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AIR TRANSPORT

ANNUAL REPORT 2018

Transport Global Practice







**END EXTREME
POVERTY WITHIN A
GENERATION AND
BOOST SHARED
PROSPERITY**

THE WORLD BANK MISSION



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FINANCING SAFE, AFFORDABLE, AND SUSTAINABLE AIR TRANSPORT WITH PRIVATE SECTOR PARTICIPATION

Air Transportation continues to play a pivotal role for the development of the global economy. In 2018, new global records were set when 4.34 billion passengers were transported at record 81.9 percent load factor. Passenger revenues reached USD 564 billion, which was generated by a passenger (RPK) growth of 6.5 percent. Air cargo has also reached new heights by transporting 63.7 million tons of freight (TFK), generating USD 110 billion in revenues. Overall, the air transport industry generated 55.8 billion in operational profitability, which represents 8.6 percent return on invested capital.

In terms of financial results, strong growth was experienced in North America (9.8%), Asia-Pacific (6.1%), and Europe (6%), while Africa stagnated at a low growth rate (0.6%). Latin America growth slowed (5.6%) in 2018, and the Middle East region experienced only a modest growth (1.2%) in financial performance. In terms of profitability, the air carriers of most regions were profitable even though global profitability of the industry declined from USD 37.7 billion (2017) to USD 32.3 billion (2018). The strongest profitability was in North America, Europe, and Asia-Pacific (USD 14.7 / 7.5 / 9.6 billion), while the Middle East (USD 6 billion) and Latin America (USD 400 million) were low. Only African carriers continue to experience a negative profitability with an increased loss of USD 400 million in 2018.

Nevertheless, the air transport sector's global role for economic development continues to grow rapidly as passenger figures (6.5%) increased over twice world GDP (3.2%) in 2018. The strong development of cargo (4.1%), which over 60 million tons delivered by air accounted for a third of the value of goods traded globally, is another important element. Air transportation currently supports over 63 million direct jobs, and the global network of over 58,000 routes has established a level of connectivity which is key for the development of global trade and tourism.

Many emerging and developing countries continue to benefit from this positive development, as affordable and reliable air travel fosters economic growth by supporting trade, tourism, and foreign direct investments. However, not all regions experience the same positive effect. In several client countries of the World Bank Group (WBG), airlines struggle to remain profitable or are supported by public funds, which are needed in other sectors. Another challenge is the requirement of developing and maintaining required infrastructure, and complying with international standards and best practice, while traffic figures and income from the sector remain relatively low.

For over seven decades, the WBG has financed air transportation infrastructure, such as airports or air traffic control systems. However, given the worldwide huge requirements for infrastructure financing on the one hand, and the generally solid and abundant liquidity of the private sector on the other hand, the WBG has embarked on an effort to help countries maximize finance for development without pushing the public sector into unsustainable levels of debt and contingent liabilities. By applying the so called "Cascade Approach", the WBG helps countries maximize their development resources by drawing on private financing and sustainable private

With the “Cascade Approach”, the WBG helps countries maximize their development resources by drawing on private financing

sector solutions to provide value for money and meet the highest environmental, social, and fiscal responsibility standards, and reserve scarce public financing for those areas where private sector engagement is not optimal or available. This means that WBG teams are consistently testing—and advising clients on—whether a project is best delivered through sustainable private sector solutions while limiting public liabilities, and if not, whether WBG support for an improved investment environment or risk mitigation could

help achieve such solutions. In air transport, especially the financing of airport infrastructure, private funding in the form of Public Private Partnerships (PPP) for airports is the preferred way of mobilizing finance.

The 14th edition of the World Bank Group (WBG) Air Transport Annual Report, outlines the support that is given to emerging and developing countries in air transportation. It summarizes the current portfolio of the air transport practice at the WBG, and highlights some of the projects in more detail. The above described new approach of financing infrastructure by involving the private sector has already shown its effect on the air transport portfolio. Given that no new major airport infrastructure projects have been initiated, the overall portfolio continues to decline and reached USD 979 million. The decline remains especially significant at IBRD projects, which is consistent as middle-income countries have easier access to private funding.

Nevertheless, the World Bank Group remains actively engaged around the world on air transport development, by addressing policy and regulation, safety, infrastructure rehabilitation, institutional strengthening, and capacity building in client countries. Finally, environmental challenges of aviation, and how to mitigate them in emerging markets, continue to be a top priority for the WBG, which we address in cooperation with strategic partners, such as the International Civil Aviation Organization (ICAO).

We look forward to continuing addressing the challenges and opportunities of the sector in 2019 to help achieving safe, affordable, and sustainable air transportation for all.



Dr. Charles E. Schlumberger
Lead Air Transport Specialist
The World Bank

ABBREVIATIONS

ACI	Airports Council International
ADS-B/C	Automatic Dependent Surveillance – Broadcast/Contract
AGL	Aeronautical Ground Lights
ATC	Air Traffic Control
ATM	Air Traffic Management
BOT	Build-Operate-Transfer
BOO	Build-Own-Operate
BOOT	Build-Own-Operate-Transfer
BTO	Build-Transfer-Operate
CAA	Civil Aviation Authority
CES	Charles E. Schlumberger, Lead Air Transport Specialist (WBG)
CAGR	Compound Annual Growth Rate
DME	Distance Measuring Equipment
GNSS	Global Navigation Satellite System
EASA	European Aviation Safety Agency
EC	European Commission
ESW	Economic Sector Work
FAA	Federal Aviation Administration (United States)
FTK	Freight Tone Kilometers
FY 2018	Fiscal Year 2018
GDP	Gross Domestic Product
IATA	International Air Transport Association
IASA	International Aviation Safety Assessment (FAA)
IBRD	International Bank for Reconstruction and Development (WBG)
ICAO	International Civil Aviation Organization (UN Agency)
ICSID	International Centre for Settlement of Investment Disputes
IDA	International Development Association (WBG)
IFC	International Finance Corporation (WBG)
ILS	Instrument Landing System
IOSA	IATA Operational Safety Audit
LCC	Low-Cost Carrier
MIGA	Multilateral Investment Guarantee Agency (WBG)
PASO	Pacific Aviation Safety Office
PDO	Project Development Objectives
PPPA	Public Private Partnership Agreement
PPP	Public-Private Partnership
RPK	Revenue Passenger Kilometer
SARPS	Standards and Recommended Practices
SOE	State Owned Enterprises
TA	Technical Assistance
UN	United Nations
USD	United States Dollar
DOT	Department of Transportation
USOAP	Universal Safety and Security Oversight Audits Program (ICAO)
VOR	VHF Omni-Directional Radio Range
VSAT	Very Small Aperture Terminal
WB(G)	World Bank (Group)

This report benefited from the contributions of a number of staff members from across the World Bank Group.

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The Mission

The World Bank Group (WBG) is a vital source of financial and technical assistance to developing countries around the world through the provision of low-interest loans, grants, credits, guarantees and advisory services. The World Bank Group aims to achieve two major goals by 2030:

- ◆ End extreme poverty by decreasing the percentage of people living on less than \$1.25 a day to no more than 3 percent.
- ◆ Promote shared prosperity by boosting the income of the bottom 40 percent of the population in every country.

The World Bank Group aims to tackle these challenges through financing, cutting-edge solutions, cross-sectorial knowledge, and partnerships with relevant public and private sector actors, as well as civil society. The organization's investments span across a number of sectors including education, health, public administration, private sector development, agriculture, and transport and digital development.

The Institutions and New Structure

The International Development Association (IDA) is the part of the World Bank that helps the world's poorest countries by providing interest-free loans, or credits, and grants. The World Bank's original lending arm is the International Bank for Reconstruction and Development (IBRD), which lends to governments of middle-income and creditworthy low-income countries. The International Finance Corporation (IFC) provides loans, equity, and advisory services to stimulate private sector investment in developing countries. The Multilateral Investment Guarantee Agency (MIGA) provides political risk insurance or guarantees to facilitate foreign direct investment in developing countries. The International Centre for Settlement of Investment Disputes (ICSID) is also a part of the WBG, but will not be covered in this report.

The WBG has recently undergone major institutional change, and Transport and

Digital Development is now a Global Practice. The Bank's new nimble structure with Global Practices and Cross-Cutting Solution Areas is designed to strengthen collaboration and improve knowledge sharing across the institution. These changes are intended to improve operational efficiency, financial sustainability, and ultimately work toward meeting the twin goals of ending extreme poverty and boosting shared prosperity.

Enhancing Mobility and Connectivity

Transport is a critical driver of economic and social development. Transport infrastructure connects people to jobs, education, and health services; it enables the supply of goods and services around the world; and allows people to interact and generate the knowledge and solutions that foster long-term growth. The World Bank's transport investments have facilitated more efficient trade and enhanced human development through greater mobility.

As a multi-sectorial institution, the World Bank Group is uniquely positioned to support large-scale transformational projects and deliver innovative cross-cutting solutions for greater connectivity. The World Bank's strategy in the transport sector, adopted in 2008, envisioned mobility solutions for developing countries that would be safer, cleaner and more affordable. These three principles guide the Bank's infrastructure investments and policy work. The WBG is the largest provider of development finance for transport globally, with an active portfolio of around USD 48.2 billion.

Air transport plays an important role in fostering development, particularly in facilitating economic integration, generating trade, promoting tourism, and creating employment opportunities. It facilitates integration into the global economy and provides vital connectivity on a national, regional, and international scale. However, in many countries air transport equipment and infrastructure, regulatory frameworks, and safe-

ty and security oversight systems are inefficient or inadequate.

In view of these challenges and to assist clients in establishing a safe, secure, cost efficient, accessible and reliable air transport network, the Bank is mandated to undertake the following major activities:

- ◆ Operational work through projects and technical assistance.
- ◆ Economic sector work, research, and knowledge dissemination on air transport related issues.
- ◆ External relations and collaboration with partner organizations.
- ◆ Internal services (such as the airline advisory service for WBG staff travel).

Portfolio and Project Highlights

In FY2018, WBG's Air Transport Portfolio amounted to USD 979 million, a decrease of 3.88 percent from Fiscal Year 2017 (FY2017), which was due to the completion and closing of larger airport infrastructure projects. The Air Transport segment makes up around 2.03 percent of the WBG's USD 48.2 billion Transport portfolio. The WBG's FY2018 Transport portfolio consists approximately 16.13 percent of the WBG's active portfolio of USD 299.1 billion (excluding MIGA).

The Air Transport portfolio includes 44 lending and non-lending projects or project components through the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), as well as the International Finance Corporation (IFC)'s Investment portfolio. In addition, IFC is supporting 26 Advisory Mandates and MIGA is providing three Guarantees for the Air Transport Sector.

Project highlights in FY 2018 include the completion of the Multi-Modal Transport Project in DRC by supplying and installing air navigation and control system at Kinshasa, five ADS-B ground stations in Kinshasa, Lubumbashi, Kisangani, Mbandaka, Ilebo and training of 25 Air Traffic Control personnel. Another highlight was the USD 50 million IBRD commitment for the Shangrao Sanqingshan Airport Project, which was completed as

a as "Green Airport" in FY2018.

The Vanuatu Aviation Investment Project of USD 19.5 million progressed in FY 2018 by the commencement of physical works for Bauerfield International Airport for runway rehabilitation and apron pavement improvements. Furthermore, the Pacific Aviation Safety Office Reform Project, which included of an USD 2.15 million IDA Grant in FY 2014, and additional financing of USD 0.95 million in FY 2017, benefitted of additional USD 13.55 million in FY 2018.

Finally, an air transport team carried out an assessment of the Sint Maarten Airport Terminal Reconstruction. This came as a request for reimbursable technical assistance for the implementation of a Dutch Trust Fund for the reconstruction and rehabilitation of various infrastructure and essential services in Sint Maarten following the devastating hurricanes in September 2017.

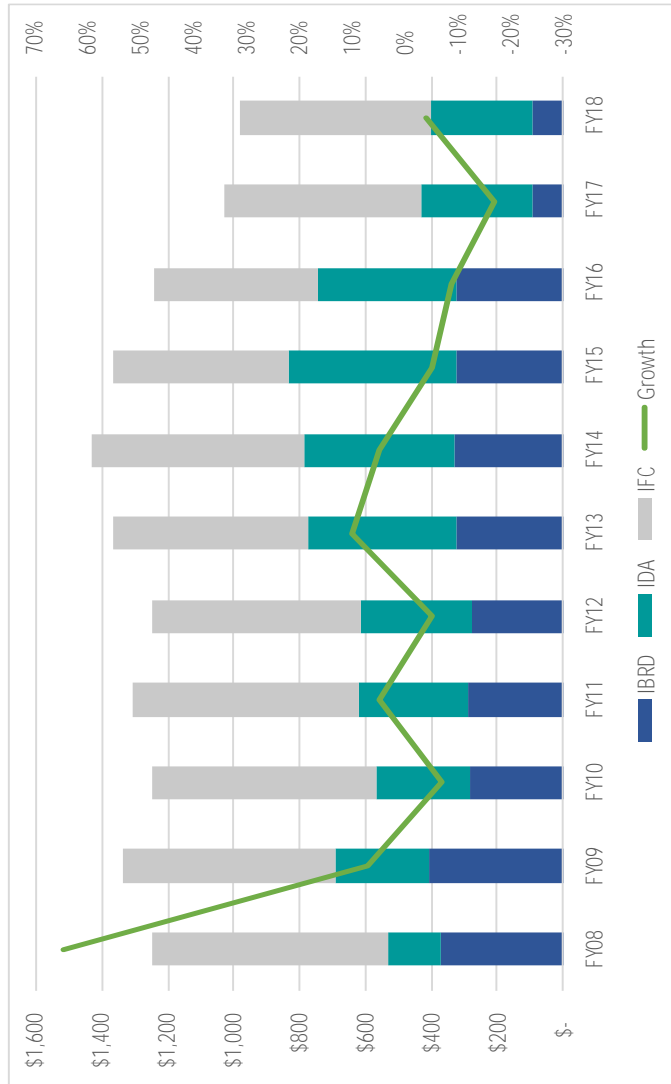
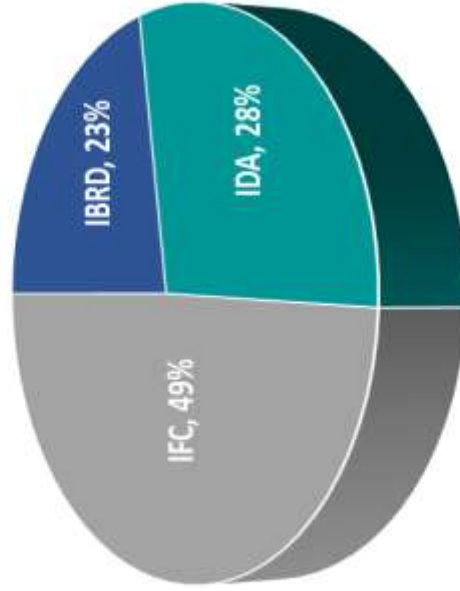
Major active commitments by the International Finance Corporation (IFC) include Queen Alia II in Jordan, the Zagreb Airport in Croatia, the Enfidha Airport construction in Tunisia, airports in Nosy Be and Antananarivo in Madagascar. In addition, the IFC investment portfolio also includes Lima Airport (Peru), Montego Bay Airport (Jamaica) and the Greek Regional Airports (14 in total). IFC is active through the provision of Advisory Services for Kingston Airport (Jamaica), the Saudi Airports (26 in total), Sofia Airport (Bulgaria), Podgorica and Tivat (Montenegro), Beirut Airport (Lebanon) and Clark Airport (Philippines). MIGA has been involved in the air transport sector in the past through the issuance of guarantees for three airport projects in Ecuador, Peru and Madagascar.

Research and External Relations

World Bank staff members continue to represent the organization externally at various air transport conferences and events, notably the ACI-WBG Aviation Symposium in London, UK. Research and knowledge dissemination also continue to constitute critical functions of the WBG's Air Transport Community of Practice (ATCOP). Looking forward, the practice maintains its strong commitment to addressing the challenges of its client countries.

PORTFOLIO

\$979M
FY18 WBG
AIR TRANSPORT
PORTFOLIO



TEN YEAR TREND - AIR TRANSPORT PORTFOLIO (USD Millions)

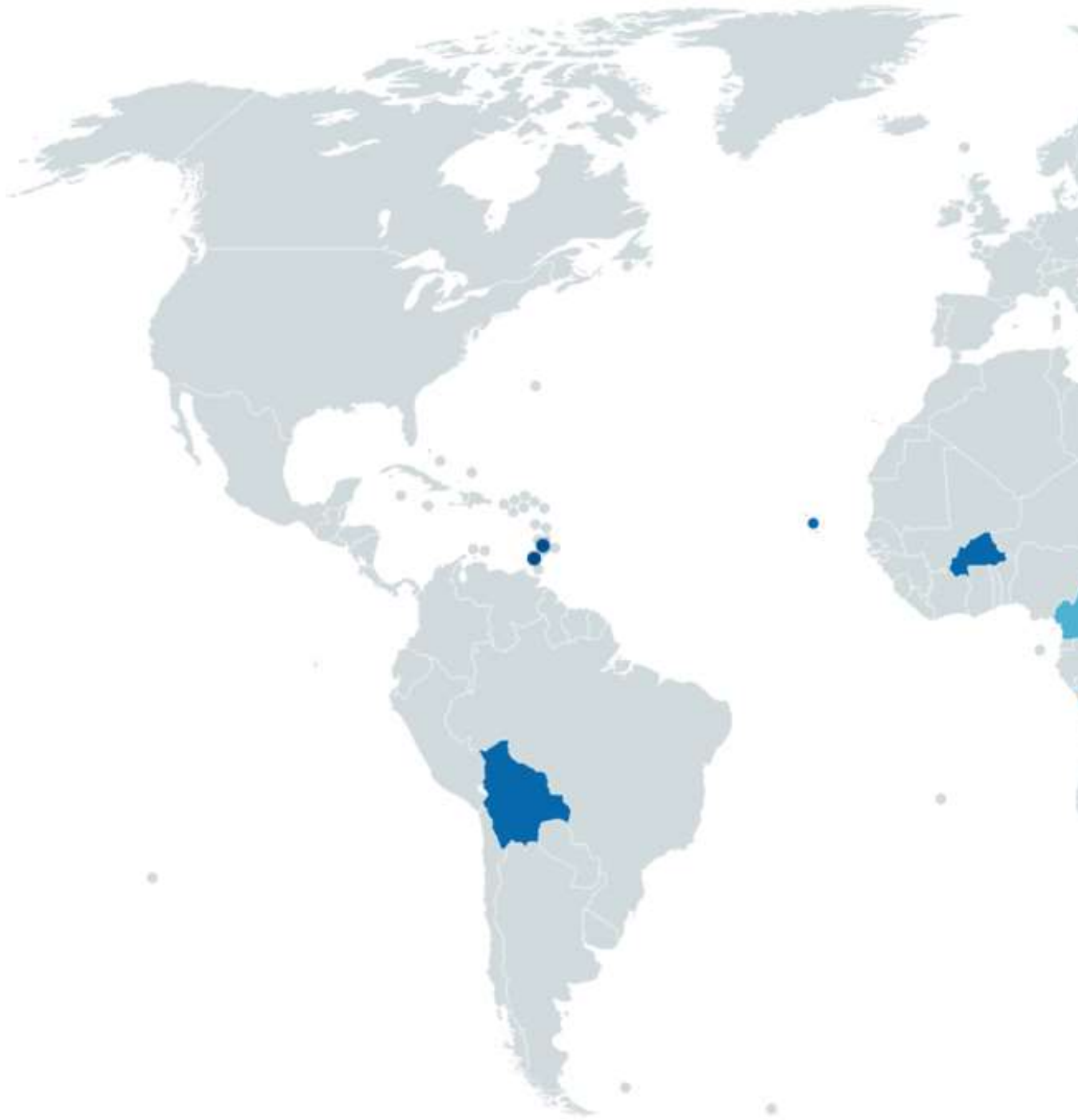
	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
IBRD	372	407	282	285	277	325	329	325	325	92	92
IDA	158	283	287	334	336	447	457	507	420	341	311
IFC	717	650	679	686	633	593	647	535	496	596	576
Growth	65%	7%	-7%	5%	-5%	10%	5%	-5%	-9%	-17%	-4%
Total	1248	1340	1247	1305	1246	1365	1433	1367	1241	1029	979

The WBG is a vital source of financial and technical assistance to developing countries through low-interest loans, credits, and grants. In Fiscal Year 2018, the World Bank's Air Transport Portfolio was around USD 980 million. This included a total of 44 lending and non-lending projects or project components through the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), as well as the International Finance Corporation (IFC)'s Investment portfolio. In addition, IFC is supporting 26 Advisory Mandates and MIGA is providing 3 Guarantees for the Air Transport Sector.

Active Portfolio <i>(in millions USD)</i>	IBRD			IDA			IFC			TOTAL		
	FY18	FY17	Change	FY18	FY17	Change	FY18	FY17	Change	FY18	FY17	Change
WB Group Total Active Portfolio	125,921	118,707	6.08%	115,975	105,766	9.65%	57,173	55,015	3.92%	299,069	279,488	7.01%
WB Group Active Portfolio-Transport	27,032	25,653	5.38%	18,416	18,034	2.12%	2,801	3,088	-9.28%	48,249	46,775	3.15%
Transport % of Total Active Portfolio	21.47%	21.61%	-0.14%	15.88%	17.05%	-1.17%	4.90%	5.61%	-0.71%	16.13%	16.74%	-0.60%
Air Transport Active Projects	92.42	92.41	0.01%	310.92	329.35	-8.43%	575.86	596.28	-3.43%	979.20	1,018.04	-3.88%
% of Total Active Portfolio	0.07%	0.08%	0.00%	0.27%	0.31%	-0.04%	1.01%	1.08%	-0.08%	0.33%	0.36%	-0.04%
% of Total Transport Portfolio	0.34%	0.36%	-0.02%	1.69%	1.83%	-0.14%	20.56%	19.31%	1.25%	2.03%	2.18%	-0.15%

Note: Excluding the Multilateral Investment Guarantee Agency (MIGA)

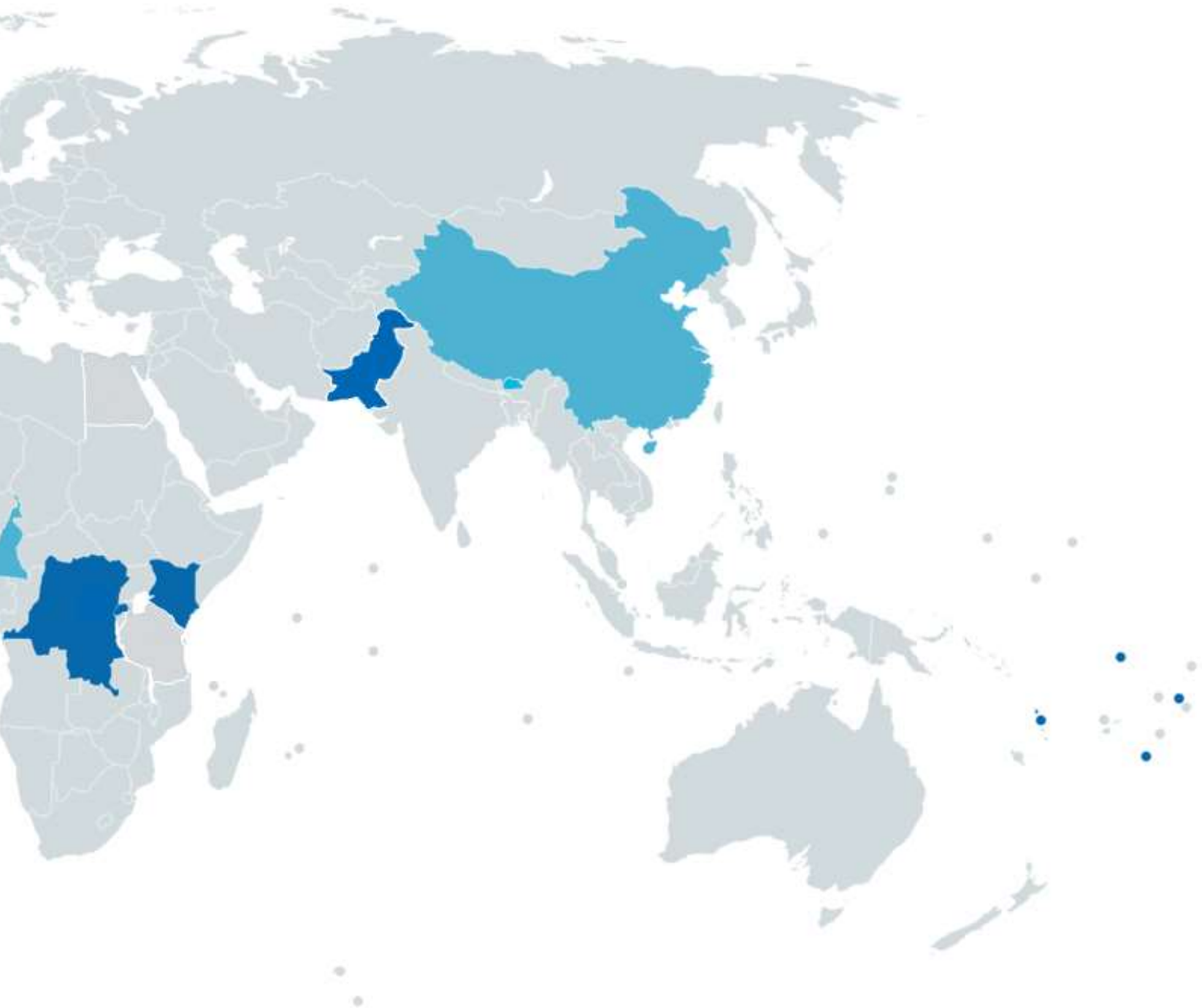
Active Air Transport Projects in FY18: IBRD and IDA invest in a number of air transport projects worldwide focusing on regulatory reform, capacity building and infrastructure investments, as well as technical assistance and analytic/advisory services.



World Bank Commitment (Lending)

■ IBRD

■ IDA



IBRD AND IDA LENDING PROJECTS

Region	Country	Project Code	Project Name	Description of Aviation Component	WBG Commitment (USD M)		Type	Status as of End of FY2018
					Total (USD M)	Aviation Component		
Africa	Burkina Faso	P120960	BF Donsin Transport Infrastructure Proj	Technical assistance for new Ouagadougou Airport	85.0	1.7	IDA Credit	Active
Africa	Cabo Verde	P126516	Cabo Verde - Transport Sector Reform	Institutional capacity building, technical as-sistance, and support of national airline	46.0	5.06	IDA Credit	Active
Africa	Cameroon	P150999	CMR Transport Sector Development Project	To improve safety and security at Cameroo-n's four international airports	192.0	44.16	IBRD	Active
Africa	Democratic Republic of Congo	P153085	DRC-Goma Airport Project	Improve the safety, security, and operations of Goma International Airport through infra-structure investments and capacity building	52.0	45.24	IDA Grant	Active
Africa	Democratic Republic of Congo	P159217	DRC Hydromet	Institutional and regulatory strengthening, capacity building and implementation support, as well as modernization of equipment, facilities and infrastructure for basic observation and meteorological forecasting	8.0	0.87	IBRD	Active
Africa	Democratic Republic of Congo	P092537	DRC Multi-modal Transport	Improve transport connectivity and support economic integration in the region	255	25.5	IDA Grant	Closed

Region	Country	Project Code	Project Name	Description of Aviation Component	WBG Commitment (USD M)		Type	Status as of End of FY2018
					Total (USD M)	Aviation Component		
Africa	Kenya	P124109	Transport Sector Support Project	Enhance aviation security and safety, and improve institutional capacity	503.5	45.32	IDA Credit	Active
Africa	Rwanda	P151083	Great Lakes Trade Facilitation Project	Rehabilitation of Kamembe International Airport by Lake Kivu in Southwestern Rwanda	79	14.2	IDA Credit	Active
East Asia Pacific	China	P123729	Shangrao Sangqingshan Airport Project	Improve airline connectivity and environmental sustainability of development and operation of the Shangrao Sangqingshan Airport	50.0	48	IBRD	Active
East Asia Pacific	Kiribati	P128938	Kiribati Pacific Aviation Investment	Infrastructure investment, sector reform and training, and strengthening airport operations and management capacity	30.0	25.51	IDA Grant	Active
East Asia Pacific	Samoa	P143408	Samoa Aviation Investment Project	Improve operational safety and oversight	41.6	38.3	IDA Grant	Active
East Asia Pacific	Tonga	P096931	Tonga Transport Sector Consolidation	Improve safety and security compliance; provide technical assistance to CAA	9.4	4.25	IDA Grant	Active
East Asia Pacific	Tonga	P128939	Tonga Pacific Aviation Investment	Infrastructure investment, sector reform and training, and strengthening airport operations and management capacity	34.5	26.53	IDA Grant	Active

IBRD AND IDA LENDING PROJECTS (continued)

Region	Country	Project Code	Project Name	Description of Aviation Component	WBG Commitment (USD M)		Type	Status as of End of FY2018
					Total (USD M)	Aviation Component		
East Asia Pacific	Tuvalu	P128940	Tuvalu Pacific Aviation Investment	Infrastructure investment, sector reform and training	29.5	25.7	IDA Grant	Active
East Asia Pacific	Vanuatu	P154149	Vanuatu Aviation Investment Project	physical works for Bauerfield International Airport runway rehabilitation and apron pavement improvement	73.6	67.71	IDA Credit	Active
East Asia Pacific	Pacific Islands	P145057	Pacific Aviation Safety Office Reform	Strengthen the Pacific Aviation Safety Office's technical and coordination capacity	5.7	0.65	IDA Grant	Active
Latin America and the Caribbean	Bolivia	P122007	BO National Roads & Airport Infrastructure	Infrastructure development; improve safety, security and operational reliability of the Rurrenabaque Airport	109.5	5.48	IDA Credit	Active
Latin America and the Caribbean	Eastern Caribbean Sub-Region	P117871	60 Regional Disaster Vuln Reduct. Projects	Regional Platforms for Hazard and Risk Evaluation, and Applications for Improved Decision Making	20.9	5.01	IDA Credit	Active
South Asia	Bhutan	P154477	Hydromet Serv & Dis Resilience Regional	The financing of aviation meteorology equipment, hardware and software to enhance aviation safety at Paro International Airport	3.8	0.8	IBRD	Active
South Asia	Pakistan	P163924	Pakistan Hydromet & DRM Services Project	Upgradin of the monitoring and forecasting system at airports to improve aviation services, and the installation of an Aircraft Meteorological Data Relay system at 10 international airports.	188.0	11.28	IDA Grant	Active

IBRD AND IDA NON-LENDING PROJECTS

Region	Country	Project Code	Project Name	Description of Aviation Component/ Activities	Aviation Component	Type	Status as of End of FY2018
Africa	Zimbabwe	P157125	Transport Sector Support to ZIMREF Capital Budget TA	Support to civil aviation restructuring by conducting a detailed restructuring study to inform decisions on financial risks, organizational structure, and future investments in aviation sub-sector.	20%	AA	Active
Africa	Western Africa	P161128	Air Transport Policy Reforms West Africa	Enable future, technical reforms by helping to improve the political economy environment for a transformation of the air transport sector in West Africa. In particular, enhancing the understanding of market mechanisms in the air transport sector, and how a conducive enabling environment for air transport operations can attract higher levels of regional and international private investments to the sector.	100%	AA	Active
Africa	Namibia	P168420	Transport Sector PPP SOE Reform	During the earlier Bank support (P165419 Transport Sector PPP Support) for the assessment of the viability of PPP-options for two discrete Transport Sector activities, the operations of the new container terminal in the Port of Walvis Bay as well as the expansion of the landside and airside facilities at the Hosea Kutako International Airport, Government was made aware of the restructuring required for the two affected SOEs, Namport Holdings and Namibia Airport Company, to accommodate the impact of the respective PPPs. Government's Ministry of Public enterprises will in future be the shareholder for both these SOEs and indicated that they would need assistance in structuring and implementing such reform, firstly on these two SOEs, but also on the wider group of SOEs whose ownership would be transferred to the Ministry.	50%	AA	Active

IBRD AND IDA NON-LENDING PROJECTS (continued)

Region	Country	Project Code	Project Name	Description of Aviation Component/ Activities	Aviation Com-	Type	Status as of End of
East Asia Pacific	Vietnam	P164148	Connecting Vietnam for Growth and Shared Prosperity (Vietnam Development Report)	Preparation of Vietnam Development Report 2019, aiming at obtaining the analytical foundation to inform policy options and investment strategies to lower transport and trade costs, improve access to markets and opportunities, and maximize the benefits of domestic and international connectivity.	20%	AA	Active
Middle East and North Africa	Yemen, Republic of	P165203	Yemen Post-Conflict Multimodal Transport Review and Strategy Note	Undertaking of multimodal transport sector Advisory Services to support Yemen's post-conflict economic recovery plans to assess the state of the transport sector infrastructure stock, institutional arrangements, condition as well as service delivery (roads, ports and airports).	33%	AA	Active
East Asia Pacific	Indonesia	P165320	Bali Sustainable Transport and Connectivity Initiative	Review of the key transport infrastructure project proposals for Bali to assist in the prioritization of high priority, high-impact, no-regret investments for financing. One of these high priority investments that will likely be assessed in more detail include the second airport in the North of Bali.	16%	AA	Active

Region	Country	Project Code	Project Name	Description of Aviation Component/ Activities	Aviation Component	Type	Status as of End of FY2018
Europe and Central Asia	Europe and Central Asia	P165756	Greener Transport Connectivity for the Six Eastern Partnership Countries	This project has three main activities. The first activity involves developing a connectivity model with geospatial representation based on the basic transport model prepared for the EAP Transport Panel Secretariat (P162871). Using this model/tool, the second activity assesses the impact in terms of connectivity and environment of green transport policy measures, including (i) identification of a prioritized investments plan to remove key bottlenecks, (ii) use of market instruments to internalize external effects of enhanced connectivity, (iii) impact of road safety measures on green transport, (iv) development of freight hubs and directions towards the physical internet, and (v) transit facilitation measures. Finally, the third activity will assess the use of both traditional and innovative instruments to finance the implementation of these measures.	25%	AA	Active
Europe and Central Asia	Tajikistan	P166816	Tajikistan Aviation Sector Reform and Private Sector Participation	This activity is based on the Bank's dialogue with the government and preliminary independent assessment of the aviation sector. As a follow up, the government has requested to continue its collaboration in the aviation sector in order to jointly develop a detailed plan of actions to reform the sector and assess opportunities to leverage the private sector and encourage greater private sector involvement in aviation, thereby enhancing synergies between the public and private sector. Key issues expected to be addressed are (i) institutional set up in the civil aviation sector, (ii) governance and regulation of infrastructure service providers, and (iii) competitiveness and efficiency of state-owned aviation companies.	100%	AA	Active
Europe and Central Asia	Uzbekistan	P168040	Support to Uzbekistan Aviation Sector Reforms	The World Bank will provide a comprehensive advisory service to the GoU to support the aviation sector modernization program in Uzbekistan. This support will develop recommendations for establishing an aviation sector policy and improving the institutional, financing, and organizational structure of the sector.	50%	AA	Active

IBRD AND IDA PIPELINE PROJECTS

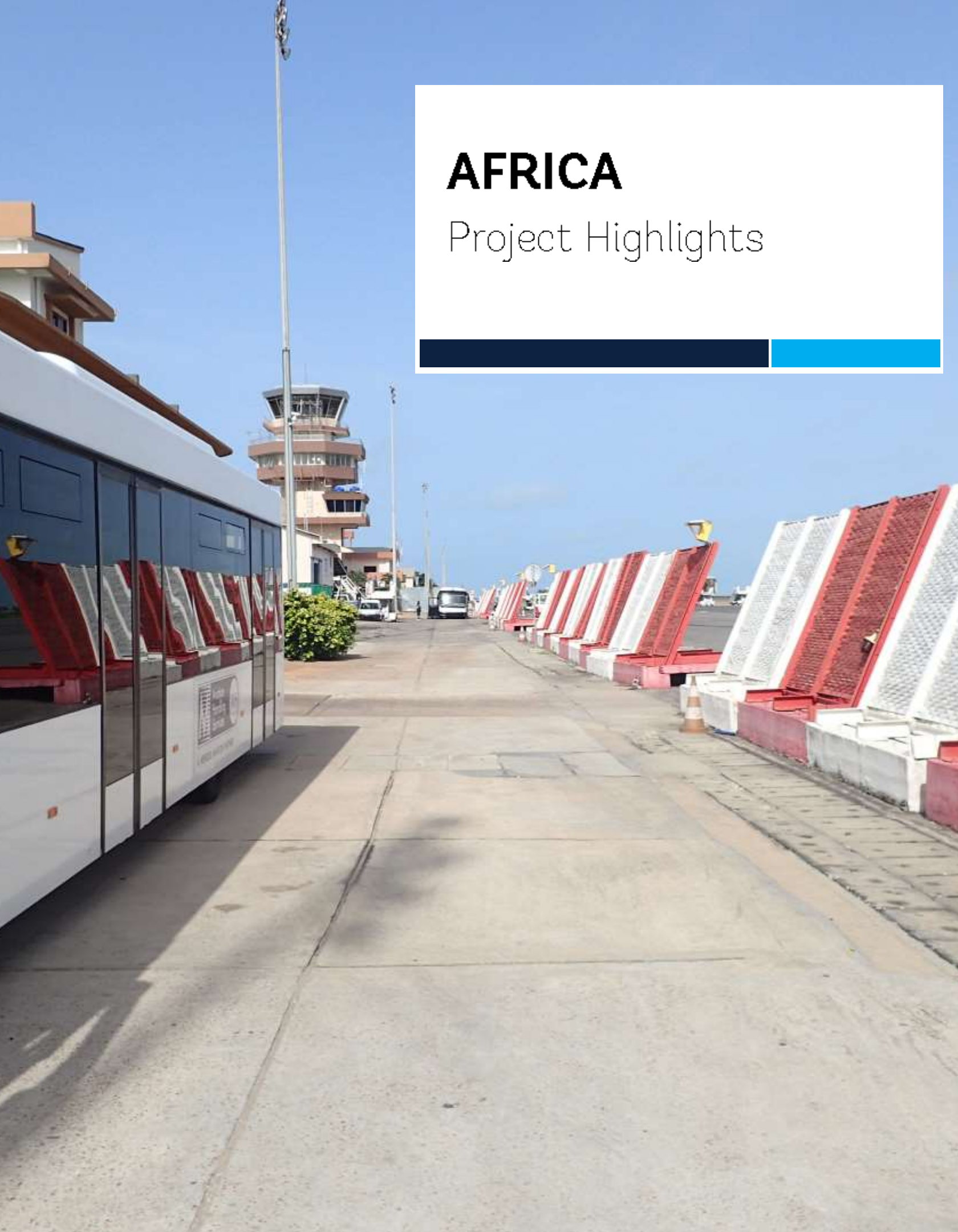
Region	Country	Project Code	Project Name	Description of Aviation Component	WBG Commitment (USD M)		Type	Status as of End of FY2018
					Total (USD M)	Aviation Component		
Central Asia	Kyrgyz Republic	P159220	Central Asia Regional Links Program - Phase 3	Aviation Safety and Service Provision: Addressing aviation safety and service provision would help the CAA (Civil Aviation Agency) to reach ICAO's (International Civil Aviation Organization) international safety standards and recommended practices, as well as to overcome the current backlog of Kyrgyz carriers by the EU, enhance local carriers' growth opportunities and ultimately increase the country's level of connectivity, a result that would benefit both local residents and international visitors.	54.46	4.5	IDA	Pipeline FY2019
East Asia Pacific	Samoa	P169279	Samoa Aviation Investment Project Additional Finance II (AFII)	Cover cost overruns due to a variation required for the apron-terminal interface and an underestimation of the funding required for equipment. The project closing date is proposed to be extended by six months to December 31, 2019, to cover the additional period necessary to complete the ongoing activities (the furniture and installation of airfield ground lighting and navigational aid packages, as well as the overall works completion).	2.0	2	IDA	Pipeline FY2019
East Asia Pacific	Tonga	P161539	Tonga Climate Resilient Transport Project	Aviation sector infrastructure rehabilitation. Which will include: Urgent resurfacing to the runway and apron at Salote Pilelevu Airport, Ha'apai, including reconstruction of pavement layers at localized soft spots, subsoil drainage as needed, and full line marking. Activities under this sub-component will include design and supervision of the resurfacing of the Ha'apai runway and apron.	26.0	3.0	IDA	Pipeline FY2019
Africa	Tanzania	P165660	Tanzania Development Corridors Transport Project	Finance the upgrading and rehabilitation of three priority regional airports out of the eleven airports.	550.0	84	IDA	Pipeline FY2019

Region	Country	Project Code	Project Name	Description of Aviation Component	WBG Commitment (USD M)		Type	Status as of End of FY2018
					Total (USD M)	Aviation Component		
East Asia Pacific	Pacific Islands	P166574	Sustainability of Aviation in the Pacific Island Countries	Pacific Aviation Infrastructure Maintenance Support and technical assistance for regulatory reform. It would finance a performance-based contract to engage the private sector in providing long-term maintenance to aviation infrastructure investments, improve the reliability of airport infrastructure and reduce downtime associated with unplanned outages. It will cover 12 airports within Kiribati, Samoa, Tonga, Tuvalu, Vanuatu, and Solomon Islands.	21.0	21	IDA	Pipeline FY2019
East Asia Pacific	Solomon Islands	P166622	Solomon Islands Roads and Aviation Project	Improve operational safety and oversight of air transport and associated infrastructure	51.0	34	IDA	Pipeline FY2019
Middle East and North Africa	Lebanon	P167765	Civil Aviation Reforms and Airport Expansion	The Project will finance three main components: (i) civil aviation reforms and strategy; (ii) government contribution to the terminal expansion as needed (CAPEX, guarantees); and (iii) improving access roads and infrastructure to the airport.	200.0	200	IBRD Loan	Pipeline FY2019
Africa	Kenya	P167734	Kenya Aviation Systems Improvement Project	Improvement of aviation safety, security and strengthening of air transport institutions. This will be achieved through the installation of an integrated security systems at major airports; automation of regulatory functions at KCAA; installation of air navigation system; construction of an air accident investigation workshop at JKIA and strengthening the capacity of KCAA, KAA and the State Department of Transport.	100.0	100	IDA	Pipeline FY2019
East Asia Pacific	Vanuatu	P169297	Additional Financing II for Vanuatu Aviation Investment Project	Cover cost overruns from the project to ensure the completion of activities and improvement of operational safety and oversight of international air transport and associated infrastructure in Vanuatu.	5.0	5	IDA	Pipeline FY2019



AFRICA

Project Highlights



Burkina Faso Donsin Transport Infrastructure Project (P120960)

The Bank approved a USD85 million IDA credit in FY13 to the Government of Burkina Faso (GoBF), with the objective to improve road access to the Donsin area to facilitate its development as a transport hub for greater Ouagadougou.

It is worthy of noting that Burkina Faso has two international airports (Ouagadougou and Bobo-Dioulasso) and a network of small domestic airfields spread throughout the country. It has one international airline (Air Burkina) which was partly privatized in 2001 and uses Ouagadougou as its home base and hub. The International Finance Corporation (IFC) was involved in the privatization of Air Burkina. The international airport at Ouagadougou handles about 98 percent of all scheduled commercial air traffic in Burkina Faso, and ten airlines currently provide scheduled services at the airport with Air Burkina and Air France handling about 60 percent of all scheduled passenger traffic.

The Project is supporting the development of the Donsin area by, among other: (a) funding the upgrading and construction of key road transport infrastructure required to connect Ouagadougou to Donsin and to provide mobility within the Donsin area; and (b) funding Technical Assistance (TA) to assist the GoBF in the development and putting in place a PPP framework, including the selection of a private sector operator to operate the existing and future Ouagadougou-Donsin international airports. IDA will not participate

in the financing of the construction of the planned new airport.

Pertaining to the air transport activities, as of the end of FY18, the project has financed the TA to support the GoBF in putting in place a PPP Framework as well as selecting the private partner for the future airport operation. The project has met the intermediate results indicator "Validation of the negotiation file for the selection of a private partner to exploit the current and future Ouagadougou international airport". The selection of the private operator had not been concluded yet, but thanks to a project extension (from 30 June 2018 to 30 April 2019), the GoBF is on its way of closing negotiations with a private partner, under the TA financed by the Bank.

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CABO VERDE Cabo Verde Transport Sector Reform Project (P126516)

The Bank approved a USD19 million IDA Credit for the Cabo Verde Transport Sector Reform Project in FY13 as well as an IDA Credit Additional Financing (AF) for USD27 million in FY17. The Project's Development Objective (PDO) is to improve efficiency and management of the national road assets and to lay the groundwork for transport sector State Owned Enterprise (SOE) reform. Under its fourth component (Inter-island Transport Strategy), the project is sup-



porting the improvement of the inter-island sea and air transport services quality as well as the management of ports and airports, and the efficiency of transport SOEs. Among the concerned transport sector SOEs is TACV, the national airline company, which is structurally in deficit. Making the right decision on TACV requires strong political will and leadership given the sensitivity of the company in Cabo Verde.

The AF is financing the costs associated with the scaling up of the original Project by supporting the implementation of additional activities, which are aligned with the original PDO, including the extension of the project closing date from 30 June 2019 to 31 December 2020. The AF seeks to enhance the achievements of the parent Project by (a) undertaking additional road rehabilitation and Performance-Based Maintenance Contracts; (b) scaling up the provision for emergency road repairs; and (c) continuing the reform of SOEs in the transport sector.

In 2017, a decree for the privatization law of the national airline company, TACV, renamed as Cabo Verde Airlines was adopted and published. As of the end of FY18, the project had financed technical assistance and two activities (an asset valuation study and debt restructuring) for the privatization of the airline. The Government has set itself the objective of concluding negotiations with Icelandair by the end of 2018, for the sale of 51 percent of the airline's shares. In addition, 10 percent of the airline shares will be sold to the former TACV employees, and the rest to private investors (there were 15 expressions of interest, mainly from the tourism sector). It is also worthy of highlighting that the domestic flight operations between the islands have been put into a joint-venture with the Canary Island operator BINTER.

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CAMEROON

CMR Transport Sector Development Project (P150999)

In FY17, The Board of the World Bank approved a USD 192 million IBRD credit for the Cameroon Transport Sector Development Project, whose development objectives are to: (a) strengthen transport planning; (b) improve transport efficiency and safety on the Babadjou-Bamenda section of the Yaounde - Bamenda transport corridor; and (c) enhance safety and security at selected airports. More specifically, it will support the design and implementation of the Transport Priority Investment Program (TPIP), which

is a key output of the integrated intermodal transport strategy (IITS) currently being prepared under the World Bank-financed Cameroon Multimodal Transport Project (P143801). The TPIP is expected to help the Government of Cameroon move from its current ad-hoc approach to transport investment financing by providing a holistic platform on which to base investment and financing decisions.

The Project's third component, Air Transport Safety and Security Improvement, focuses primarily on facilitating International Civil Aviation Organization's (ICAO) effective implementation rating of Aerodrome and Ground Assistance at project airports (Yaoundé, Douala, Garoua and Maroua), as well as the ICAO's rating of Cameroon's security oversight system. It has the following subcomponents: (a) Strengthening of airport safety and security infrastructure; (b) Strengthening air transport safety and security oversight; and (c) Strengthening of planning capacity in air transport. As of the end of FY18, most planned activities for this component have been processed as scheduled and are under implementation in accordance with an agreed action plan.

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DEMOCRATIC REPUBLIC OF CONGO

Multi-Modal Transport Project (P092537)

The Bank approved a USD 255 million IDA grant for the Multi-Modal Transport Project in the Democratic Republic of Congo (DRC) in 2010 as well as a USD 180 million additional financing IDA grant in 2013. The Project closed in June 2018 and its main objectives were to (i) improve transport connectivity in the DRC, (ii) to restore Société Nationale des Chemins de Fer du Congo (National Railway Company of DRC, SNCC) financial and operational viability, and (iii) to strengthen transport state-owned enterprises (SOEs) operational performance.

Under the sub-component dedicated to air transport, the project supported the National Airways Management Agency (Regie des Voies Aeriennes -RVA-2010-2018) as well as the Civil Aviation Authority (Autorite de l'Aviation Civile -AAC), achieving the following: (i) supply and installation of air navigation and control system (Topsky) at Kinshasa, five Automated Dependent Surveillance-Broadcast (ADS-B) in Kinshasa, Lubumbashi, Kisangani, Mbandaka, Ilebo and training of 25 ATC personnel; (ii) Supply and installation of Instrument Landing System/ Distance Measuring Equipment (ILS/DME) at Kinshasa/ N'Djili airport; (iii) the carrying out of a certification campaign for five

air companies, out of which, three obtained the certification (FlyCAA, Air Tropique et Kin Avia); and (iv) the provision of technical assistance/ training program by ICAO for the ACC. Several new inspectors have been trained in airworthiness, operations, pilot licensing, and other domains of the AAC.

In addition, activities financed under the project contributed to the reduction of the average number aircraft proximity traffic incidents, from twelve in 2009 to two incidents in 2018, which were reported yearly. This result can be attributed to improved surveillance of airspace using ADS-B and the TopSky system as well as precise GPS-derived data for controllers. Finally, the Project achieved a significant reduction of average number of communication losses, from 78 to twelve per year.

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DEMOCRATIC REPUBLIC OF CONGO **Goma Airport Safety Improvement Project** **(P153085)**

In FY15, the World Bank's Board approved a USD 52 million IDA grant to help improve the safety, security, and operations of Goma International Airport, the main international gateway of Eastern Democratic Republic of Congo (DRC) and repair the airport infrastructure. The airport is a vital link to connecting the area to the rest of the country and supporting ongoing peace consolidation efforts. In addition to decades of conflict, the most significant damage to the airport's sole runway and taxiway resulted from the 2002 Mount Nyiragongo volcano eruption.

The lava flow from the volcano buried more than one third of the 3,000-meter runway and isolated the terminal and apron, constraining humanitarian aid flows, UN operations, and passenger and cargo transport. There have been seven recorded air crashes since 2002 at the airport with dozens of fatalities, many of them attributed to the condition of the airport.

The project seeks to restore the airport's runway original length, rehabilitate the apron, existing passenger and cargo terminals, and electrical system, as well as supply a new low-cost control tower and navigational equipment to upgrade air navigation. The project also includes the construction of the airport's security fence and support airport rescue and firefighting services.

The project is supporting the valorization of the large quantity of lava rock removed from the airport through labor intensive activities targeted to communities living close to the airport. The project will also

complement a Japan-GFDRR grant supporting the monitoring of volcano risks and strengthening preparedness of the airport and surrounding communities. The significance of the project is evident – DRC's landmass is almost as large as the whole of Western Europe, therefore transport remains key to increasing agriculture, improving trade, supporting mining growth, overcoming the economic and social barriers that isolate communities, and providing security throughout the country.

By the end of FY18, the bidding process for the works covering the runway and drainage works was in offer evaluation stage for a new contractor, as the previous contractor seemed to have been under financial difficulties and the works were progressing very slowly. Offers are equally being reviewed for the control tower and the power plant. For the refurbishing of the airport terminal building, as well as for cargo infrastructure, the Bank has recommended to assess the possibility of small Public Private Partnerships (PPP). A small advisory or study could be carried out. The certification of the airport according to ICAO standards remains an important objective and indicator of the project. Representatives of ICAO have affirmed that the certification could be done within one year, once commenced and carried-out according to a defined program. For this purpose, a designated staff of AAC/RVA should be nominated to work closely with ICAO.

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DEMOCRATIC REPUBLIC OF CONGO **Strengthening Hydro-Meteorological and** **Climate Services** **(P159217)**

In FY17, The Bank approved a USD 8 million IBRD loan for a Global Environment Project for the Democratic Republic of Congo (DRC), with the objective to improve the quality and strengthen the country's Hydro-Meteorological (Hydromet) and Climate Services.

Understanding hydromet and climate risks would help assess social and economic impacts and develop adequate policy responses to support the country's sustained development. A number of economic sectors in the DRC could specifically benefit from more accurate, relevant and timely hydromet information, warning and services. Such are the cases of airfreight and aviation. Meteorological assistance to aviation is made in relation with the Airways Authority (RVA). RVA is a private company owned by the State that has to comply with the Civil Aviation Organiza-

tion (ICAO) regulations and benefits from air traffic levies collected from airlines for airport and en route services. The meteorological infrastructures of the international airport of N'djili Kinshasa as well as of the other airports in the country belong to National Agency for Meteorology and Remote Sensing (MettelSat). At present, the meteorological services to aviation are provided by RVA in N'djili, which is the largest airport in DRC, and in three other international airports. RVA has hired about 50 meteorologists based in Kinshasa, and is in the process of training and recruiting 20 new meteorologists. MettelSat owns and operates presently 22 observing stations on airports, but most of the data are not available and no forecasts for aviation are issued.

Under Component A (Institutional and regulatory strengthening, capacity building and implementation support), the project will be investing in the human and institutional resources that can implement and sustain hydromet observation and forecasting, including the carrying out of an Institutional diagnosis with a comparative review of the roles and mandates of the different government agencies involved, such as RVA and MettelSat, to identify the main actions required to increase cooperation and avoid overlap between agencies, ensuring an efficient development of hydrometeorology in DRC. Under Component B (Modernization of equipment, facilities and infrastructure for basic observation and forecasting), the project is supporting the reinforcement and rebuilding of the basic networks for observation and forecasting, as well as in infrastructure needed for provision of services by MettelSat.

By the end of FY18, the project had become effective, although it was one year after its approval by the World Bank Board. While the project is still in too early a stage for meaningful progresses, most project activities have been initiated according to the updated timeline and procurement plan, and the Project Implementation Unit is functional and operative at MettelSat.

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KENYA TRANSPORT SECTOR SUPPORT PROJECT (P124109)

A USD 300 million IDA Credit for the Transport Sector Support Project in Kenya was approved in 2011 as well as an Additional Financing (AF) of USD 203.5 million in FY 2014. The project's objectives are to: (a) increase the efficiency of road transport along the

Northern Corridor and the Tanzania-Kenya-South Sudan road corridor; (b) enhance aviation safety and security to meet international standards; (c) improve the institutional arrangements and capacity in the transport sector; (d) restore the capacity of the international passenger terminal destroyed in a fire at Jomo Kenyatta International Airport (JKIA); and (e) strengthen the capacity of Kenya Airports Authority (KAA) in disaster preparedness and responsiveness at Kenyan airports.

The aviation component of the project entails providing support to the Kenya Civil Aviation Authority (KCAA) in regulatory capacity building and through specific investments in navigation aids and training equipment. In addition, support to KAA will include provision of a new baggage-handling system at JKIA, and capacity building and training of manpower in safety, security, and airports management.

Following the fire at the JKIA in August 2013 that destroyed the only international arrival building, the Bank provided an AF of USD 203.5 million to help finance activities to restore the capacity of the international passenger terminal destroyed in a fire at JKIA, strengthen KAA in disaster preparedness and responsiveness at Kenyan airports, and fill any unanticipated financing gaps. Most of the emergency activities at JKIA following the fire incident have either been completed or are nearing completion.

As of the end of FY18, project implementation and achievement of development objectives is on track, with the following results:

- *Aviation safety and security now meets international standards enhanced:* Kenya and JKIA now meet aviation security and service level standards set by the International Civil Aviation Organization (ICAO), Federal Transportation Administration, and Transportation Security Administration of the USA, allowing flights originating from JKIA to travel to and from the USA. Kenya Airways commenced direct flights to New York, USA on October 28, 2018.
- JKIA was selected as the fifth best airport in Africa in 2017, and Most Improved Airport in Africa in 2016 (Airports Council International).
- The East Africa School of Aviation has been accredited as one of the few centers of excellence in the world by ICAO.
- Purchase and installation of air navigation equipment has contributed to enhancing safety in Kenya's airspace; and
- Kenya Civil Aviation Authority restructured through internal separation of the regulatory responsibilities from service provision functions undertaken;

RWANDA GREAT LAKES TRADE FACILITATION PROJECT (P151083)

- *Conflict of interest scenario in the aviation sub-sector where the regulator, KCAA was housed by the operator, KAA resolved.* A new office block for KCAA was financed under the project as part of financing reforms in the aviation sub-sector.
- *The capacity of the international passenger terminal destroyed in a fire at JKIA restored.* Interim and permanent international passenger arrivals facilities were constructed at JKIA leading to rapid and full restoration of operations at the airport.
- *Strengthened the capacity of KAA in disaster preparedness and responsiveness at Kenyan airports:* Emergency response has been strengthened at major airports with the development of disaster response systems and purchase of firefighting equipment.

Nevertheless, in FY18 WB management to cancel the project component to rebuild the international terminal, given that it was jointly decided by the client and Bank to pursue the carrying out of further analytical work to examine the possibility of the private sector financing the facility.

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In FY 2016, A USD 79 million IDA Credit for the Rwanda Great Lakes Trade Facilitation Project. The Project Development Objective (PDO) of this project is to facilitate cross-border trade by increasing the capacity for commerce and reducing the costs faced by traders, especially small-scale and women traders, at targeted locations in the borderlands.

The Great Lakes Trade Facilitation Project includes improvements in border crossing management for Rwanda, Congo DRC, Uganda, and COMESA. As part of the package, Kamembe International Airport by Lake Kivu in Southwestern Rwanda is being rehabilitated with an investment of USD 14.2 million. The airport is seen as a strategic gateway for trade, since neighboring Bukavu, only 7 km away from the airport and across the border with Congo DRC, has a population of over 1 million and no convenient airport access. The airport is seen as an important gateway for trade in the region, as the main passengers on flights from the airport are Congolese heading, via Kigali, to major trade centers such as Dubai.

Prior to the beginning of rehabilitation works, the airport, Rwanda's first, has not seen any major renova-





tions or resurfacing in over 60 years. At the project's inception, proposed works included VOR/DME systems with an ILS, GNSS approaches, PAPI and approach lighting systems, fencing and other security installations, automatic weather observation system, and a cargo warehouse. The resurfacing of the runway, which would have added a significant cost component to the project, was in the end financed directly by the Government of Rwanda and had basically been completed by the beginning of the project.

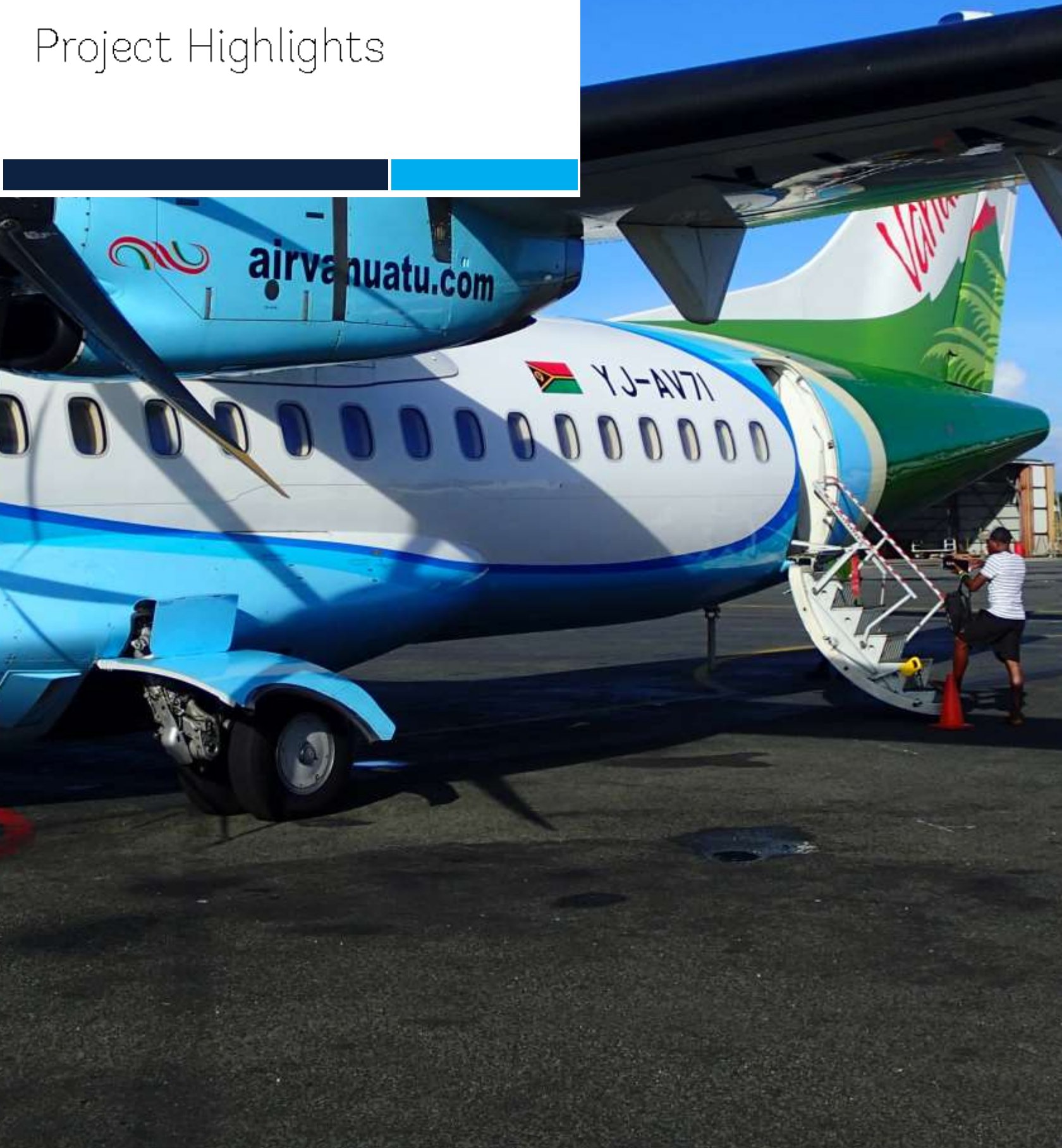
The airport has significant limitations due to its terrain. Sitting on a hilltop, an additional hill at the end of runway 20 prevents this runway's use for takeoff, necessitating takeoff from runway 02 only, which usually features a strong tailwind. At 1,500 meters the runway is short. Take off from runway 20 is further limited by the fact that avoidance of the hill would require an immediate turn to the right entering Congo DRC airspace. Night operations will much ease the tailwind issue on runway 02 and will add further usability to the airport. The extensive lighting system (approach lighting, runway lighting, apron illumination) will have works commence in 2019. Fencing has already been completed, slightly below initial cost estimates.

Due to the terrain and advancement in Satellite-based technology, the VOR/DME installation has been dropped. The cargo warehouse turned out to be redundant and has been dropped as well. This has generated savings that may be re-applied to other infrastructure at the airport, such as the relocation of parking facilities away from the terminal. As of the end of FY 2018, the project is somewhat, but not significantly, behind in disbursements. Delays were attributed to various procurement issues, however, because of the strong management in place, the project is expected to be completed successfully. A setback occurred when earthquakes caused damage to the terminal building in 2015 and 2016.

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EAST ASIA & PACIFIC

Project Highlights



CHINA

SHANGRAO SANQINGSHAN AIRPORT PROJECT (P123729)

A USD 50 million IBRD commitment for the Shangrao Sanqingshan Airport Project was approved in May 2013. The project's development objective (PDO) is to improve airline connectivity in the northeastern Jiangxi province, as well as demonstrate the environmental sustainability of the development and operation of the Shangrao Sanqingshan Airport. The PDO is to be achieved through i) reducing the travel time between Shangrao and major destinations; and ii) recognizing Shangrao Airport as "Green Airport" through established process.

The first component of the project covers the airport infrastructure development and includes the construction and installation of the following: (a) airfield, runway, taxiway; (b) terminal building; (c) air traffic control; (d) freight facility; (e) supporting infrastructure facility, including fuel storage farm, water supply, water supply, power supply, fire stations, heating, storm/water management, parking, fence; (f) environmental management plan; (g) land acquisition and rehabilitation; (h) auxiliary facility; (i) service vehicles; and (j) storm water reuse system and ground aircraft auxiliary power unit.

The second project component finances consultancy services, studies and training, including advisory services to support the Project Management Office (PMO) and Shangrao Sanqingshan Airport Company Limited (SSAC) on project coordination and monitoring activities. Other activities will include consultancy services to develop airport operation model for SSAC and compliance with regulations and international practices.

This project is on track to achieve its PDO. The construction works of the airport have been completed, and the airport operator was selected. The airport started its operation in May 2017. Currently there are three airlines (Sichuan Airline, China United Airline, and Shandong Airline) operating in Shangrao airport, which connect Shangrao with some major cities in China, including Beijing, Shenzhen, Foshan, Chengdu, and Qingdao. According to statistics from the airport operator, in 2017, the Shangrao airport had welcomed 1634 aircraft taking-off/landing, about 146,000 passengers and 5.38 tons of cargo. The airport has reduced the travel time between Shangrao and major cities by 57%, and it is expected to handle about 750,000 passengers by 2025. All remaining activities will be completed before the project closing date of 31 December 2018, and the project will be closed on time. The Results Framework is adequate to capture the project's contribution. With the opening of the airport, the majority of results indicators are already attained. But the PDO indicator of 'green airport' recognition has not been achieved yet.

The World Bank and Shangrao PMO held a workshop on Green Airport Design and Development in Beijing on 23 January 2018. The workshop gathered about 80 representatives of the Chinese Civil Aviation Authority (CAAC), Civil Aviation Association, Asian Infrastructure Investment Bank, Shangrao Sanqingshan Airport, several Chinese airports (Beijing Capital, Jiangxi, Sichuan, Chengdu Tianfu, Jining Qufu, Haikou International, Yunnan, and Urumqi International), various airport construction firms and entities, various engineering firms, specialized environmental consulting firms, and representatives of the press. During the workshop, the knowledge and experiences from the Shangrao airport on the green airport were well presented and exchanged to other airports and interested parties.

The Shangrao airport was designed and constructed as a green airport, incorporating important energy efficiency measures, such as use of natural light, LED lights, heating and cooling production by a geothermal heat pump system, reuse of rainwater, etc. To achieve the PDO of the project, the PMO is working with the relevant rating authorities in China to obtain the Green Building certificate for the terminal building before project closing. In addition, the Bank team has discussed in detail with the PMO and the operator on the Airport Council International (ACI) Airport Carbon Accreditation (ACA) program and encouraged the operator to enroll in the program. A presentation of ACA has been delivered to discuss the required first steps towards the enrollment. In addition, the Bank team has discussed with the operator airport operation issues that need to be addressed, including wastewater treatment and wildlife management, and has provided recommendations accordingly.

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KIRIBATI

PACIFIC AVIATION INVESTMENT PROJECT (P128938)

In FY 2012, a USD 22.91 million IDA Grant was approved by the Bank Board for Kiribati's Aviation Investment Project. An Additional Grant Financing (AF) of USD 7.1 million was approved in FY 2017 to cover funding shortfalls. The project development objective is to improve operational safety and oversight of international air transport and associated infrastructure. The Project is entering its sixth year of implementation.

Under its first component, the project is supporting International Airport Infrastructure Investments notably: (i) replacement of the terminal at Cassidy Airport and improvements to the terminal at Bonriki Airport; (ii) construction of fire tender vehicle shelter



and maintenance equipment building at Cassidy Airport; (iii) installation of new navigation aids, automatic weather monitoring, safety and security equipment at the Cassidy and Bonriki airports; (iv) upgrading of the Cassidy airport runway lights; (v) provision of air traffic control and fire safety equipment; (vi) enhancing the power supply for Cassidy Airport and the surrounding village; (vii) provision of the Pacific Aviation Safety Network at Cassidy and Bonriki airports; (viii) construction of a security fence for the Bonriki airport; (ix) completion of the seawall being constructed at the Bonriki airport. The second and third components are supporting Aviation Sector Reform and Training as well as Strengthening Airport Operations and Management Capacity.

The project is making adequate progress in several areas. The terminal works and the associated supervision services are currently underway both at Bonriki and Christmas Island. It is expected that works on the fence will be completed by end of September 2018. The amendment for the construction of the seawall has been agreed upon and the corresponding contract amendment needed for its supervision is being finalized. The contract of the aviation advisor has been concluded with considerable progress

achieved with regards to the development of air service agreements, the CXI-Nadi subsidy and upper air space issues and capacity building activities with the Civil Aviation Authority. The airport management contract is progressing satisfactorily with all manuals completed and several capacity building activities and trainings conducted recently. The airport management consultants have also engaged a legal advisor to support the Government of Kiribati (GoK) with the establishment of an airport authority that would support a more appropriate budgeting and decision-making process. The extension will make it possible to fund the entirety of this contract scheduled to close in March 2019. The GoK is now receiving regular revenue from the Safety and Security Levy collected by airlines such as Fiji Airways as part of the ticket price.

Despite the above-mentioned progress, the project is facing a number of challenges. Whilst some progress has been achieved with regards to the installation of the navigation aids in TRW, progress in CXI is very slow with works still not having commenced. The project is currently scheduled to close on 31 December 2018. However, due to several procurement related delays and logistical challenges affecting civil works (e.g. shipping delays), the ongoing airport manage-

ment contract, the seawall construction and potentially the airport terminal works and navigation aids commissioning will not be completed by the current closing date. The project is currently processing an extension to fund the remaining invoices after the current closing date. It is estimated at this stage that all activities will be completed before June 2019.

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TONGA TRANSPORT SECTOR CONSOLIDATION PROJECT (P096931)

A USD 5.44 million IDA Grant for the Transport Sector Support Project in Tonga was approved in FY 2009 as well as an Additional Financing (AF) of USD 4 million in FY 2016. By the end of FY 2018, the project was nearing its closing date of 31 December 2018. The project's development objective (PDO) is to assist the Recipient to develop its transport sector to have: (i) stronger policy, planning and regulatory institutions and framework; (ii) improved safety and security facilities and compliance with international safety and security standards; and (iii) greater domestic capacity for road rehabilitation and maintenance.

The Project was designed around four components: (A) establishment of a sustainable transport sector policy and institutional and operational framework, (B) compliance with mandatory security and safety standards, (C) support to the transition towards sustainability in the transport sector, and (D) project implementation support. Each component has financed policy and TA activities and/or investments to improve safety and security through works, goods and/or equipment.

The Project is advancing ongoing transport sector reforms and consolidating past initiatives so that the sector can better respond to national needs in a safe, secure and sustainable manner. Four outcome indicators were developed to monitor achievement of the PDO: (i) Ministry of Transport (MOT) functioning as a fully-integrated ministry responsible for compliance and safety oversight of land, sea and transport in Tonga in all necessary legal approvals accompanying its new responsibilities, (ii) definition of the new roles of MOT and relevant ministries in respect of land transport, (iii) certification of the Fua'amotu international airport in accordance with TCAR Parts 139 and 157 (as at 22 April 2008), and (iv) domestic shipping services operated in line with an approved plan recommended by a study of options to service outer islands. The Project has also relied on a list of intermediate outcomes that can be assimilated to the Pro-

ject outputs and that monitored the implementation of regulations, the recruitment of staff, the installation of goods and equipment directly improving safety and security at airports and ports, the development of investment including maintenance plans.

By the end of FY 2018, the project continued to make good progress towards achieving the PDO. The project had progressed very well, on both institutional and investment fronts, supporting the road, air and maritime subsectors. Key air transport and road transport legislation supporting the change management process were ready to be submitted to Cabinet, including the New Traffic Act (2018), the Roads Bill (2018), Civil aviation Act (2014), and the Airport Authority Bill (2018). In addition, the planned ICAO certification for Fua'amotu airport was attained. Moreover, two unexpected outcomes related to the air subsector are worth highlighting: (i) the operation has had an impact on tourism, or at least the number of passengers increased after the upgrades done at the airport; (ii) the operation also contributed to the identification of an entity with the adequate technical, management and fiduciary capacity to implement a USD 240 million IDA regional aviation project -- Tonga Airport Limited (TAL), created in 2007 and whose core functions & responsibilities have been developed under the project. Lastly, the project supported some major air transportation infrastructure and equipment upgrades without which some airlines would have interrupted their services in Tonga in 2012.

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TONGA AVIATION INVESTMENT PROJECT (P128939)

Subsequent to an original IDA Grant contribution of USD 27.21 million in 2011, the World Bank approved a USD 7.3 million Additional Finance in 2016. The project is in the seventh year of implementation schedule, with a revised completion date of 31 December 2019.

The project is progressing and is on track to achieve its current development objectives. Installation of key investments such as the VSAT (satellite communication ground equipment that allows users to communicate directly via satellite), implementation of ADS-B imaging, terminal building improvements and the new control tower at TBU are underway or nearing completion. The project's closing date has been extended by twelve months to 31 December 2019 to ensure completion of the key activities remaining under the project: (i) the Air Traffic Control Tower at Fua'amotu

International Airport (TBU); (ii) the TBU Terminal Building renovations; (iii) Terminal expansion in Vava'u; and (iv) construction of cargo shed in TBU. The Airport Authority Bill has been submitted by Ministry of Infrastructure to Cabinet for endorsement. Efforts must continue to meet International Civil Aviation Organization (ICAO)'s requirements to improve the Effective Implementation (EI) score from the ICAO Universal Safety Oversight Audit Programme (USOAP).

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TUVALU AVIATION INVESTMENT PROJECT (P128940)

With IDA Grant contributions of USD 11.85 million in FY 2012, USD 6.06 million in FY 2014 and USD 2.89 million in FY 2016, the project is in the seventh year of implementation. The project development objective is to improve the safety and security of air transport and associated infrastructure. A third additional financing (AF) of USD 8.75 million was approved in FY 2018 to finance: (i) the design and construction of runway repairs and resiliency measures addressing

pavement defects on Funafuti runway that have resulted from water pressure under the recently paved runway. This will include pilot testing of a number of alternative remedial options throughout the 2017-18 cyclone season which will inform the final design; (ii) emergency interim maintenance and monitoring regime for pavement defects; (iii) the supervision cost for the runway civil works and construction of the flight services center and fire tender shelter—including through the defect liability period; (iv) ongoing monitoring of the impact of the civil works on the sub-runway water pressures; and, (v) a budget shortfall under the parent project due to foreign exchange fluctuations and higher than anticipated supervision costs. The project closing date has been extended to 30 June 2020.

The project is progressing and is on track to achieve its PDO. The road civil works are completed, the fuel truck and fire tender have been delivered and are in use, and the new airport terminal opened in February 2018. In addition, works on the construction of the flight services center/fire tender shelter have been completed. The Government of Tuvalu is now receiving regular revenue from the Safety and Security Levy as well as the higher departure tax, both collected by Fiji Airways as part of the ticket price. Furthermore, the most recent AF has supported Tuvalu's



participation in ICAO, as well as activities related to Gender-based Violence (GBV) and Violence Against Children (VAC) training, prevention and support.

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SAMOA AVIATION INVESTMENT PROJECT (P143408)

A USD 25 million IDA Grant for the Transport Sector Support Project in Tonga was approved in FY 2014 as well as an Additional Financing (AF) of USD 16.62 million in FY 2016. The project development objective (PDO) is to improve operational safety and oversight of international air transport and associated infrastructure. The purpose of the latest AF was to scale up apron pavement expansions and fuel hydrant extensions necessary to integrate a new terminal building which is currently under construction.

The project is on track to meet the PDO. Faleolo International Airport has maintained all regulatory compliance requirements and certifications are current. Airfield Rescue and Fire Fighting (ARFF) Category 9 outcomes have been exceeded, as the two additional vehicles have enabled Samoa Airport Authority (SAA) to now meet Category 10 status. The pavement rehabilitation works have commenced, and installation of the VSAT, ADS-B ground station and air-

craft avionics has been completed and are operational meeting the outcome of upgraded communications and navigation equipment. In addition, the Aviation Sector Strategy and the SAA Business Strategy and Master Plan have both now been completed. The progress towards the achievement of safety measured by USOAP ICAO global average is on-track, based on the project-financed activities, but needs a re-evaluation either by SAA or by an external expert.

To fully achieve the PDO, the Government has requested an additional finance of USD 2.0 million from IDA funding and a six-month extension of the project closing date. The Government is expected to submit the relevant request to the Bank by the end of October 2018.

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VANUATU AVIATION INVESTMENT PROJECT (P154149)

A USD 5.44 million IDA Credit for the Vanuatu Aviation Investment Project was approved by the Bank in FY 2015 as well as an Additional Financing of USD 14.1 million in FY 2017. The project development objective (PDO) is to improve operational safety and oversight of international air transport and associated



infrastructure in Vanuatu.

The project is entering the fourth year of a five-year implementation period and is making moderately satisfactory progress towards achieving the PDO. Despite delays to the progress of the main investment activity - physical works for Bauerfield International Airport runway rehabilitation and apron pavement improvements – it is anticipated that the project will be able to deliver on expected outcomes. Contractor delays have occurred with (i) the sourcing and importation of aggregate for the runway works; (ii) locating a suitable site for unloading aggregate and assembly of the asphalt batching plant; (iii) ensuring quality assurance measures meet relevant technical specifications and industry standards; and, (iv) meeting the projects safeguard standards.

Airfield Rescue and Fire Fighting (ARFF) Category 7 outcomes will be attained. Technical Assistance with AVL Master Plan and Aviation Sector Strategy have been completed but require Government endorsements. ADS-B avionics have been procured and were installed in 2018. Smaller investment activities, including modernization of air navigation aids and communications, have yet to commence, but can be completed within the project schedule. The project is making reasonable progress on institutional aspects

with targeted technical assistance and capacity development programs for both AVL and CAAV. The safety and security levy is in effect; activities to facilitate improved oversight capabilities are on-going.

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PACIFIC ISLANDS PACIFIC AVIATION SAFETY OFFICE REFORM PROJECT (P145057)

A USD 2.15 million IDA Grant for the Pacific Aviation Safety Office Reform (PASO) was approved by the Bank in FY 2014 as well as an Additional Financing (AF) of USD 0.95 million in FY 2017 and of USD 13.55 million in FY 2018, with an extended closing date of 31 December 2021. The project development objective (PDO) is to strengthen the coordination capacity of the Pacific Aviation Safety Office to deliver regional aviation safety and security oversight, and technical and advisory services to the Pacific Island Countries.



The objective of the second AF (AFII) for the PASO Project is to strengthen the coordination capacity of the Pacific Aviation Safety Office to deliver regional aviation safety and security oversight, and technical and advisory services to the Pacific Island Countries. The original project design was completed in 2013 within a six-month preparation horizon. Upon recognition that PASO's short-term cash flow forecast and forthcoming liabilities projecting an impending insolvency, Member States requested IDA support to an agreed reform agenda. Appraisal estimates for the recommended activity interventions defined in the 2013 Business Plan were not sufficiently robust. There was also a fiduciary risk associated with the PASO's ongoing fiscal performance issues. For this reason, the original project size was limited to approximately USD 2.15 million equivalent. During implementation, it became clear that funding resources were not sufficient to meet the project's investment expectations related to capacity development for the inspectorate pool, as well as the envisaged IT business transformation.

The AFII will allow PASO to progress towards the successful completion of the reform activities, thereby ensuring the continued effective and efficient delivery of safety and security oversight functions to its Pacific State members. The most important outcome of the AF, along with its three-year closing date extension will be ensuring that PASO is increasingly more financially viable. Specifically, the AFII will finance the implementation of a new funding modality, Capacity Development for the Regional Inspectorate Program, Quality Management Systems, Regional Aviation Infrastructure

The project is entering the fifth year of a five-year implementation cycle. Implementation progress has been rated Moderately Satisfactory or better for the life of the project cycle and considerable progress has been made towards achieving the Project Development Objective (PDO). The project has been instrumental to ensuring the continuation of technical assistance in regional aviation safety and security oversight with PASO's respective Member States. Most noteworthy is the consistent increases in PASO services being provided to Member States in each year of the project.

Implementation progress is largely on track to enable completion of several current project activities. The Council is carrying forward the recommendations outlined in the PASO Governance and Restructuring Findings that will strengthen the roles and responsibilities of the Council and Management, as well as introduce new management and procedural manuals that clarify delegations of authority and streamline corporate delivery. A Financial Management and Sustainability Analysis evaluated options to move from PASO's current funding structure (i.e., Host Agreement funding

from Vanuatu for local office management in Port Vila, subscription fees from its Member and Associate Member States, and fee-for-service billing of operators) to the revenues collected through a regional safety and security levy on departing international passengers. Quality Assurance Systems, as well as targeted consultancies providing regulatory and marketing support, have been successfully completed. An Operations Manager and Corporate Services Manager were appointed in FY18. The PASO Council has also endorsed the recommendation of the Financial Management and Sustainability Analysis and will be implementing a new 'total cost model'.

Furthermore, there has been an increased uptake in PASO services, reflecting the improved level of confidence in PASO inspectorate knowledge and skills. The register of inspectors continues to provide expert advice to regulatory authorities, with the technical specialists on the registry implementing State's agreed annual work plans. The PASO Council has adopted an updated set of new business materials, including: (i) PASO Employment Policy and Procedures Manual; (ii) PASO's Financial Management Policies and Procedures Manual; and (iii) Skills Development and Training Policy. A PASO Suite of Manuals have been also refined and accepted by Council. A PASONET IT Strategy was completed in January 2018. New Very Small Aperture Terminal (VSAT) installations in Cook Islands and Niue will provide regional aeronautical communication network upgrades. Implementation of the related activities that are underway are expected to be completed in early 2019.

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LATIN AMERICA & CARIBBEAN

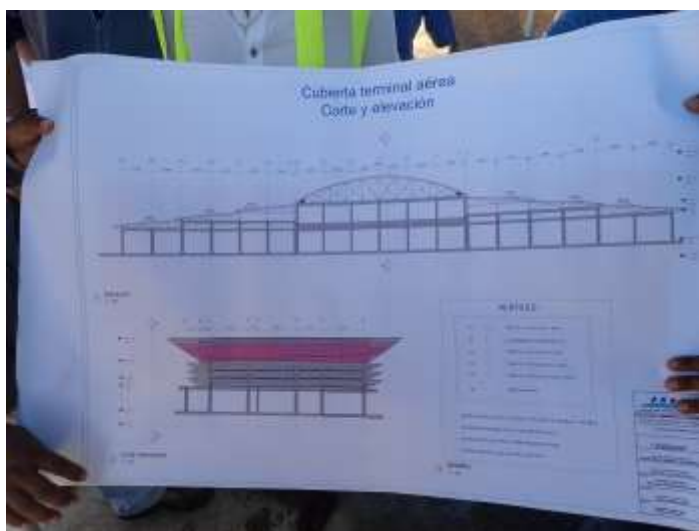
Project Highlights



BOLIVIA

NATIONAL ROADS AND AIRPORT INFRA-STRUCTURE PROJECT (P122007)

A USD 109.5 million IDA Credit for the Bolivia National Roads & Airport Infrastructure Project was approved by the Bank in FY 2011. The project closing date has been extended to August 2022. The Project Development Objective (PDO) is to improve the year-round transitivity of the San Buenaventura-Ixiamas national road and improve the safety, security and operational reliability of the Rurrenabaque Airport. In terms of aviation activities, the project is supporting the construction of a new taxiway, apron, control tower, operations building, rescue and firefighting buildings, an access road, a passenger terminal, and the acquisition and installation of aviation control, rescue and firefighting equipment.



The Project has had a long history characterized by its ups and downs. However, recent events signify an inflection point with a turnaround in performance. For instance, the contracting of both civil construction works and supervision services for the Rurrenabaque Airport improvements has been completed. Works commenced in May and are progressing well.

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EASTERN CARIBBEAN SUB-REGION

NATIONAL DISASTER VULNERABILITY REDUCTION APL1 - GRENADA AND ST. VINCENT AND THE GRENADINES (P117871)

The Regional Disaster Vulnerability Reduction Program (RDVRP) aims at measurably reducing vulnerability to natural hazards and climate change impacts

in the Eastern Caribbean Sub-region. The objective of the Project in Grenada is to measurably reduce vulnerability to natural hazards and climate change impacts in Grenada and in the Eastern Caribbean Sub-region. The objective of the Project in Saint Vincent and the Grenadines is to measurably reduce vulnerability to natural hazards and climate change impacts in Saint Vincent and the Grenadines and in the Eastern Caribbean Sub-region. For these two particular projects, the Bank has approved a USD 20.9 million IDA Credit. The achievement of the Program Development Objectives (PDO) of the RDVRP would be measured using the following key indicators: (a) Reduced risk of OECS population to failure of public buildings and infrastructure due to natural hazards or climate change impacts; and (b) Increased capacity of OECS Governments to identify and monitor climate risk and impacts.

Grenada is taking the lead on piloting integrated approaches to urban flood mitigation. Saint Vincent and the Grenadines would take the lead on piloting integrated approaches to watershed management and coastal protection. In collaboration with other countries from the region and the support of regional technical agencies, the respective Ministries of Works have taken the lead on organizing the Eastern Caribbean regional knowledge sharing and learning process to develop and apply construction standards and methods in the selected areas. Furthermore, for Grenada the program has envisioned to support necessary investments at its international airport to ensure continued operations in accordance with international aviation regulations. The airport functions as an important regional infrastructure site in the region's emergency response capacity.

In the event of disaster, Grenada's Maurice Bishop International Airport (MBIA) is the gateway to provide emergency relief locally as well as regionally. MBIA is the alternate airport for Trinidad and Tobago, Barbados, and St. Vincent and the Grenadines. MBIA would also be able to provide air traffic support in emergency situations to the island of Saint Vincent. MBIA should be ready to provide to Grenada and the region, as needed, airport facilities and space for an emergency or disaster staging area. The continued operation of the airport is therefore critical to the region as well as to Grenada. The airport authority has identified critical investments that are required both to maintain an adequate emergency response capability and to comply with operational standards as required by the International Civil Aviation Organization (ICAO).

Under component two (Regional Platforms for Hazard and Risk Evaluation, and Applications for Improved Decision Making), the project is supporting the reduction of risk for regional interconnectivity and carrying out related supporting studies, including improving the international airport to maintain an ade-

quate emergency response capability and to comply with the international operational standards, through the provision of works, technical advisory services, training, and acquisition of goods. By the end of FY 2018, critical building blocks to Grenada's technical and institutional capacity to manage climate resilience in forest, engineering, physical planning, disaster management and water resource management has been completed, including: development of a national geodetic network, LiDAR topographic and bathymetric survey, development of safety plans for schools, installation of fire alarm systems, delivery of custom built fire trucks, custom built rescue boats, the purchasing of tractors and other equipment for the International airport.

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SOUTH ASIA

Project Highlights



BHUTAN HYDROMET SERVICES & DISASTER RESILIENCE REGIONAL (P154477)

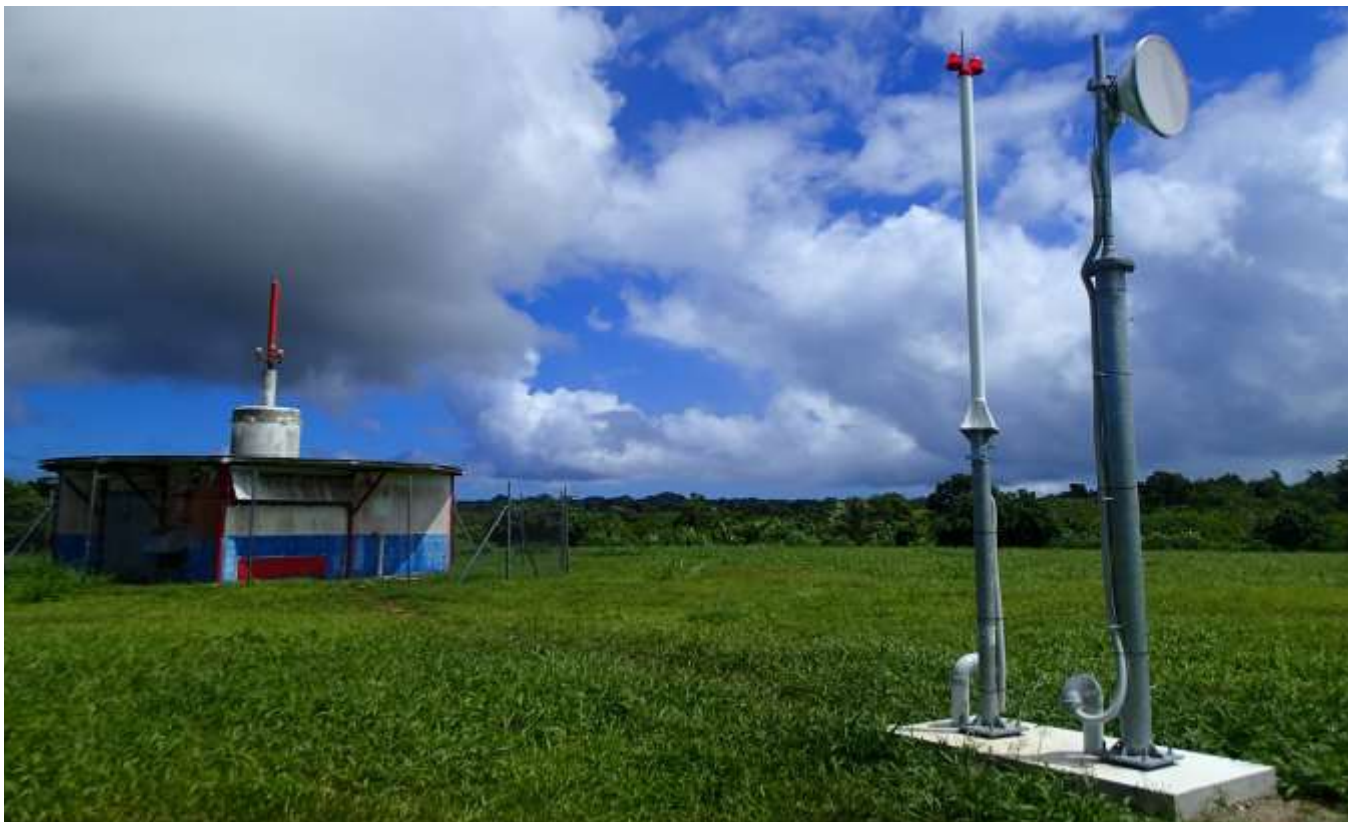
In FY17, the Bank approved a USD 3.8 million IDA Grant to The Royal Government Of Bhutan for a Hydro-Meteorological (Hydromet) Services And Disaster Improvement Regional Project. The project development objective (PDO) is to strengthen Bhutan's capacity for hydromet services and disaster preparedness.

The project includes an Aviation Meteorology enhancement sub-component, which is funding targeted aviation meteorology equipment, hardware and software to enhance aviation safety at Paro International Airport (PIA) and Bumthang Domestic Airport. As a land locked country, air transport is the only mode of transportation for Bhutan to connect to other countries except for India which is connected by road. Aviation is also the key to promoting tourism which is the second driver of economic growth after hydropower for Bhutan. However, PIA—the only international airport in Bhutan is identified as one of the top ten dangerous airports for aircraft landings in the world. Nestled in the Himalayan Mountains, it has a runway elevation of 7,300 ft. above sea level, surrounded by peaks as high as 18,000 ft. The unforgiving terrain and weather is so severe that flights are allowed only under Visual Flight Rules (VFR), and are restricted to daylight hours. There are only a small number of pilots (about 25) qualified to land at PIA. The airport is currently equipped with an Avia-

tion Weather Observing System (AWOS), which provides conditions along the runway of wind speed, direction, runway visibility, temperature and relative humidity. However, this system is aging being 14 years old and needs to be urgently replaced. The airport also need urgent improvements in monitoring variability of wind speed (a key contributor of turbulence) and visibility when approaching or departing a given airport. This sub-component is supporting: (i) the procurement of one wind profiler system and a ceilometer for Paro International Airport and one ceilometer for Bumthang Domestic Airport; and (ii) the procurement of an AWOS at Paro airport.

By the end of FY 2018, The contract for the “Supply, delivery, installation and commissioning of meteorological observation systems to support civil aviation automatic weather observations system, ceilometers and wind profiler” had been awarded. The installation was expected to be done by July 2018. This contract includes an AWOS for Paro international airport and the team was informed of the necessity of procuring 3 additional AWOS for the domestic airports in Bumthang, Trashigang and Gelephu, due to the impact of high winds on air services and agreed that an amendment to the contract would be done. The updated contract was expected to be completed by the end of December 2018.

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NDMA. The third component (Contingent Emergency Response Component (CERC)) will support preparedness for a rapid response to climate and natural disasters, emergency, and/or catastrophic event as needed.

Under Sub-component 1.3 (Enhancing PMD Service Delivery and Building Partnerships with the Private Sector), the project will support strengthening services for aviation (USD 1.0 million). This activity will include the upgrade of the monitoring and forecasting system at airports to improve aviation services, and the installation of an Aircraft Meteorological Data Relay system at 10 international airports.

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PAKISTAN HYDROMET & DRM SERVICES PROJECT (P163924)

In May 2018, The Bank approved a USD 188 million IDA Grant to the Government of Pakistan for Hydromet and DRM Services Project (PHDSP), whose development objective (PDO) is to strengthen Pakistan's public sector delivery of reliable and timely hydro-meteorological and disaster risk management services. The project has three main components. The first component (Hydro-meteorological and Climate Services) includes four sub-components: (i) Institutional Strengthening and Capacity Building; (ii) Modernization of the Observation Infrastructure, Data Management, and Forecasting Systems; (iii) Enhancing Pakistan Meteorological Department (PMD) Service Delivery and Building Partnerships with the Private Sector; and (iv) Project Management, Systems Integration, and Monitoring and Implementation Support of PMD. The second component (Disaster Risk Management) consists of three subcomponents: (i) Legal Policy and Institutional Strengthening; (ii) Infrastructure for Resilience; and (iii) Project Management, Monitoring, and Implementation Support of

IBRD/IDA: AIR TRANSPORT ADVISORY



KENYA - GREECE

In late July 2017, a Bank Air Transport Team travelled to Athens, Greece on an air transport mission. The Bank Team participated as organizer in the Athens Airport Environmental Management Workshop, which was held for the benefit of the Kenyan Airport Authority (KAA) and its officials, with the aim to prepare them to include a “green airport” concept for Nairobi International Airport, under the Kenya Aviation Modernization Project (in preparation) which should eventually result in ACI certification concerning carbon neutrality.

The workshop was attended by staff from the KAA, the Ministry of Transport, and the Bank’s Project Team. The consultants of the workshop, former and current environmental managers of Athens International Airport (AIA) provided an excellent overview and insight on environmental matters concerning airport management. Topics, such as noise management, water treatment, waste management, community relations, and wildlife control, were presented with site visits and discussions.

An important objective of the workshop was the potential Carbon Accreditation of airports in Kenya. AIA

outlined the process they passed, becoming a fully carbon accredited airport. The participants of the workshop discussed the steps that KAA will have to take to attain the first level of carbon accreditation, which should be a stated objective of the future Kenya Aviation Modernization Project. The participants were fully pleased and satisfied with the workshop content, site visits, and discussions.

As a next step, the design consultants (one representative of ADP was present) will incorporate measures that will facilitate carbon accreditation. Fur-



thermore, the first steps towards level one of certification will be evaluated and prepared (e.g. calculating current carbon emissions).



WEST AFRICA

Between May and June 2018, a Bank air transport mission visited Accra and Kumasi in Ghana, Cotonou in Benin, and Conakry in Guinea, Ouagadougou, Burkina Faso, and Lomé, Togo. The Bank team carried out a pre-identification mission for the West Africa Air Transport Policy Reform Project by assessing the needs of the sector.

Ghana (Accra/Kumasi): The main airport in Accra has no major needs that need support, and the regulator is well established and performs its oversight responsibility adequately. However, there are two airports in Ghana, which still need investments. First, Kumasi Airport is seeing a major reconstruction, but not all financing is secured. Second, Air Force Base Takoradi, which is serving as a dual use military / ci-

vilian airport may need to be replaced or enhanced. The mission visited both airports and identified investment needs in Kumasi (ATC tower and Rescue and Fire Fighting Services), and the need of supporting the decision making for Takoradi and other airports by financing a National Air Transport Masterplan.

Benin (Cotonou): The main issue of the air transport sector in Benin is the construction of the new airport which is scheduled to commence soon. However, while representatives of the GoB clearly state that the construction is decided and will happen, main doubt exists that it will be completed in due time. Therefore, investments in the existing airport, including certification of COO according to ICAO standards, are planned. Then again, the days of Cotonou Airport (COO) seem counted, and a study on the usage of the terrain of COO is needed. The mission considers this situation very unsatisfactory. Especially the fact that no study about an alternative solution to enhance the existing airport (larger terminal, runway extension) has ever been considered, but instead an expensive new airport (experience shows that a USD 630 million airport project often costs USD 800 million or more) is considered the only way forward for the country's air transport sector, cannot be supported.

Guinea (Conakry) : The focus for development of the air transport sector in Guinea should be the enhancement, modernization, and expansion of the airport at Conakry Airport, which would also neutralize and future considerations about the construction of the new airport. The current PPP with ADP must be reviewed, as it provides the possibility to raise financing for major works on the expansion of the terminal building. However, airside investments, such as a runway or tarmac overlay and a new air traffic control tower, may be beyond the scope of a PPP, given the still



UZBEKISTAN

modest traffic. In terms of capacity building, the regulator (AGAC) needs support in order to be able to provide adequate oversight of the sector.

Burkina Faso (Ouagadougou): The Government of Burkina Faso decided to build a new greenfield airport, OUA-DOS, which will be located approximately 35 km northeast of Ouagadougou near the village of Donsin. The mission examined the arguments for the new airport (see attached Technical Note), and concluded that none were valid. In terms of policy measures, Burkina Faso has only one main issue: the construction of the new airport. Should the country go ahead with the project, then the World Bank should clearly state its concerns of cost (budgeted at USD 714 million) versus benefit, and not getting involved in the project. In light of these considerations, and given the current deficiencies at the existing airport, the mission saw three levels of possible support:

- Necessary: At OUA, resurfacing and repair of the runway, taxiways, and tarmac, security improvements, at a likely cost of USD 30 – 50 million; or
- Possible: At OUA, Construction of an additional terminal building and relocating the RFFS station, at a likely cost of USD 20-30 million; or
- Advisable as a long-term investment, in case OUA DOS would not be built: Construction of a new modern terminal building at OUA at the East of the runway by a PPP with a concession to run the airport, at a likely cost of USD 100 million.

Togo (Lomé): The mission discussed and reviewed the current needs of the Air Transport Sector. These can be grouped into three sections: (i) strengthening the Civil Aviation Authority (ANAC); (ii) Institutional Strengthening; and (iii) Infrastructure and Maintenance. Furthermore, together with the WB Country Director and Local Representative for Togo, participated in the 4th Ministerial Working Group meeting on Single African Air Transport Market (SAATM), which was organized by the African Union Commission (AUC) in conjunction with African Civil Aviation Commission (AFCAC).

The meeting addressed the implementation status of the immediate measures to ensure the effective operation of the market and facilitate the harmonization of air service agreements between the Member States of the single market. The mission also inquired about the regional needs and priorities of the air transport sector. The mission concluded that there are three themes that need to be addressed or improved: (i) Policy (access to markets, fees and taxes etc.), (ii) Regulatory Oversight, and (iii) Development of Capacity in the Air Transport Sector.

In April 2018, a World Bank mission, including IFC Advisory Services, took place in Tashkent, Uzbekistan, with the objective to review the country's Comprehensive Transport and Logistics Sector Strategy, mainly focused on air transportation and connectivity issues. The following findings were discussed during the mission:

- In terms of the institutional setup and capacity of the sector, Uzbekistan Airways (UZB) controls sector by having a de facto monopoly, operating the airport, as well as Air Traffic Control (ATC), and the fuel distribution. The technical regulator (CAA) was separated from UZB, but is still funded by UZB, and as such dependent of UZB. The Department of the Cabinet of Ministers oversees transportation, which includes the aviation sector, while policymaking aspects, such as bi-lateral agreements, are executed by the CAA. The oversight capability of the CAA (ICAO USOAP) is below global and regional averages, but the country has a FAA Cat. 1 rating.



- Analyzing the performance of the SOEs in the aviation sector, the mission noted that the airline makes profit and is modernizing its fleet (new Boeing, Airbus). Three of eleven airports are profitable (Tashkent, Bukhara, Samarkand), and a major terminal expansion is underway at Tashkent international airport. ATC is also a profitable enterprise and technically up to standards.
- In terms of sector policy, UZB is the only operator that holds an Air Operator Certificate for commercial air transport in Uzbekistan. The Bilateral Air Service Agreements for international traffic are restrictive, in order to protect UBZ. UZB is also the only authorized provider of ground handling services and fuel. Economic regulation is done by Ministry of Finance (e.g. airport charges, fuel prices, domestic air fares),

but there is an absence of a mechanisms to prevent unreasonable costs to be charged by any monopoly provider.



ATC must also have its business plan and act as corporatized stand-alone service provider. The Government of Uzbekistan should create an airport development strategy, which also addresses secondary airport development (Bukhara, Samarkand versus Karshi), and probes PPP opportunities in airports. The strengthening of regulatory oversight in economic matters, including the introduction of a mechanisms to prevent unreasonable costs charged (e.g. airport charges, fuel prices, domestic air fares) must be established.

SINT MARTEEN

From 9 to 11 May 2018, a Bank mission travelled to Sint Marteen to carry out an assessment of the Sint Maarten Airport Terminal Project Assessment. The mission was held in response of a request for reimbursable technical assistance for the implementation of a Dutch Trust Fund (DTF) for the reconstruction and rehabilitation of various infrastructure and essential services in Sint Maarten following the devastating hurricanes in September 2017.

The assessment focused on the technical soundness of the proposed terminal reconstruction project, including the adherence to international standards and recommended practices where warranted. In addition, the Bank team took into consideration aspects of climate resilience and “green airport” principles when reviewing and making recommendations for the terminal design. Furthermore, potential alternatives for financing the airport reconstruction were discussed.

- A possible pathway for reform should stress the fact that the air transport sector of Uzbekistan is ready for reform or it may impede development (the monopoly of UZB is a bottleneck for competition driven growth). It is necessary to unbundle the state-owned-enterprises of the sector: the airline needs to develop a business plan and operate as commercial enterprise without benefitting from monopolistic advantages. The airports need to necessary to unbundle the state-owned-enterprises of the sector: the airline needs to develop a business plan and operate as commercial enterprise without benefitting from monopolistic advantages. The airports need to be consolidated by creation of airport operating entity and operating on more commercial principles.



SRI LANKA

The mission discussed with the Government of Sint Marteen (GoSM) the proposed financing of the airport terminal reconstruction with funding by the DTF. While there are many other priorities in the country, the GoSM is quite keen of using some funds for the airport reconstruction, and it would like the World Bank Group (WBG) implementing the project (technical assistance, procurement, financial management). However, the main question how the funds would be provided for the reconstruction still needs to be decided (capital injection versus government loan). Furthermore, if no funding is provided directly by the DTF, the WBG could also provide a risk guarantee to facilitate commercial loans. The DTF could then just finance the cost of the guarantee. Nevertheless, this solution still requires that the new debt is sustainable for PJIAE. A representative of the Dutch government signaled an overall positive feedback, but the donor still needs to evaluate competing needs in the country. Nevertheless, the provision of a partial financing could be assessed. The donor agreed to evaluate the proposed financing and revert back to the GoSM. In terms of preparatory work, the Bank has mandated specialized consultants to evaluate the sustainability of the proposed solutions (traffic forecast and airport capacity versus debt levels).

From 15 to 23 September 2018, a Bank Air Transport Team travelled on mission to Colombo, Sri Lanka to evaluate and discuss restructuring options for SriLankan Airlines (SLA). These preliminary discussions with the Government of Sri Lanka (GoSL) were followed by the development of various restructuring options of the country's national carrier, which had been characterized by accruing substantial losses over the past years thus affecting public finance. The discussions focused on: (i) the regional market of SLA; (ii) the strategy of similar carriers in the region, and (iii) restructuring models of national carriers around the world.

The mission confirmed that the airline was currently in a challenging position with a total estimated exposure of USD 782 million, which has been exacerbated due to continuous operating losses since 2008. The payment of USD 93 million paid in 2017 for the cancellation of three A350 aircraft lease agreements has further worsened its financial position, while the pending acquisition of four more A350's aircraft will further add to the debt burden. As a result, SLA has now reached the category of larger State Owned Business Enter-





prises, along with the Ceylon Electricity Board, Ceylon Petroleum Corporation and Sri Lanka Ports Authority, in terms of losses being made.

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The mission presented several options adopted by other airlines in similar situations that consist of changes that are less drastic, but not likely to make a sustainable impact, such as operational and financial restructuring. On the other hand, more impactful measures were presented which are likely to be less palatable for several stakeholders, such as the merge and absorb or liquidation and re-creation options. The mission also discussed some of the proposed alternatives that have already been pursued by SLA in the past, and the probability of success in the event they are repeated.

The mission advised the Government, including during a follow-up meeting with the Prime Minister, on pursuing an option that would reduce the fiscal burden for the country in the longer run. Finally, the mission recommended that the Government considered the presented options and engaged a team of professionals experienced in the chosen option that can assist the implementation with an appropriate up-front communication strategy. For the latter, the mission offered its continued support if requested by the GoSL.

IFC AIR TRANSPORT PROJECTS: The IFC provides financing to private sector companies and has traditionally financed air carriers and airport infrastructure projects.

IFC ACTIVE AVIATION PORTFOLIO: Major active commitments by the International Finance Corporation (IFC) include Queen Alia II in Jordan, the Zagreb Airport in Croatia, the Enfidha Airport construction in Tunisia, airports in Nosy Be and Antananarivo in Madagascar. In addition, the IFC investment portfolio also includes Lima Airport (Peru), Montego Bay Airport (Jamaica) and the Greek Regional Airports (14 in total).

In addition, IFC is active through the provision of Advisory Services for Kingston Airport (Jamaica), the Saudi Airports (26 in total), Sofia Airport (Bulgaria), Podgorica and Tivat (Montenegro), Beirut Airport (Lebanon) and Clark Airport (Philippines).



IFC Commitment

- US\$1 to \$10 Million
- US\$10 to \$30 Million
- US\$30 to \$50 Million
- > US\$50 Million



IFC PROJECTS

COUNTRY	PROJECT CODE	DESCRIPTION	AMOUNT (Million USD)	IFC'S EXPOSURE (as of End-of-FY2017) (Million USD)	TYPE
Cambodia	25332	Cambodia Airports II: Privatization of Phnom Penh International Airport – required capital and investments for expansion	Up to \$17.5 million	No outstanding as of June 30, 2018	IFCA Loan up to \$7.5 million, IFC standby up to \$10 million
Cote D'Ivoire	32061	IAS: Acquisition of up to 3 secondhand Dauphin N3 helicopters to provide transport services to leading oil and gas exploration and production companies	\$7 million	\$210 million	A Loan
Jamaica	24676	MBJ Phase 1 Swap: The proposed project is to provide a USD interest rate swap to hedge the interest rate volatility inherent in the floating rate IFC Phase 1 loans (24676)	\$1.2 million (24676)	No outstanding as of June 2017	Client Risk Management – Inter-mediation
Jamaica	24306	MBJ Phase II - Expansion and redevelopment of Sangster International Airport (24306)	\$42 million; \$20 million for IFC's own account (24306)	\$1.5 million (24306)	A and B loans
Jamaica	31658	MBJ ROS: The proposed project consists of the runway overlay of Sangster International Airport (SIA) and other safety investments (31658)	\$7.5 million (31658)	\$3 million (31658)	A and B loans

IFC PROJECTS

COUNTRY	PROJECT CODE	DESCRIPTION	AMOUNT (USD)	IFC'S EXPOSURE (as of end of FY2018) USD*	TYPE
Jordan	26182, 34536, 26864, 26685	Queen Alia International Airport: Rehabilitation of both airside and landside facilities	\$295 million; \$148.4million for IFC's own account	\$70.7 million A Loan; \$50 million quasi-loan and \$15.6 million in swaps	IFC A Loan \$141.2 million; \$160 million B Loan (26182) and (34536) IFC Client Risk Management - Cross Currency Swaps (26864, 26685)
Kenya	31650	KQ Airways: Expansion program consisting of the acquisition of 9 Boeing 787 Dreamliner aircrafts and 10 Embraer 190 aircrafts	\$25 million	\$3.8 million	Equity
Peru	24489	Lima Airports Partnership: Financial restructuring and assistance in conjunction with Fraport	\$20 million	\$13.4 million	Equity

IFC PROJECTS

COUNTRY	PROJECT CODE	DESCRIPTION	AMOUNT (USD)	IFC'S EXPOSURE (as of end of FY2018) USD*	TYPE
Tunisia	26913, 28076	TAV Tunisia: Construction of a new airport in Enfidha, with an initial capacity of 7 million passengers per year, and rehabilitation of the airport in Monastir	\$253 million; \$184 million for IFC's own account	\$111.3 million (26913)	IFC A Loan, Subordinated Loan, Syndicated B Loan, Equity
Croatia	31969, 34380	Zagreb Airport: Construction and operation of a new passenger terminal and related infrastructure at Zagreb Airport and the existing facilities. Zagreb Air Hedge: Interest Rate Swap	\$72.65 million for IFC's own account (31969) \$1.2 million for IFC's own account (34380)	\$61.1 million (31969)	A Loan, Equity, and C Loan (31969) Client Risk Management (34380)
Greece	37655	Greek Airports (Infrastructure services upgrade at 7 airports)	\$97.4 million A Loan and \$3.8 million swap (Commitment in Euros)	\$111.3 million	A Loan and Client Risk Management
	38905	Greek Airports B (Modernization of 7 additional airports in key Greek islands)	\$65.9 million A Loan and \$2.8 million swap (Commitment in Euros)	\$75.2 million	A Loan and Client Risk Management
Madagascar	36882	FCS RE-Ravinala: Upgrade and expansion of the two international airports of the country, with the help of the Emerging Africa Infrastructure Fund.	\$43.5 million A Loan, \$109.4 million Parallel Loan and \$71.3 million MIGA Guarantee	\$21.2 million	A Loan, Parallel Loan and MIGA Guarantee

IFC: PROJECT HIGHLIGHTS

KROATIA ZAGREB AIRPORT (31969)

The IFC is supporting the development of a terminal at Zagreb International Airport as part of a Public Private Partnership (PPP). The new USD 450 million terminal, built by a consortium supported by IFC, is expected to contribute to economic growth and tourist activity. Tourism is a major driver of employment in Croatia, and improved infrastructure will develop the sector and boost GDP. IFC is committing USD 72.65 million to the project, including a loan of up to USD 47 million and an equity investment of nearly USD 26 million. The concession includes financing, design, and construction of the terminal, along with airport operation until 2042.

The new terminal is 65,000 square meters and has welcomed 5 million travelers per year since it opened in March 2017, compared to its previous capacity of two million. An average of 400 new jobs were created during construction, and up to 700 at peak. For the first time in Croatia private firms involved in a transport concession project have assumed passen-

ger volume risks, enabling the country to upgrade essential infrastructure without adding a burden to state finances.

MADAGASCAR AIRPORTS IN NOSY BE AND ANTANANARIVO (36882)

In FY17, IFC approved the project for airports in Madagascar. The project consists in a 28-year Design, Build, Finance, Operate and Transfer (“DBFO”) concession to rehabilitate, upgrade, expand, operate and maintain the two largest airports in Madagascar: Ivato Airport, serving the capital city Antananarivo, and Fascene Airport, located on the island of Nosy Be, the country’s busiest tourist destination. The concession was awarded through an international competitive tender to Ravinala Airports. The Project Company’s shares will be owned by four reputable investors, three of whom are existing IFC clients. It represented an opportunity for IFC to invest in one of the poorest countries in the world. The investment aimed to expand the airports’ capacity while they remained operational.



IFC: PROJECT HIGHLIGHTS

PERU LIMA AIRPORT (24489)

In FY07, IFC approved the Lima Airport equity investment. It was for a 19.99 percent stake for USD 20 million. At the time IFC considered the investment, Lima Airport Partners S.L.R. (LAP) had a 30-year concession to operate the Jorge Chavez Int'l Airport in Lima, Peru. Concession term can be extended to 40 years at LAP's option and to 60 years by mutual agreement between LAP and the government of Peru. J CIA is the only commercial airport serving Lima and is Peru's primary international airport, operating on a 24-hour schedule. It was, and remains, the principal hub for domestic routes in Peru. IFC's investment intended to support the private operation of an international airport hub in one of Latin America's best performing economies and enabled the transfer of control from a shareholder (Singapore Airport/Bechtel) to a strategic investor and airport operator (Fraport AG), committed to the airport's expansion and increased efficiency.

Fraport AG Frankfurt Airport Services Worldwide ("Fraport") owns and operates the Frankfurt Airport in Germany, the seventh largest airport in the world and second largest airport in Europe. Fraport's management was meant to add airport operation and management know-how and result in an upgrading of skills of the local workforce. MIGA also provided Fraport with a guarantee for USD 11.5 million, to cover its USD 12.8 million counter guarantee for a performance bond posted for the privatization of Lima's airport.

TUNISIA ENFIDHA AIRPORT CONSTRUCTION (26913)

In FY08, IFC arranged a full financing package of €135 million from IFC's own account and a €255 million syndicated loan, underwritten by ABN, Société Générale, and Standard Bank. This was for a new airport at Enfidha, in central Tunisia, which would have an initial capacity of seven million passengers per year. This was also to rehabilitate the existing airport at Monastir and operate both under a 40-year concession. The airports were set to serve major tourism

areas around the towns of Monastir, Sousse and Hammamet on the Mediterranean Coast. This was the first PPP in the air transport sector in Tunisia and more broadly, in North Africa.

Contact person for all IFC Investment projects is Maria Lopez Conde at mlopezconde@ifc.org





IFC: AIR TRANSPORT ADVISORY MANDATES

The Infrastructure Advisory Services Department of the IFC provides advisory assistance to governments on structuring and implementing (tendering) Public-Private-Partnerships (PPPs) in infrastructure. IFC has undertaken more than 100 advisory transactions in over 67 countries over the last 20 years. IFC/World Bank's reputation for competence, transparency, and fairness allows it to play the role of neutral partner to balance each party's interest, thus reassuring foreign investors, local partners, other creditors, and government authorities. The two main domains in air transportation advisory services are private sector participation in airports and air carriers.

1) IFC Public-Private Partnerships (PPP) Advisory Mandates in Airports

Only a fraction of the world's commercial airports are managed or owned by private sector entities. However, as passengers carried by air transport has neared 4.1 billion in 2017, and more than one-third in value of all merchandise and goods were air freighted – Public-Private-Partnerships (PPPs) in airport infrastructure will grow to meet investment and required service standards. Airport PPPs are useful approaches to meet both private and public sector objectives.

Of the various airport PPP models available, experience shows that concessions and full divestiture are most effective:

- Concession Contracts (BOT, BOO, BOOT, BTO, etc.): State retains ownership of airport but transfers investment as well as operations and management responsibilities to the private sector
- Full Divestiture: Ownership, operations, and investment responsibilities are fully transferred to the private sector.
- In certain cases, a blend of first-phase BOT followed by public offering can maximize benefits

In certain cases, a blend of first-phase BOT followed by public offering can maximize benefits.

2) IFC Public-Private Partnerships (PPP) Advisory Mandates in Airlines

As the airline industry has proceeded along this privatization path over the last 30 years, IFC has participated in nearly a dozen airline transactions. Unfortunately, many have proved to be difficult projects due to important sector-specific structural reasons:

- Fixed-cost structure: Airlines tend to build up a legacy-costs base (staff and fleet) that is difficult for a new owner to manage. In addition, fuel costs are beyond management's control. During the period of higher oil price in 2011-2014, they accounted for as much as 30 percent of the cost base (up from 15-20 percent in 2009), and have since dropped with declining oil prices (variations according to individual airline hedging strategies).
- Price-sensitive product: Demand for travel is highly elastic, especially in tourist markets. In recessions, people forgo vacations for other consumer goods. Conversely, price reductions increase passenger numbers dramatically.
- Complicated demand chain: Customers often purchase tickets through travel agents, frequently in a package with hotel accommodations. Since airlines rely on these other actors for their sales, if there are bottlenecks elsewhere the aviation sector suffers.
- Overregulation: Bilateral agreements between governments, still prevalent in many parts of the world, prevent competition from functioning normally. Open skies are being adopted, but not in all countries.

3) IFC Air Transportation Experience

When undertaking a transaction advisory mandate, IFC provides a one-stop solution to governments covering all aspects of the proposed transaction. One of the distinguishing features of IFC's value addition is its ability to balance private and public sector interests and take into account sustainable long term economic and social effects.

Selected IFC Advisory Mandates in Airports

PROJECT NAME	COUNTRY	YEAR	MANDATE/RESULT
Montenegro Airports	Montenegro	2018-ongoing	Due Diligence / Project Structuring
Beirut Airport	Lebanon	2018-ongoing	Due Diligence / Project Structuring
Sofia Airport	Bulgaria	2017-ongoing	RFP process ongoing
Nepal Airports	Nepal	2016-ongoing	Strategic Assessment Ongoing
Clark Airport	Philippines	2018	Awarded
Norman Manley Airport	Jamaica	2018	Commercial Close
Samoa Airline JV	Samoa	2017	JV Options Analysis
Jacksons Airport	Papua New Guinea	2017	Strategic Options Analysis
Jeddah Airport	Saudi Arabia	2016	Due Diligence / Project Structuring / Tender process
Taif Airport	Saudi Arabia	2016	Due Diligence / Project Structuring
Saint Lucia Airport	Saint Lucia	2016	Due Diligence / Project Structuring
Croatia Airlines	Croatia	2015	Strategic Partnership analysis
Brazilian Airports	Brazil	2014	Galeao and Confins Airports successfully awarded to Changi and Zurich Airport led consortiums respectively
Dili Airport	East Timor	2014	Feasibility Study Completed
Madinah Airport	Saudi Arabia	2012	Successfully awarded to TAV, Saudi Oger, Al Rajhi consortium
Male Airport	Maldives	2010	Successfully awarded to MAHB —GMR
Queen Alia Airport	Jordan	2007	Successfully awarded to Aéroports de Paris, ADIC, J&P, Noor consortium
Hajj Terminal	Saudi Arabia	2007	Successfully awarded to Saudi Bin Laden Group, Aéroports de Paris consortium
Abuja Airport	Nigeria	2006	Successfully awarded to Abuja Gateway consortium (Airport Authority and equity partners)
Air Jamaica	Jamaica	2009	Awarded to Caribbean Airlines
Drukair	Bhutan	2008	Strategic analysis
JAT	Yugoslavia	2006	Strategic analysis
Polynesian Airlines	Samoa	2005	49% sold to Virgin Blue
Cameroon Airlines	Cameroon	2005	Awarded but cancelled by Govt.
Air Tanzania	Tanzania	2002	49% sold to SAA
Kenya Airways	Kenya	1996	76% sold to KLM, financial investors

ADVISORY MANDATE EXAMPLE: JAMAICA

NORMAN MANLEY INTERNATIONAL AIRPORT

The Government of Jamaica (the "GOJ"), through the Ministry of Transport and Mining successfully concluded the tender and award of a Public Private Partnership ("PPP" or the "Transaction") to identify a private sector operator with proven experience in the aviation sector to finance, develop, operate and maintain the Norman Manley International Airport ("NMIA" or the "Airport") under a long term concession. The International Finance Corporation ("IFC") was the Lead Advisor to GoJ on the Transaction.

The NMIA concession, is expected to deliver strong development impact for Jamaica, including improved service and airport infrastructure to over 1.7 million passengers and mobilize more than USD \$100M in investment over the 25-year term of the concession. NMIA is owned by the Airports Authority of Jamaica ("AAJ") and is one of the two major international airports in Jamaica.

The selection of *Grupo Aeroportuario del Pacifico S.A.B De C.V. (GAP)* as the preferred bidder for the NMIA concession is being hailed as another successful Public Private Partnership (PPP) for Jamaica. GAP, a Mexican company with 50-year concessions to operate, maintain and develop 12 international air-

ports in Mexico, emerged ahead of two other bidders comprising consortia of foreign and local investors. The selection of a concessionaire was done through an open, transparent and competitive international bidding process with key specific objectives including:

- Enhancing the competitive positioning of NMIA
- Increasing service quality standards and improving operational efficiency in line with international best practices
- Leveraging private sector investment to improve facilities and operation
- Monetizing the assets optimal value

This fits with the AAJ's long term objectives for sustaining NMIA as a world class airport that facilitates private investment and the positioning of Jamaica's airports as gateways to the Caribbean.

Contact persons for all IFC Advisory Services are Ramatou Magagi at rmagagi@ifc.org and Alexandre Leigh at aleigh@ifc.org





All Gates



DEPARTURES



MIGA GUARANTEES

Guarantees provided by the Multilateral Investment Guarantee Agency (MIGA) cover projects in a broad range of sectors, with projects in infrastructure accounting for an important share of the agency's portfolio. Infrastructure development is an important priority for MIGA given the estimated need for USD 230 billion a year solely for new investment (maintenance needs are of a similar magnitude) to deal with rapidly growing urban centers and underserved rural populations in developing countries. MIGA is currently involved in three aviation projects: the Queen Alia International Airport in Jordan, Jorge Chavez International Airport in Peru and the Ravinala Airports in Madagascar.

JORDAN: Queen Alia International Airport

On 30 March 2018, MIGA agreed to issue guarantees of up to USD 195,154,839 to Meridiam Eastern Europe Investments 2 SAS (Meridiam) of France for its equity/quasi-equity investment into Airport International Group (AIG), the current concessionaire of the Queen Alia International Airport (QAIA) in Jordan. The guarantees are issued for a period of up to 15 years against the risks of Transfer Restriction, Expropriation, War and Civil Disturbance and Breach of Contract.

The project consists of the acquisition by Meridiam of a 32 percent stake in AIG, which entered a 25-year concession agree-

ment with the Government of Jordan (GoJ) in 2007 to rehabilitate, expand and operate QAIA with the possibility to extend the concession by an additional 5 years (until 2037).

MADAGASCAR: Ravinala Airports

On 29 May 2017, MIGA issued an \$85 million guarantee covering equity and shareholder loan investments by Aéroports de Paris Management S.A, Bouygues Bâtiment International S.A.S., Colas S.A. and Meridiam Infrastructure Africa Fund, Meridiam Infrastructure Africa Parallel Fund FIPS, Meridiam Infrastructure Africa Parallel Fund SCsp into Ravinala Airports S.A. in Madagascar. The coverage is for a period of up to 15 years against the risks of transfer restriction, expropriation, war and civil disturbance, and breach of contract.

The project consists of the financing, rehabilitation/ expansion, operation and maintenance of the Ivato airport in Antananarivo and the Fascene airport in Nosy Be, currently being managed by the state-owned enterprise Aéroports De Madagascar (ADEMA). Works include (i) works at Ivato in preparation of the Francophonie summit (expansion of apron and presidential pavilion as well as establishment of a dedicated process path in the existing terminal for arriving/departing delegations), to be held in Antananarivo (the country's capital) at the end of November; (ii) construction of a new passenger terminal at Ivato airport and limited refurbishment works in the existing terminal; (iii) renovation of the runway and Tarmac II to host aircrafts Code E and one Code F at Ivato; (iv) renovation of the runway and limited expansion



A vision has become a reality, the new Queen Alia International Airport (QAIA)

of the current passenger terminal at Fascene airport; and (v) rehabilitation of landside facilities at both airports, including the construction of new wastewater treatment plants, improvement of the existing incinerator at Fascene airport to meet emission standards, improvement of surface water drainage, construction of a new waste water treatment plant and installation of an oil water separator at Ivato airport.

PERU: Jorge Chavez International Airport (JCIA)

MIGA has provided Fraport AG, of Germany, with a guarantee for USD 11.5 million, to cover its USD 12.8 million counter guarantee for a performance bond posted for the privatization of Lima's airport, Jorge Chavez International Airport (JCIA). The coverage is against the risk of expropriation (the wrongful call of the performance bond), and extends for eight years.

Peru depends greatly on its airport network because of the country's geography, and because ground handling transportation infrastructure has not been fully developed. JCIA is especially important to the country, since it is Peru's main operating international airport, accounting for 97 percent of international traffic, as well some 58 percent of national traffic. JCIA also functions as a regional hub for all cargo traffic. The airport privatization is considered by the government as a key factor in the expansion of employment opportunities, the creation of a modern transportation

facility to serve as Peru's gateway to the world, and for the enhancement of tourism, an industry that the government is actively trying to expand.

The airport's privatization is expected to provide the government with additional revenues through increased income tax, custom duties, and concession fees. During the first four years of the concession, the consortium is expected to invest more than USD 130 million in new infrastructure, including upgrades to the current terminal, construction of a new passenger concourse, expansion and addition of new aircraft aprons and taxiways, and creation of a hotel and world-class retail center within the existing airport perimeter. Upgrades in the technology and services at the airport will create approximately 49 additional positions, mostly for expert technicians and service operators. The sponsors have instituted an employee profit-sharing plan. The majority of the goods and services required by the airport refurbishment will be sourced locally, and most ongoing capital expenditures foreseen, amounting to USD 1 billion over the entire life of the concession, will be sourced locally. Furthermore, the government will benefit from improvements in JCIA's operation, through a revenue-sharing agreement as well as a landing and take-off fee-sharing agreement.

Contact persons for MIGA portfolio information are Moritz Nikolaus Nebe at mnebe@worldbank.org and Susan Josefina Vasquez at svasquezplasenci@worldbank.org



AIR TRANSPORT COMMUNITY OF PRACTICE

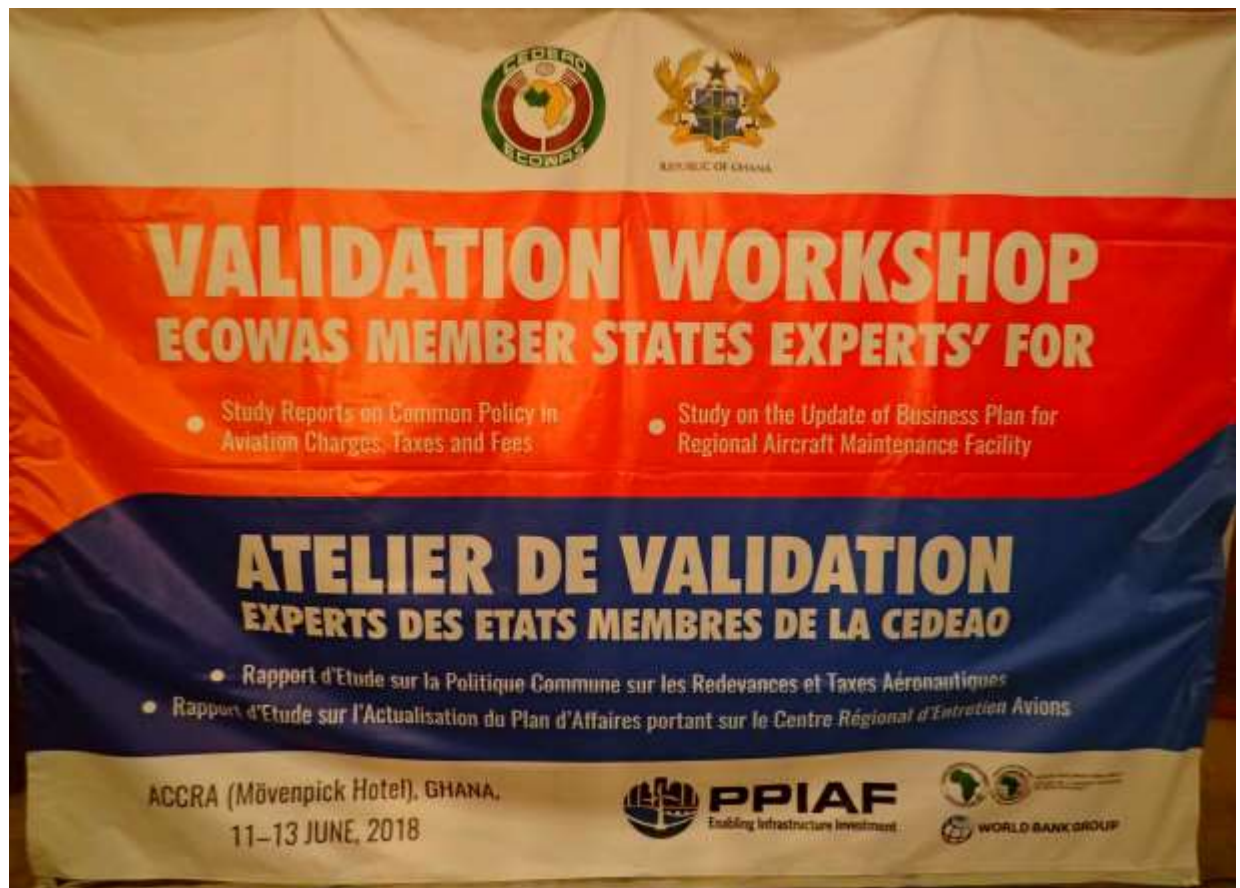
GHANA - WORKSHOP ON PPIAF STUDY ON FEES, CHARGES, AND TAXES OF THE AVIATION SECTOR

A World Bank mission travelled to Accra, Ghana in June 2018. The mission held, in cooperation with the ECOWAS Commission, a validation workshop on the PPIAF financed study on fees, charges, and taxes of the aviation sector. The main objective was to identify and prepare concrete policy recommendations, which could be included in a West Africa Air Transport Policy Reform Project. Furthermore, the workshop included the African Development Bank, which presented and discussed supporting studies on air transport infrastructure, the financing of the aviation sector, and on safety and security.

Outcome: The participants of the workshop recognized that West Africa is by far the most expensive region in Africa for private sector airlines to operate in terms of fees and taxes applied. Representatives reflected in the detail on the nature of these charges and if and how much they can be justified under ICAO standards. Private sector participants attend-

ing, in particular airlines, also showed a very high interest in these findings as they directly determine their operating environment in West Africa. After engaged discussions, while recognizing the situation, ECOWAS member states took a critical position about some of the proposals of the ECOWAS Commission to reduce royalties by 25 percent, to abolition taxes, and to strengthen regional oversight through an ECOWAS supervision authority and a supplementary ECOWAS law. Rather, they prefer to reflect on their respective airports' situation, and clarify the domestic governance of the air transport sector and the fees charged airlines and passengers.

As next steps, the World Bank team will continue this reform dialogue, which will include a more detailed review of the theme of access (liberalization) in the region. For this, and to follow-up on the study on fees, charges, and taxes of the aviation sector, an additional workshop with ECOWAS and AFDB is planned for fall 2018 in Abidjan. Furthermore, a proposed future regional programme (IDA) is in preparation where policy issues will be addressed.



LEBANON - PPP WORKSHOP FOR FINANCING INFRASTRUCTURE

In April 2018, the Bank's Lead Air Transport Specialist participated in the Beirut Airport PPP workshop to discuss various funding mechanism for financing airport infrastructure, as well as policy issues on access of air transport (e.g. liberalization). The Bank, in cooperation with IFC, presented to the Transport Commission of the Lebanese Parliament aspects of Civil Aviation Reforms and Global Trends in Aviation. The focus of his presentation was on SOE's and PPP solutions in air transport. IFC, which was in the final steps of signing an advisory agreement with the GoL for support on airport PPP, presented on airport PPP solutions, including the successful Queen Alia International Airport project.

After the signing of the IFC Advisory Agreement for airport PPP in Lebanon, the terms-of-reference for a feasibility study for the commercialization (PPP) of Kleia'at airport in the north of the country must be prepared. Furthermore, in order to support a PPP initiative for Beirut's International Airport, an analysis of necessary sector reforms concerning regulatory oversight, and economic regulation must be prepared. Finally, the possibility of introducing measures to address environmental issues, including Climate Change (Green Airport), will be considered.

In addition, during the workshop the Bank met with representatives concerning Iraq airport projects and discussed airport development and PPP issues for Iraq. The following three matters were discussed during the mission: (i) Baghdad Airport; (ii) Mosul Airport;

and (iii) regulatory oversight over the aviation sector. As next steps, for the finalizing of the scope and outline of PPP study on Iraqi airports, the World Bank Team and IFC agreed to conduct a join Mission to Baghdad to visit Baghdad International Airport with Iraqi MOT and Civil Aviation Authorities on between in May 2018.



ATCOP KNOWLEDGE SHARING EVENT: SUMMARY OF PLANNING FOR AIRPORTS IN A CONNECTED AND SUSTAINABLE WORLD

The Aviation Partnerships for Sustainable Development (APSD) with the World Bank's Air Transport Community of Practice (ATCOP) organized a luncheon event during the 2018 Transforming Transportation event which took place on 11 January 2018, at the World Bank headquarters. The five presenters offered diverse perspectives on the sector and the role it plays in promoting sustainable transport and development.

Henry Gourджи from the International Civil Aviation Organization (ICAO) described the aviation sector as an important enabler for development, and highlighted the alignment of ICAO's work with the achievement of the Sustainable Development Goals (SDGs). The organization is helping to address 15 of the 17 SDGs. For example, to achieve SDG11 on Sustainable Cities and Communities and to "make cities and human settlements inclusive, safe, resilient and sustainable," adequate airport planning and urban development are essential. ICAO has signed an MOU with UN Habitat to further this objective. Gourджи underlined the need to feature air transport in national development plans to

ensure adequate allocation of resources. See the attached presentation.

Irene Zubcevic of the United Nations Department of Economic and Social Affairs (UNDESA) highlighted the fundamental role of transport in fighting Climate Change, promoting economic development, trade, and tourism, as well as in humanitarian relief. There is a need to increase investment in infrastructure, as well as leverage the private sector and innovation in sustainable transport going forward. She highlighted the need for safe, gender-responsive, affordable, and accessible transport. Zubcevic also reminded the audience that the UN Secretary General's invitation to host another conference on sustainable transport presents an opportunity to take stock of the progress made and build on new developments.

Sandagdorj Erdenebileg of the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (OHRLLS) highlighted the key challenges faced by these vulnerable groups of countries. Notably, the high scale of investment needed for infrastructure development, maintenance and replacement of fleet, and upgrading of terminals. At the same time, there is a trend in many of these countries towards increasing passenger growth that



AIR CARRIER ADVISORY SYSTEM WORLD BANK STAFF AIR TRAVEL

The Bank has maintained an evaluation tool for assessing risks associated with air travel for mission travel since 2008. The air carrier advisory system developed by the Bank’s General Services Department and Air Transport team was launched in FY2011. Airline ratings/risk are based on the following criteria:

Risk Criteria:

1. *Serious accident in the last 3 years (defined as any incident that results in injury or death of a passenger, or substantial damage to the aircraft)*
2. *Registered in a country with poor oversight (based on ICAO safety audit)*
3. *A flag of convenience airline (an airline that is registered and maintained in a country other than where it operates)*
4. *Use of aircraft over 20 years old*

Overall there were 193,686 flights booked

by American Express for Bank staff in Fiscal Year 2017 (from HQ), representing a decrease in traveling by 0.4 percent compared to Fiscal Year 2016. The majority of flights booked were with airlines considered to be “Good to fly”. This data does not capture trips arranged in the regions.

Travelers should be aware that surface transportation may not always be possible or may represent more risks than air travel in some client countries. The advisory team continues to provide on-demand assessments and safety advice for operational staff.

Contact persons are Shruti Vijayakumar at svijayakumar@worldbank.org and Ndeye Anna Ba at nba@worldbank.org

	DESCRIPTION	RECOMMENDATION FOR STAFF
1	All airlines that are industry certified by having passed an IATA IOSA audit, unless subsequent safety experience indicates a safety problem.	Good to fly. The Bank has no objection to using these airlines.
2	All airlines that though they are not industry certified are either licensed by a country with an FAA IASA rating of Category 1, or are known to the Bank as safe carriers.	Good to fly. The Bank has no objection to using these airlines.
3	All airlines that are not in (1) or (2) above, or are on any blacklists, or are deemed to be unsafe for other reasons.	<p>3a. Airlines that do not qualify for Category 1 or 2, but have been reviewed by the Bank’s air transport specialist and considered good to fly.</p> <p>3b. Airlines that have 1 of the 4 risk criteria listed below, or some other safety factor that has been raised by the Bank’s air transport specialist. Check to see if there are any viable and safer transport alternatives before selecting this airline for mission travel.</p> <p>3c. Airlines with significantly elevated risk and 2 or more of the 4 risk criteria listed below, or some other safety factor that has been raised by the Bank’s air transport specialist. Use only for essential missions and only if no viable and safer transport alternatives are available.</p>



H4-OTA

ACI-WBG ANNUAL AVIATION SYMPOSIUM

In April 2018, the Bank Air Transport Team organized the 4th ACI WB Aviation Symposium on airport PPP, which included a concrete airport PPP discussion on Windhoek airport in Namibia. The event took Place in London, United Kingdom and was the only major Air Transport Community of Practice (ATCOP) event of FY 2018 and has been co-organized with ACI for several years. ACI covers staff travel and accommodation cost, and ATCOP organizes and moderates the event, including the preparation of a Symposium/Conference White Paper. The ACI-WB Aviation Symposium recorded 135 participants affiliated primarily to airport operators and advisory firms; regulators, financial institutions and other companies were also represented. Interactive polls were undertaken to capture the audience's opinion on the main topics of Public Private Partnerships (PPPs), global economy, air transport industry and geopolitical instability. Decoupling was apparent in the results of the polls, i.e. the audience expressed its expectation for solid sectoral growth despite the various threats emerging at a macro level.

A wide range of topics were discussed over three sessions in the Symposium. As in the past, airport PPPs constituted a subject of central importance and the theory behind them was explored in session one from different angles, i.e. legal, financial and regulatory.

PPPs may provide the necessary financial means for an airport to realize its potential and optimize the efficiency of its infrastructure and operations; potential projects, however, should be carefully assessed and the terms of returns- and risk-sharing among the parties involved should be clear and sustainable in the longer run. Session two then focused on airport traffic forecasting in an uncertain business environment. Demand- and supply-driven forecasts were discussed by the panelists who agreed that despite its quantitative methods, forecasting is essentially an art; moreover, scenario-based forecasts are better fit than point ones in the prevailing stochastic conditions. Finally, session three engaged participants into a Practical Exercise. Further to a short presentation of real-life airport cases, attendees were grouped in five teams to undertake an airport PPP action plan. Points to address were set by the Master of Exercise and teams were assisted and guided by specialists to prepare and subsequent present the action plan for their respective airport in a "shark tank" context. The exercise was much appreciated by the participants, who also voted for the best presentation.

The overall feedback of the event was very positive. In particular, the participants felt that the topics for next time should include again PPP (theory and practice), but also cover more financial issues. The roundtable layout of the Symposium and audience polling featured seemed to work well and generated a



good amount of debate. In order to improve business development and networking opportunities for delegates, other meeting formats should be explored for the following year. For example, a mobile app can be used to prearrange one-to-one sessions, e.g. between potential investors and airport/government representatives seeking a PPP.

THE GLOBAL SUSTAINABLE AVIATION SUMMIT

From 02 to 06 October 2017, Charles E. Schlumberger (CES), Lead Air Transport Specialist, represented the Bank as speaker at the Global Sustainable Aviation Summit (GSAS), which was organized by the Air Transport Action Group (ATAG) of IATA and took place In Geneva, Switzerland. ATAG released a new report at the GSAS which was called “*Flying in Formation*”. The report is a guide for the air transport industry to help understand the United Nations’ Sustainable Development Goals in an aviation context. The objective of the report is to provide ideas for how companies and partners across the aviation sector can build the Sustainable Development Goals (SDGs) into their own corporate strategies. Notable is that the aviation sector can address 15 of the 17 SDGs if pursued as a corporate priority. For details on the report please visit: www.aviationbenefits.org/SDGs.

During the GSAS, CES spoke at the ICAO Workshop of Aviation Partnerships for Sustainable Development, and addressed aviation related matters of landlocked developing countries and small island developing states. The WB participation and presentation marked the continued cooperation with ICAO of elaborating on the sustainable development goals of aviation, which is the main focus of the WBGs engagement in the air transport sector.

THE LAKE VICTORIA CHALLENGE

Unmanned aircraft systems (UAS), commonly referred to as drones, are a prime example of emerging technologies of this new industrial era. Characterized by significantly lower costs and complexity of prior manned systems, these flying robots have the potential to unlocking the lower skies as a mobility resource. The immediate opportunity for cargo drones is to speed up deliveries and connect the excluded; for similar payloads drones can deliver at costs competitive with motorbikes -- but faster, more direct, less polluting, and day and night. The medium-term potential is that the shift to electric drone technology will enable a greener transportation alternative with costs reducing to 1 cent per kilo per kilometer and zero operating emissions.

The Lake Victoria Challenge (LVC) is envisioned to be a multi-stakeholder engagement program on UAS technologies and services that meet the needs of emerging East African markets. The LVC will demonstrate how a future influenced by UAS will look by showcasing the broader categories of potential use-cases through a series of flying challenges. The program will include a series of activities leading up to and following the main event to create the right enabling environment including addressing regulatory, infrastructure and traffic management systems needs. The program will culminate in the first of its kind event in Africa, with potential to evolve into a regular forum on the state-of-the-art technologies and services for UAS service provision in Africa. The event aims to catalyze industrial policy and innovation strategy and connect international investment with local innovation in the East Africa region to increase rural connectivity through a new mobility and delivery paradigm for African markets.



GLOBAL SUSTAINABLE AVIATION SUMMIT 2017
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The World Bank supported the setting of preparatory actions, design, and to test both the demand from user agencies as well as readiness of authorities to support such an event. This included establishing the Organizing Committee of local authorities and partners, conducting site safety assessments and drafting of an operation manual, consultation with supply chain and disaster risk management clients on use case definitions, and outreach to partners to mobilize additional support in areas of logistics, health sector, heavy lift, innovation, and regulatory environment. The total financial support from WB in FY 2018 was

about USD 150,000 The Bank's expected spending for this program in FY 2019 is estimated at USD 350,000 to cover several major events such as the aforementioned October 2018 Trials, After-Action review workshops, user-centric use case definitions, UTM workshop and LVC 2019 planning and Operations Manual development.

The World Bank is supporting the regional Government of Mwanza, Tanzania to design and organize the event in collaboration with international roboticists, drone industry professionals, aviation regulators, air safety experts, supply chain logistics, health and transport specialists. World Bank program delivery is supported by the Korean Green Growth Partnership under the Climate Technology Innovation Program. As of the end of FY2018, the World Bank had provided Technical Assistance for the carrying out of the LVC TRIAL & SYMPOSIUM 2018 planned to take place in October of 2018, with the objective to run it as a proof concept and technical test in Mwanza, Tanzania. At least 150 participants are expected to attend this event.

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COMMUNITY SERVICE

Several World Bank staff members are licensed and active pilots, certified by the US FAA and/or European Aviation Authorities EASA. To remain current on their pilot qualifications, they regularly fly and undergo required refresher training. The most rewarding way of keeping current is to engage in community service by providing free air transportation to people of all ages whose medical needs – evaluation, diagnosis, and treatment – can only be met by health care facilities far from their homes.

In the US, the not-for-profit organization Angel Flight provides timely travel to patients who cannot withstand traveling long distances by automobile, rail, or bus, or who do not have the financial means to use suitable alternative transportation. Oftentimes, transport in smaller, private aircraft can better accommodate patients whose conditions could worsen if exposed to the re-circulated air on commercial flights, or who need efficient point-to-point transport.

One example of an Angel Flight mission, which was carried out by Charles E. Schlumberger, Lead Air Transport Specialist and Daniel M. Saslavsky, Transport Economist at the World Bank, was a

flight to transport two year old Adeline suffering from short gut syndrome and her parents from Carroll County Regional Airport at Westminster, MD, to Boston-Logan International Airport, MA, for treatment at Boston Children's Hospital.

The WBG's contribution, in accordance to Staff Manual 9.10, consisted of one day of administrative leave to carry out this rewarding community service.

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For more information visit: www.angelflighteast.org



The Air Transport Sector is expected to continue its strong growth in the future years. The global spend by consumers and businesses on air transport is expected to reach USD 919 billion in 2019, up 7.6 percent on 2018 and equivalent to 1.0 percent of global GDP. Airlines are expected to contribute USD 136 billion to government treasuries in tax revenues in 2019, which represents a 5.8 percent increase over 2018.

On the long-term, IATA stated that trends in air transport suggest passenger numbers could double to 8.2 billion in 2037. The latest update to IATA's 20-Year Air Passenger Forecast anticipates a 3.5% CAGR, resulting in a doubling in passenger numbers from today's levels. The short-term growth forecast is expected to be the strongest in Asia Pacific and Middle East (7.1%), followed by Europe (6.1%) and Latin America (5.9%). Africa is expected to rebound (4.9%), albeit still from a quite low base.

Looking at emerging markets, by 2037, Asia-Pacific will see an additional 2.35 billion annual passengers by 2037, resulting in a total market size of 3.9 billion passengers. Its CAGR of 4.8 percent is the highest, followed by Africa and the Middle East. Africa (CAGR 4.6%) will see an additional 199 million passengers for a total market of 334 million passengers. This is followed by the Middle East, which will grow by 4.4 percent, extra 290 million passengers by 2037 resulting in a total market size of 501 million passengers. Latin American markets, finally, will grow 3.6 percent, serving a total of 731 million passengers, which is an additional 371 million passengers annually.

Given the above-mentioned expected growth of the air transport sector, including its economic opportunities for emerging countries, but also given some expected challenges, the WBG will continue to support the development of air transportation in selected client countries. However, the development approach increasingly focused at policy measures that facilitate the development of the sector by the participation of the private sector, and to a lesser extent, direct investments by the WBG.

This should be achieved by applying the principles of the "Cascade Approach" which facilitates the mobilization of private funding for the expansion of necessary infrastructure, for example by establishing PPPs for major airport infrastructure projects.

This focus may continue decreasing the WBG air transport portfolio decline on in terms of IBRD/IDA financing, while IFC could increase its activities on advisory services and investment financing of private entities. In poorer countries, where PPPs are difficult or too early, the WBG will continue to support investments for selective air transport infrastructure. The main regional focus continues to be on African countries, and on several Pacific Island States, which are modernizing their aviation infrastructure.

The WBG will continue to address the environmental challenges of aviation, given it is the strongest growing emitter of greenhouse gases. The focus of research continues to be on air transport development in Africa. An assessment of infrastructure development needs, as well as the question on how to best address certain policy issues, such as high charges or taxes on the sector or restricting access to protect a struggling national carrier, was researched and discussed in cooperation with the African Development Bank and ECOWAS in FY 2018.

The WB will further develop its policy discussion on air transport liberalization in Africa, including on the initiative of the African Union of African countries to establish single air transport market.

Finally, maintaining or developing productive partnerships with the air transport industry, as well as with bilateral and international partners, as it is essential for achieving the development objectives. The WBG has partnerships in air transportation with ICAO, ACI, IATA, as well as with multinational and regional development banks.





Megapode

Solbrimons

ISLANDS

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