>	<b>3.0%</b>	<b>0.05%</b>	<b>1.13%</b>	<b>3.13%</b>	<b>2.56%</b>	<b>1.13%</b>	<b>3.84%</b>	<b>3.56%</b>	<b>0.03%</b>	<b>0.71%</b>	<b>0.06%</b>	<b>0.03%</b>	<b>0.03%</b>	<b>0.014%</b>	<b>0.014%</b>	<b>0.014%</b>

**OVERFLIGHTS ROUTING 20<sup>TH</sup> APRIL 2015 to 4<sup>TH</sup> MAY 2015 (TOTAL 717)**

ANADA UG449 POS MINDA	ANADA UG449 POS KORTO	VUDAL POS KORTO UG449	VUDAL POS MINDA TIM UG443	ISIGI POS ANADA	LAMKN ANU UL776 KAISO	LAMKN ANU UA312 DALGA	ELOPO ANU UA312	ELOPO ANU UL776 KAISO	ILURI UA555 BGI DOLRO	ILURI UA555 BGI TRAPP	18N054W DCT 09N054W	18N054W DOLRO	18N57W 10N54W	18N59W TRAPP	18N052W DCT 10N048W	TIKAL ANU UL776 KAISO	DALGA FOF UA555 ILURI
393	191	12	3	3	35	15	8	19	22	0	0	0	0	3	0	0	1
<b>54.8%</b>	<b>26.6%</b>	<b>1.67%</b>	<b>0.41%</b>	<b>0.41%</b>	<b>4.88%</b>	<b>2.09%</b>	<b>1.11%</b>	<b>2.64%</b>	<b>3.06%</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.41%</b>	<b>0</b>	<b>0</b>	<b>0.13%</b>

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR



ROUTES WITH MAIN OVERFLIGHT TRAFFIC FLOWS BY PERCENTAGES

In addition to collecting data on the overflying bi directional air traffic from North America to South America, data was collected for air traffic arriving/departing the Piarco continental sector. The main airlines that operate within the Piarco continental airspace were analysed. The airlines analysed were:

AIR CANADA/ROUGE

AMERICAN AIRLINES

CARIBBEAN AIRLINES

DELTA AIRLINES

JETBLUE AIRLINES

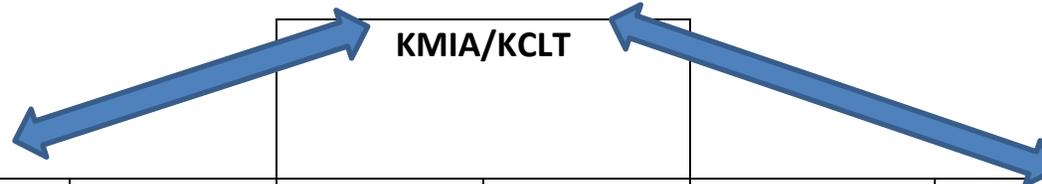
UNITED AIRLINES

WESTJET AIRLINES

Also general aviation traffic and cargo airlines were analysed.

**ARRIVALS/DEPARTURES**

**AMERICAN (AAL)**



	<b>TFFR</b>	<b>TBPB</b>	<b>TFFF</b>	<b>TLPL</b>	<b>TGPY</b>	<b>TTPP</b>
<b>27 DEC 2014/ 10 JAN 2015</b>	<b>4</b>	<b>65</b>	<b>10</b>	<b>34</b>	<b>20</b>	<b>44</b>
	*GABAR G633 ANU PPR  *MODUX R888 PPR	ILURI UA555 BGI	ILURI UA555 FOF	ILURI UA555 FOF BNE	ANADA UG449 PERRY GND	ANADA UG449 POS
<b>20 APR 2015/ 4 MAY 2015</b>	<b>4</b>	<b>56</b>	<b>8</b>	<b>20</b>	<b>20</b>	<b>60</b>
	*GABAR G633 ANU PPR  *MODUX R888 PPR	ILURI UA555 BGI	ILURI UA555 FOF	ILURI UA555 FOF BNE	ANADA UG449 PERRY GND	ANADA UG449 POS

**ARRIVALS/DEPARTURES**

**AIR CANADA (ACA)/ROUGE (ROU)**

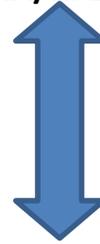


	<b>TFFR</b>	<b>TBPB</b>	<b>TFFF</b>	<b>TLPL</b>	<b>TGPY</b>	<b>TTTP</b>
<b>27 DEC 2014/ 10 JAN 2015</b>	<b>10</b>	<b>24</b>	<b>8</b>	<b>22</b>	<b>4</b>	<b>0</b>
	LAMKN ANU PPR	LAMKN ANU UA632 BGI  ILURI UA555 BGI  ELOPO ANU UA632 BGI	LAMKN ANU UA312 FOF	LAMKN ANU UA312 FOF BNE  ILURI UA555 FOF BNE	LAMKN ANU UA312 FOF GND	ANADA UG449 POS
<b>20 APR 2015/ 4 MAY 2015</b>	<b>8</b>	<b>28</b>	<b>8</b>	<b>12</b>	<b>4</b>	<b>0</b>
	LAMKN ANU PPR	LAMKN ANU UA632 BGI  ILURI UA555 BGI  ELOPO ANU UA632 BGI	LAMKN ANU UA312 FOF	LAMKN ANU UA312 FOF BNE  ILURI UA555 FOF BNE	LAMKN ANU UA312 FOF GND	ANADA UG449 POS

**ARRIVALS/DEPARTURES**

**CARIBBEAN AIRLINES (CAL)**

CYYZ/KJFK/KMIA/KFLL/KMCO/MKJP



27 DEC 2014/ 10 JAN 2015			<b>TTPP</b> <b>UG449</b>		
			<b>355</b>		
20 APR 2015/ 4 MAY 2015			<b>322</b>		

**ARRIVALS/DEPARTURES**

**DELTA (DAL)**



	<b>TFFR</b>	<b>TBPB</b>	<b>TFFF</b>	<b>TLPL</b>	<b>TGPY</b>	<b>TTPP</b>
<b>27 DEC 2014/ 10 JAN 2015</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>22</b>	<b>12</b>	<b>0</b>
		ILURI UA555 BGI ELOPO ANU UA632 BGI		ILURI UA555 BGI ELOPO ANU UA632 BGI		
<b>20 APR 2015/ 4 MAY 2015</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>0</b>
		ILURI UA555 BGI ELOPO ANU UA632 BGI		ILURI UA555 BGI ELOPO ANU UA632 BGI		

**ARRIVALS/DEPARTURES**

**JETBLUE (JBU)**

		KJFK KBOS KFL					
		TFFR	TBPB	TFFF	TLPL	TGPY	TTPP
27 DEC 2014/ 10 JAN 2015		<b>0</b>	<b>60</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>60</b>
			ILURI UA555 BGI ELOPO ANU UA632 BGI		ILURI UA555 FOF BNE ELOPO ANU UA312 FOF BNE		ANADA UG449 POS
20 APR 2015/ 4 MAY 2015		<b>0</b>	<b>44</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>60</b>
			ILURI UA555 BGI ELOPO ANU UA632 BGI		ILURI UA555 FOF BNE ELOPO ANU UA312 FOF BNE		ANADA UG449 POS

**ARRIVALS/DEPARTURES**

**UNITED (UAL)**



	<b>TLPL</b>	<b>TTPP</b>
<b>27 DEC 2014/ 10 JAN 2015</b>	<b>4</b>	<b>53</b>
	LAMKN ANU UA312 FOF BNE ILURI UA555 FOF BNE	ANADA UG449 POS
<b>20 APR 2015/ 4 MAY 2015</b>	<b>4</b>	<b>54</b>
	LAMKN ANU UA312 FOF BNE ILURI UA555 FOF BNE	ANADA UG449 POS

**ARRIVALS/DEPARTURES**

**WESTJET (WJA)**

		<b>CYYZ</b>					
		←→					
		<b>TFFR</b>	<b>TBPB</b>	<b>TFFF</b>	<b>TLPL</b>	<b>TGPY</b>	<b>TTPP</b>
<b>27 DEC 2014/ 10 JAN 2015</b>		<b>0</b>	<b>22</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>30</b>
			ILURI UA555 BGI  ELOPO ANU UA632 BGI		ILURI UA555 FOF BNE		ANADA UG449 POS
<b>20 APR 2015/4 MAY 2015</b>		<b>0</b>	<b>16</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>30</b>
			ILURI UA555 BGI  ELOPO ANU UA632 BGI		ILURI UA555 FOF BNE		ANADA UG449 POS

**ARRIVALS/DEPARTURES**

**27 DEC 2014/ 10 JAN 2015**

AJT821	B763	KMIA	TTPP	ANADA	UG449	POS
AJT831	B763	KMIA	TTPP	ANADA	UG449	POS
AJT851	B762	KMIA	TTPP	ANADA	UG449	POS
AJT855	B763	KMIA	TTPP	ANADA	UG449	POS
BJS533	CL60	MDLR	TBPB	ILURI	UA555	BGI
BJS534	CL30	KTEB	TVSC	LAMKN	ANU FOF	SV
BJS548	CL30	KMIA	TVSC	BOGSI	UA511	CAI
BWA7415	B738	MKJP	TTPP	BOGSI	BOGSI PERRY	POS
BWA791	B763	KMIA	TBPB	MODUX	PPR FOF	BGI
BWA791	B762	KMIA	TBPB	ILURI	UA555	BGI
BWA793	B762	KMIA	TTPP	ANADA	UG449	POS
CFEMT	LJ35	CYYZ	TFFR	LAMKN	ANU	PPR
CFJCB	CL30	CYYZ	TBPB	LAMKN	ANU UA632	BGI
CFJCB	CL30	CYYZ	TBPB	LAMKN	ANU UA632	BGI
CFSEP	CL60	KPBI	TBPB	ILURI	UA555	BGI
CFWUT	CL30	CYYZ	TBPB	LAMKN	ANU FOF	BGI
EFT5301	H25B	KFXE	TBPB	ILURI	UA555	BGI
EJA203	F2TH	KFLL	TBPB	ILURI	UA555	BGI
EJM9	GLF4	KPBI	TVSC	ANADA	PERRY DCT	CAI
EJM916	GALX	KPDK	TLPL	ILURI	UA555	FOF
EJM936	GLF4	KPBI	TBPB	ANADA	ANADA BNE	BNE
FWK400	CL30	KSAV	TBPB	ANADA	ANADA BGI	BGI
FWK400	CL30	KSGR	TBPB	BOGSI	BNE	BGI
GTH2	C650	KPBI	TLPC	ANADA	FOF SLU	FOF
GTH24	GLF5	KTEB	TVSC	LAMKN	ANU FOF	RIBOR
HI915	C550	MDJB	TLPC	ILURI	UA555 FOF	SLU
JAS102	GLF4	KTEB	TBPB	LAMKN	ANU FOF	BORUS
JAV7624	B762	MTPP	TBPB	ILURI	UA555	BORUS

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

KOVAK75	B752	MRLB	TBPB	ITEGO	GND BGI	RAKAN
LN66NJ	LJ35	KFLL	TLPC	ILURI	UA555 FOF	SLU
MYGLK	GLF4	KPBI	TLPL	ANADA	DCT BNE	BNE
N101QS	GL5T	MWCR	TBPB	ANADA	DCT BNE	BNE
N131AJ	LJ35	KFXE	TPPP	ANADA	UG449	POS
N155SL	CL30	KHOU	TVSC	ILURI	UA555 FOF SV	SV
N234DB	GLF5	KVNY	TVSC	ILURI	UA555 FOF SV	SV
N247EM	GLF5	KTUS	TBPB	ILURI	UA555	BORUS
N255QS	F2TH	KPHL	TBPB	ILURI	UA555	BORUS
N294CV	H25B	KHOU	TVSC	ANADA	DCT SV	SV
N301JL	CL30	KFXE	TDPD	ILURI	DCT	PPR
N348RS	GLF4	KTEB	TBPB	LAMKN	UA632	BGI
N348RS	GLF4	KVNY	TBPB	ILURI	UA555	BGI
N368QS	C680	MKBS	TBPB	ILURI	UA555	BGI
N388CA	GLF5	KFRG	TBPB	ELOPO	ANU UA632	BGI
N405GJ	LJ35	KFLL	TBPB	ILURI	UA555	BGI
N405GJ	LJ35	KFXE	TPPP	ANADA	UG449	POS
N440DM	F900	KCAK	TGPY	ANADA	DCT	GND
N440DM	F900	KFXE	TLPC	ILURI	UA555	FOF
N440DM	F900	KFXE	TLPL	ANADA	DCT	BNE
N480QS	GLF4	KPBI	TBPB	ILURI	UA555	BORUS
N502VJ	GL5T	KFOK	TGPY	ANADA	DCT	GND
N508QS	GLF5	KMMU	TVSC	ANADA	DCT	CAI
N513ML	H25B	KFDK	TBPB	ILURI	UA555	BGI
N525ME	C550	KFPR	TLPL	ILURI	UA555 FOF	BNE
N539LR	H25C	KTEB	TVSC	KAMKN	ANU UA312 FOF	CAI
N53GX	GLEX	KPBI	TLPL	ANADA	DCT	BNE
N6GD	E135	KPIE	TBPB	ILURI	UA555	BORUS
N711LS	GLEX	KFLL	TBPB	ELOPO	ANU UA632	BGI
N725MM	GLF5	KLAS	TPPP	ANADA	UG449	POS
N725MM	GLF5	KLAS	TPPP	ANADA	UG449	POS
N761QS	GALX	MDPP	TBPB	ILURI	UA555	BORUS
N77WL	GLF4	KHPN	TLPC	LAMKN	ANU FOF SLU	FOF
N804D	H25B	KFCI	TBPB	ELOPO	ANU FOF	BGI

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

N820HB	GLF5	KHVN	TBPB	ELOPO	ANU FOF	BGI
N837RE	HA4T	KMIA	TVSC	ANADA	DCT	CAI
N860TM	H25B	KBNA	TLPL	ILURI	UA555 FOF BNE	BNE
N913QS	C750	KMIA	TVSC	ANADA	DCT	CAI
N927MC	GLF6	KFRG	TBPB	LAMKN	UA632	BGI
N951QS	C750	KILM	TBPB	ILURI	UA555	BGI
N952DP	H25B	KDCT	TBPB	ILURI	UA555	BGI
N955DP	H25B	KPBI	TBPB	ILURI	UA555	BGI
N956DP	FA50	CYOW	TBPB	ELOPO	UA632	BGI
N99KW	CL60	KBCT	TBPB	ILURI	UA555	BGI
NJE193L	GLF5	KPBI	TVSC	LAMKN	ANU PPR FOF	CAI
NJE9HM	GLF5	MBPV	TBPB	ILURI	UA555	BGI
OPT904	E135	KBED	TGPY	LAMKN	ANU PPR FOF	GND
OPT910	E135	KLGA	TGPY	ANADA	DCT	GND
PEG72	GLF4	MMUN	TVSC	BOGSI	UA511	CAI
PPHVD	H25B	KFLL	TBPB	ILURI	UA555	BGI
PSV721	JS32	MDPC	TTCP	ANADA	DCT	TAB
PTMIA	H25B	KMIA	TBPB	ILURI	UA555	BGI
SWG718	B738	CYYZ	TTPP	ANADA	UG449	POS
SWG754	B738	CYYZ	TLPL	ILURI	UA555 FOF BNE	FOF
SWG754	B738	CYYZ	TLPL	ILURI	UA555 FOF BNE	FOF
SWG756	B738	CYUL	TLPL	ILURI	UA555 FOF BNE	BNE
TSC760	B738	CYYZ	TLPL	LAMKN	ANU UA312 FOF BNE	FOF
TSC760	B738	CYYZ	TLPL	ILURI	ANU UA312 FOF BNE	FOF
TSC964	B738	CYUL	TFFF	LAMKN	ANU UA312 FOF	FOF
XAPYC	H25B	MMUN	TLPL	ILURI	UA555 FOF BNE	FOF
XOJ508	CL30	KTEB	TVSC	LAMKN	ANU PPR FOF	CAI
XOJ537	CL30	KORL	TVSC	ANADA	DCT	CAI
XOJ546	CL30	KBED	TBPB	LAMKN	ANU PPR FOF	BGI
XOJ548	CL30	KBED	TBPB	LAMKN	ANU UA632	BGI
XOJ784	C750	KMCO	TVSC	ANADA	DCT	CAI
YV1401	GALX	MDPC	TBPB	ILURI	UA555	BGI
YV524T	DC10	KMIA	TBPB	ILURI	UA555	BGI

**ARRIVALS/DEPARTURES**

**20<sup>TH</sup> APRIL 2015- 4<sup>TH</sup> MAY2015**

B8255	GLF5	KTEB	TBPB	LAMKN		
CFGIL	CL60	CYUL	TBPB	LAMKN		
N308QS	C680	TXKF	TVSC	LAMKN		
N401FT	GLF4	KTEB	TBPB	LAMKN		
N605BA	CL60	CYUL	TBPB	LAMKN		
PRSVG	C680	KTEB	TBPB	LAMKN		
PRVCO	GLF4	KTEB	TBPB	LAMKN		
ROU1786	A319	CYYZ	TGPY	LAMKN		
VDA6154	IL76	KIAH	TBPB	ILURI		

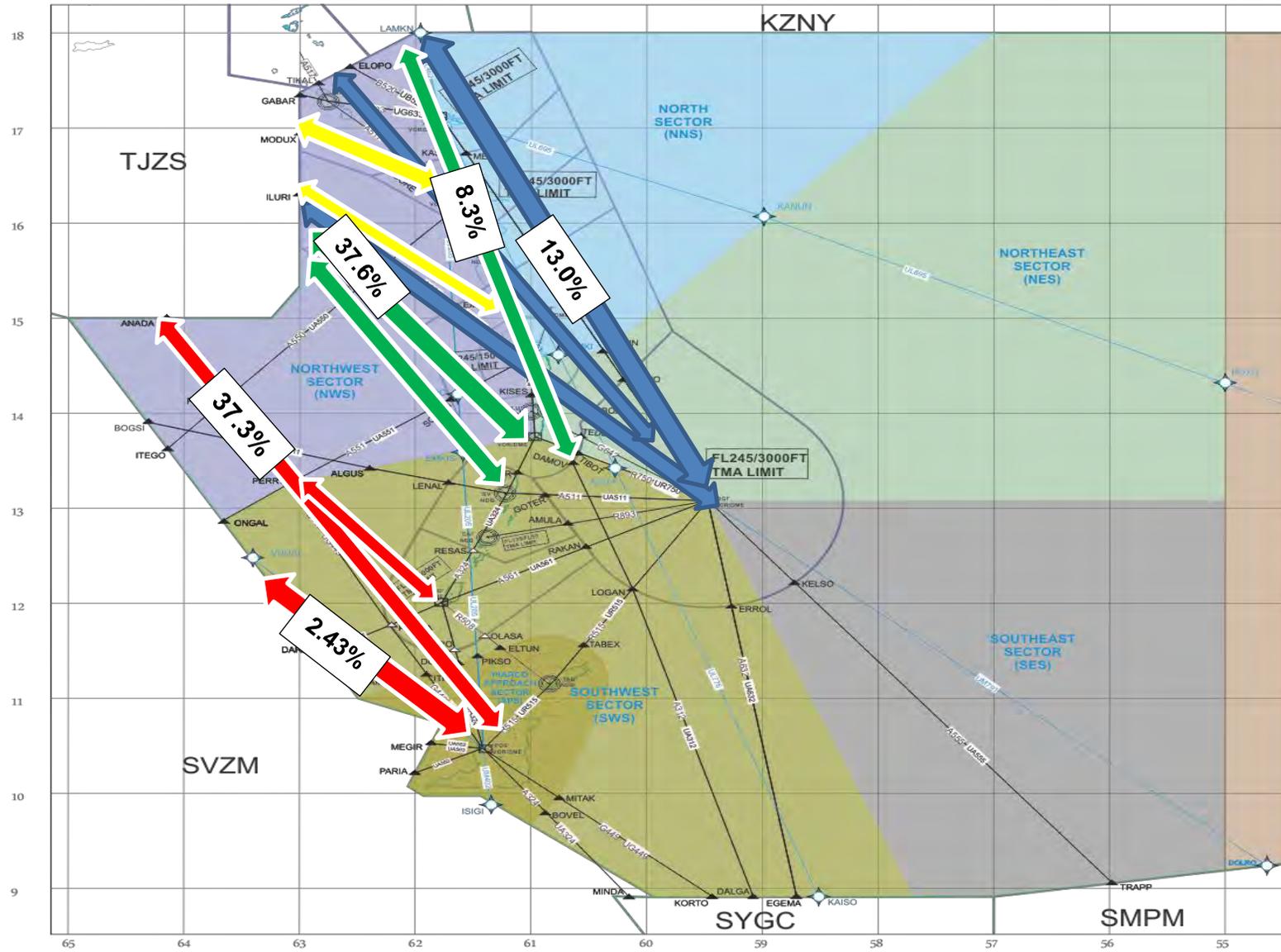
DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

AJT851	B763	KMIA	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
AMF8106	E120	TJBQ	TBPB	ILURI		
N305CC	ZZZZ	KFLL	TBPB	ILURI		
N340AK	CL60	KMMU	TBPB	ILURI		
N419WC	ASTR	KILM	TBPB	ILURI		
N525JD	C525	MDCY	TBPB	ILURI		
N583D	CL30	KDSM	TBPB	ILURI		
N740KD	LJ40	MDSD	TBPB	ILURI		
N745KD	LJ45	KSUA	TBPB	ILURI		
N745KD	LJ45	TJIG	TBPB	ILURI		
N871QS	H25B	KMIA	TBPB	ILURI		
N907DB	BE20	TJSJ	TBPB	ILURI		
N946QS	C750	KMIA	TBPB	ILURI		
N97FG	F2TH	KPTK	TBPB	ILURI		
N99CK	C501	TJSJ	TBPB	ILURI		
NJE480P	GLF5	MBPV	TBPB	ILURI		

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

PRGCR	E55P	KFLL	TBPB	ILURI		
PRLFO	ZZZZ	KFLL	TBPB	ILURI		
PRTLK	E135	KOPF	TBPB	ILURI		
TSC760	B737	KTPA	TLPL	ILURI		
VDA1200	A124	KIAH	TBPB	ILURI		

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR



TTZP CONTINENTAL AIRSPACE MAIN  
ARRIVAL/DEPARTURE ROUTES BY PERCENTAGES

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR

<b>ROUTING</b>	<b>NO. OF FLIGHTS</b>	<b>PERCENTAGES</b>
ANADA UG449	459	37.3%
UL337 POS	30	2.43%
GABAR G633 ANU PPR	4	0.33%
MODUX R888 PPR	14	1.13%
ELOPO ANU UA632 BGI	159	13.0%
ILURI UA555	464	37.6%
LAMKN ANU UA632 BGI	102	8.3%
<b>TOTAL</b>	<b>1232</b>	

DATA ANALYSIS TRAFFIC FLOWING NORTH – SOUTH THROUGH PIARCO FIR