

AIR TRANSPORT SERVICES IN THE CARIBBEAN: THE DEVELOPMENT ASPECTS

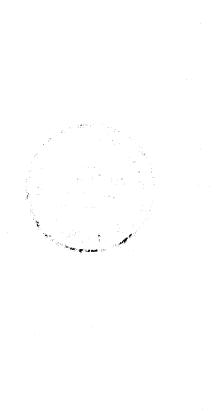
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Introduction

1. The provision of safe, regular and adequate air services for the carriage of passengers, freight and mail has become a necessity in the modern world. Such services assume critical importance in a region such as the Caribbean, consisting as it does of island developing countries with limited shipping services, relatively small populations and few natural resources. In many developing countries, including those of the Caribbean, air transport plays a key role in the development process by assisting in the diversification of national economies. Consideration is given in this paper first to the manner in which air transport can assist economic development and then to its development as a service industry in its own right. In discussing the development of air services, particular attention has been given to those air services which affect the Members of the Organization of Eastern Caribbean States.

A. AIR TRANSPORT AND ECONOMIC DEVELOPMENT IN THE CARIBBEAN

Problems of island developing countries

- 2. In the continuing effort to assist developing countries, agencies in the United Nations system, ICAO among them, have focussed increasing attention on the development needs of three categories of developing countries in particular: the least developed, the land-locked, and the island developing countries.
- 3. The UNCTAD V Conference at Manila in 1979 drew attention to the specific characteristics of island developing countries which handicap governments in their efforts to improve the economic and social conditions of life in their countries. The primary handicaps identified were: poor transport and communications, distance from market centres, limited internal markets, low resource endowment, heavy dependence on a few commodities or activities for foreign exchange earnings, shortage of administrative personnel and heavy financial burdens caused by the location of small numbers of people in islands remote from each other and from main centres. To varying degrees, these difficulties characterize the developing island economies of the Caribbean basin in general, and the OECS countries in particular.

Trade, transport and development

At the root of many of the problems noted above lies the fact that there exists a shortage of goods and services to exchange, and where marketable products do exist, geographical and economic factors hamper the ease with which exchange can take place, despite the region's relative proximity to the largest developed market economy in the world. Mankind shares a fundamental need to exchange, in the broadest sense, ideas, services and goods. Exchange lies at the heart of an economic system and any development which broadens a society's ability to exchange, both internally and with other societies, also creates new economic opportunities. Transport and communications are the means by which exchange can take place.

- The development of societies is reliant upon exchange and for this reason, Kipling's apparently sweeping assertion that "transportation is civilisation" is an accurate observation. It is evident that throughout history, the economic, social, cultural and political development of human societies, in short civilisation, has been influenced by the means of transport and communication available at a given period in time. Each new technological development in these areas has the potential to alter travel and trade relationships.
- 6. In recent years, the development and increasingly widespread use of the airplane has contributed to fundamental changes in the world economy and created opportunities for developing countries to reduce their traditional reliance on the primary sector, that is on agricultural commodities and minerals. By reducing the time required to exchange goods, transport people and communicate information, and by offsetting to an increasing degree the constraints imposed by physical geography, changes in modern transport technology have brought island developing countries much closer to the mainstream of the world economy, offering opportunities to diversify their economies. In a world characterized by rapid change, diversification has become an important factor in the development process.

Air transport as a development tool

- Transport provides a service by means of which time and distance can be offset, thereby bringing together supply and demand. No mode of transport is an end in itself and each tends to specialise in the tasks for which it is best suited. The fundamental advantage of the airplane is that it allows the operation of fast and reliable transport services over any terrain or water and over practically any distance, provided that a suitable infrastructure is available, thus ensuring access to markets throughout the world. In the context of a developing economy, speed can ensure a more efficient utilization of scarce human resources (administrative, technical and teaching skills) and permits the reduction of stocks of high-cost imported goods that tie up foreign exchange. Speed is also a factor contributing to improved airline productivity and hence to lower user costs.
- 8. A considerable range of choice now exists both with respect to the type of aircraft required to perform different types of service and to the sophistication of the supporting infrastructure (airports and navigational facilities). Air transport is also characterized by its flexibility, given the relative ease with which new destinations can be served and capacity adjusted in response to changes in demand.
- 9. In the context of national development, air transport offers a number of non-economic benefits. For instance, air transport can be used to strengthen national cohesion, aid internal security, assist in regional development, further the transmission of new ideas and techniques and contribute to the improvement of health and education services within a country or a region. In developing countries, airlines often act as a catalyst in the introduction and application of new business methods and techniques as well as basic engineering skills.

Role of air transport in economic diversification

- 10. The governments of developing countries must meet many challenges and needs with limited resources. Among these is the requirement to create new jobs and to earn sufficient foreign exchange to pay for needed imports. In the Caribbean, as elsewhere, traditional activities established prior to independence have long ceased to provide a sufficient basis on which to achieve these goals. Products such as sugar, tobacco, bauxite and spices and activities such as petroleum refining, once the foundation of many Caribbean economies, have long suffered from stagnant or falling demand and a general decline in prices, and employment in these sectors has dropped.
- Increasingly therefore, the development of Caribbean economies is dependent upon diversification into non-traditional exports of goods and services. With some exceptions, the primary market is likely to remain the developed economies of the United States and Canada. However, markets for locally-produced goods can also be expected to develop gradually within the Caribbean basin itself and air transport has created new market opportunities in Europe. Experience in the Caribbean and in other regions, notably Asia and the Pacific, has demonstrated the importance of air transport in furthering economic diversification.
- A key feature of world economic development in recent years, has been the shift in the relative importance of the different sectors of activity, from the primary sector (agriculture and extractive industry), requiring bulk, low-cost transport, to the secondary sector (manufactured goods) whose higher added value permits the use in certain instances of air transport. At the same time many labour-intensive manufacturing processes have been transferred from high-cost developed countries to low-cost developing countries. especially true of companies involved in the production of high-technology items and consumer products such as garments, fashion and sporting goods. There has been a growing trend among vertically integrated companies in these industries to decentralize the manufacturing process, with production and assembly of components and parts taking place in different countries, their rapid transfer between plants being dependent upon air transport. interest rates in the past decade have also led companies to examine ways of reducing the cost of financing work in progress and inventory carrying costs. Computerized inventory control systems and air transport have allowed companies to reduce inventories and compress production cycles. Manufacturing companies have thus been able to optimize total production and distribution costs by offsetting higher transport costs against lower costs for other factors of production, such as labour, capital and inventory.
- 13. Of particular importance has been the rapid growth of the tertiary or service sector, characterized among the Caribbean economies by the development of tourism, off-shore banking and the air transport industry itself. Tourism notably has emerged as the largest single source of foreign exchange and generator of employment in many of the islands and is likely to remain so. Indeed, tourism is now the most important industry in the world as a whole, a development which has been parallel and mutually dependent upon the growth of air transport.

Economic impact of tourism in the Caribbean

- 14. In 1985, an estimated 7.8 million foreign visitor arrivals were recorded by countries of the Caribbean, according to data published by the World Tourism Organization (WTO). Total receipts from international tourism were estimated at about \$4 774 million, representing approximately 8 per cent of the gross national product of the region as a whole. However, the economic impact of tourism varies considerably from country to country, with receipts accounting for 84 per cent of GNP in the Bahamas, 43 per cent in Antigua and Barbuda, 31 per cent in Saint Lucia, 26 per cent in Barbados and 23 per cent in Grenada and Montserrat, among the countries where it is most important. terms of employment, the Economist Intelligence Unit has estimated that some 280 000 people depend directly for their livelihood on tourism. multiplier effect of tourism spending into account, tourism is estimated to support about half a million jobs. The competitiveness of Caribbean tourist destinations is vitally influenced by the price and quality (in terms of frequency and directness of service) of air transport.
- 15. The development of air services catering primarily to the carriage of visitors from outside the region, or indeed from outside any sub-region such as the OECS States, also benefits the local economies by assisting the expansion and improvement of intra-regional ties, thus furthering regional development as a whole. Since travel from outside the Caribbean represents about 94 per cent of total foreign arrivals, it is evident that this traffic constitutes an important revenue base to justify the improvement of airports and aeronautical facilities, the acquisition of larger and more modern aircraft and an increase in frequencies operated which benefit intra-regional travel and trade. The operation of direct flights to destinations in North America and Europe, catering essentially to tourist traffic also provides, as a by-product, belly-hold capacity on passenger flights which is available for the export of horticultural produce and manufactured goods.

Air transport and the development of foreign trade

In addition to making possible the development of the region's tourism industry, air transport has come to play an increasingly important role in the development of the foreign trade of many States in the region. This is particularly true of the Caribbean's foreign trade relations with its principal trading partner, the United States, for whom detailed trade statistics by transport mode are published by the U.S. Department of Commerce. Between 1980 and 1984, exports by air from the Caribbean rose from 34 290 tonnes valued at \$445 milion to 59 515 tonnes worth \$905 million. In terms of value, the proportion of the region's exports (excluding petroleum products) shipped to the United States increased from 25 to 37 per cent. During the same period, imports declined slightly from 65 166 tonnes worth \$977 million to 62 035 tonnes valued at \$823 million. The proportion of total imports moving by air fell from 31 per cent in 1980 to 20 per cent in 1985.

- 17. Fundamental to the role of air transport in the development process in the Caribbean is that it has enabled States to establish non-traditional export industries, primarily engaged in so-called "off-shore assembly", including garment refinishing, and the manufacture of electronic and electrical components, watches, pharmaceuticals, toys and sporting goods.
- 18. "Off-shore" finishing operations in the Caribbean were originally established in Puerto Rico in the early 1960s where the initial emphasis was on garments, with companies such as Blue Bell Inc. sometimes operating their own aircraft to ship cut materials to Puerto Rico for refinishing and re-export. As wages have risen in Puerto Rico, clothing manufacturers opened new plants at free trade zones in the Dominican Republic and Haiti, and later in Jamaica, Antigua, Barbados and Saint Lucia. Other export-oriented manufacturing operations have followed a similar trend of initially establishing in Puerto Rico and the U.S. Virgin Islands and later setting up plants in neighbouring States.
- 19. The expansion in manufacturing and assembly has helped in part to ensure better balanced traffic loads, to the extent that semi-processed items move south-bound, to be returned as finished products. Traffic imbalance is a major impediment to the economic operation of cargo services. The development of this traffic has made possible the establishment of a number of all-cargo operators in the Caribbean. All-cargo carriers based in OECS-member States are Caribbean Air Cargo (CARICARGO), based in Barbados, Seagreen Air Transport in Antigua and Saint Lucia Airways in Saint Lucia.
- 20. Air transport has also opened new export markets for sea-food and agricultural produce, the latter being the most important item by weight of goods shipped by air to the United States from the Caribbean. A variety of vegetables (e.g. avocados, peppers, tomatoes, pumpkins, yams, tapioca) are exported from the Dominican Republic, Haiti and Jamaica, as are tropical fruit (e.g. mangoes, pears, dried coconut), spices, nursery stock (e.g. cuttings of tropical plants) and some cut flowers. Seasonal variations are a problem for exporters of agricultural produce with the main growing season being from June to September. Within the Caribbean, there are limited trades by agricultural commodities, notably from the Dominican Republic to Puerto Rico, the U.S. Virgin Islands, and the Netherlands Antilles. Fresh sea-food is also exported by air from a number of countries in the region.

B. DEVELOPMENT OF OECS AIR SERVICES

21. As a service industry, air transport has thus played an important part in assisting the development of trade and travel involving the Caribbean, and, more particularly, in the present context, the members of the Organization of Eastern Caribbean States. At the same time, the relationship is a symbiotic one and the air transport industry itself has benefited from the growth in

travel and trade. This growth has resulted in improvements in the quality and frequency of airline service which have, and will continue to enhance the development prospects of the region. It is therefore of some interest to examine in broad terms the improvements in service that have occurred over the past decade. The following paragraphs describe changes in the directness and frequency of schedued airline services among OECS-member States, between them and points in North America and between them and other States and territories in the Caribbean.

Air services between member States of OECS

- The first comparison is between scheduled services offered between the territories of the seven OECS-members during the last week of February 1987 and a comparable period ten years earlier, the first week of March 1977. As shown in Table 1, the number of weekly single-plane services (i.e., either non-stop or via one or more other points) between various airports in this group of States increased by 158 per cent, from 524 to 1350, a healthy over-all growth.
- 23. Growth rates for services to/from individual OECS-member States varied widely. The three which had the most services in 1977 experienced relatively modest growth over the ten years:
 - St. Christopher & Nevis, 95 to 154 service links, up 62 per cent;
 - Antigua and Barbuda, 197 to 414 service links, up 110 per cent;
 - Dominica, 60 to 132 service links, up 120 per cent; and
 - St. Lucia, 87 to 220 service links, up 153 per cent.
- 24. In contrast, the three which had the fewest services in 1977 experienced a much higher increase in the number of services:
 - St. Vincent and the Grenadines, 17 to 160 service links, up 841 per cent;
 - Grenada, 40 to 162 service links, up 305 per cent; and
 - Montserrat, 28 to 108 service links, up 286 per cent.
- 25. Although service frequency increased substantially, the number of OECS country-pairs linked by single-plane services increased only slightly, from 10 in 1977 to 12 in 1987, out of a possible 21. In other words, it is now possible to fly, non-stop or via an intermediate point or points, on the same scheduled flight, between twelve country-pairs, such as St. Vincent and the Grenadines Dominica, but it is necessary to use connecting flights for transport between the remaining nine OECS country-pairs. This is due to a lack of sufficient traffic to permit the economic operation of single-plane services, which provide superior service to connecting flights.

Of necessity, considering the relative smallness of markets and the limited capabilities of certain airports, the great majority of services between OECS-members are flown with relatively small propeller aircraft. Although the number of service links operated with larger jet transport aircraft increased from 28 in 1977 to 91 in 1987 (including 3 wide-body flights in 1987) or 225 per cent, jet aircraft, which accounted for 5 per cent of 1977 services, still only represent 7 per cent. Moreover, jet flights are routed to and from North American destinations and so can be expected to devote much of their capacity to long-haul traffic.

Air services between OECS-member States and North America

- 27. The number of long-haul single-plane services linking the OECS members directly with North America increased significantly from 1977 regarding United States points, but remained about the same for Canadian cities, albeit with increases in the size of the aircraft employed (see Table 2). From 37 narrow-body jet flights a week in each direction in 1977, airlines more than doubled frequencies to 113 in 1987, including 24 wide-body operations. Between March 1977 and February 1987, OECS member-States retained single-plane services to Miami, New York, Montreal and Toronto, lost single-plane services to Los Angeles, and gained new flights (sometimes via a more traditional gateway such as Miami) to Atlanta, Baltimore, Boston, Chicago and Washington. In 1987, services to and from the United States were being operated by BWIA, American, Eastern and Grenada Airways, which now serves New York and Miami, while Air Canada and BWIA operate to and from Canada.
- 28. The number of OECS-members with single-plane services to North America also increased. In 1977 only Antigua had single-plane services to Canada; and Antigua and St. Lucia to the United States. By 1987 St. Christopher and Nevis and Grenada were also linked with North America.

Air services between OECS-member States and other Caribbean points

29. Single-plane service links between OECS-members and other States and dependent territories within the Caribbean present a different picture. With the single exception of three weekly flights by BWIA to Jamaica, the OECS-members receive no single-plane services to the islands west of Puerto Rico. Similarly, no such services link OECS States with Aruba and Curação.

- 30. Over-all, the ten-year growth in single-plane services between OECS members and the rest of the Eastern Caribbean (Table 3) has been considerably less (84%) than services between OECS-members (158%), and far smaller than the 205 per cent growth in OECS to North America services. If, however, the U.S. Virgin Islands services, which experienced a decline, are excluded, the results show a somewhat better growth of 100 per cent, spread fairly evenly over three individual groupings.
 - Anguilla, Barbados, British Virgin Islands, Trinidad & Tobago, up 103 per cent;
 - Puerto Rico, up 98 per cent; and
 - Guadeloupe, Martinique, St. Eustatius, St. Maarten, up 97 per cent.
- 31. It may be anticipated that Puerto Rico will experience the greatest growth in services in the short term as a result of the establishment of connecting "hubs" at San Juan by both American and Eastern Airlines. This development may have a marked impact on the frequency and pattern of services between OECS-members and points in both the Eastern Caribbean and North America. The new alternatives should provide more connecting options and possibly open some new markets to development. Although it is unlikely to provide the OECS-members with new single-plane services to the Eastern Caribbean, it could improve transport opportunities on a connecting basis.

TABLE 1
NUMBER OF SINGLE-PLANE SERVICE LINKS PER WEEK BETWEEN MEMBERS OF THE ORGANIZATION OF EASTERN CARIBBEAN STATES

1977 and 1987

State To (City or Airport) From	Type of Aircraft		igua & rbuda 87	Dom	inica 87	Gre 77	nada 87	Monts	errat 87	St.Chr & N 77	St.Lucia 77 87		St.Vincent & Grenadines 77 87		Weekly Single-plane Service Links: Departures(Line Totals) 77 87		
Antigua & Barbuda	P			21	35	7	6	14	46	44	73	16	21	-	7	102	188
(St. John's)	N			-	-	-	7	-	-	-	1	9	7	-	-	9	15
Dominica (Cane Field & Melville																	
Hall Apt.)	P	14	42			7	7	-	-	-	-	16	15	-	12	37	76
Grenada	P .	7		_	_			_	_	_	_	7	21	2	37	16	58
(St. George's & Carriocou)	N	<i>.</i>	7	_	_			_	_	_	_	<u>.</u>	7	_		-	14
,	W	-	2	-	-			_	_	-	_	_	-	_	_	_	2
Montserrat (United Kingdom) (Blackburne Apt.)	P	7	52	-	_	_	-			7	6	_	-	-	-	14	58
	P	44	68	_	-	_	_		4			_	-	_	_	44	72
St. Christopher & Nevis	N	_	1	_	_	_	_	_	_	_	_	-	_	_	1		
(Basseterre and Newcastle)	W	-	1	-	-	-	-	_	-			-	-	-	-	-	1
Saint Lucia (Castries & Hewanorra	P N	9	31 7	2	21	9	20	-	-	· .	-			7	35	27	107
Intl. Airport)	N	٥	/	-	-	-	/	-	-	-	-			-	-	5	14
St. Vincent & Grenadines (Kingstown, Mustique										٠							
and Union Island)	P	· -	-	٠-	-	1	41	-	-	-	_	7	28			8	69
Weekly Single-plane	P	81	193	23	56	24	74	14	50	51	79	46	85	9	91	248	628
Service Links: Arrivals	N N	5	153	- 23	- -	-	14	-	-		1	9.	14	_	-	14	44
(Column Totals)	Ŵ	, 	3	-	-	-	_	-		-	_	-	-	-	-	-	3
Totals: All Types		86	211	23	56	24	88	14	50	51	80	55	99	9	91	262	675

Symbols: P - Propeller aircraft

N - Narrow-body jets

W - Wide-body jets

Note: Arrivals and departures per particular State are not in precise balance due to diverse

routings used.

Sources: ABC World Airways Guides; March 1977 (services in first week of March);
February 1987 (services in last week of February).

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NUMBER OF SINGLE-PLANE SERVICE LINKS PER WEEK FROM AIRPORTS OF MEMBERS OF THE ORGANIZATION OF EASTERN CARIBBEAN STATES TO DESTINATIONS IN THE UNITED STATES AND CANADA

1977 and 1987

										1777	8110 1	,0,											
OECS State or Dependent	Type of		North American Cities																Total Weekly Single-plane Service links: Northbound Departures per				
Territory	Aircraft	Atla 77	nta 87	Balt 77	imore 87	Bos 77	87	Chic 77	87	Los An 77	geles 87	Mi:	ami 87	<u>Mont</u> :	87	New Yo	87	<u>Toro</u>	87	Wash:	ington 87		1987
Antigua & Barbuda	N W	-	- 1	-	3 -	- -	11 3	-	7 -	6 -	~	3 -	15 -	1 -	-	14 -	8 6	7 -	1 3	-	8 -	31	53 13
Dominica	n/w	-	_	-	. -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grenada	N W	-	-	<u>-</u> -		-	- -	- -	-	-	-	-	9 -	-	-	-	1 2	-	<u>-</u>	-	-	-	10 2
Montserrat*	n/w	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		- .	~
St.Christopher & Nevis	N W	-	-	- -	-	-	- -	-	-	-	-	-	-	-	-	-	1 1	-	1	-	-	-	1 2
Saint Lucia	N W	-	3	-	-	- -	-	-	-	-	-		21	-	1	4 -	3	-	3	-	1 -	6 -	25 7
St. Vincent & Grenadines	n/w	-	-	-	, -	-	-	-	-	-	-	_	-	-	-		-	-	-	-	-	-	-
Weekly Single- plane Service Links: North- bound Depar- tures per North American Market		-	3 1	-	3 -	-	11 3	-	7 -	6 -	-	5	45 -	1 -	- 1	18 -	10 12	7 -	1 7		9 ~	37	89 24
Totals:	All Types	-	4		3	-	14	-	7	6	-	5	45	1	1	18	22	7	8	-	9	37	113

Symbols: N - Narrow-body jets

W - Wide-body jets

* - Dependent territory

Notes: 1. Weekly services shown exceed actual flights due to more than one market being served on certain flights.

2. This table, unlike Table 1, shows services in one direction only.

Sources:

ABC World Airways Guide: March 1977 (services in first week of March); February 1987 (services in last week of February).

TABLE 3

NUMBER OF SINGLE-PLANE SERVICE LINKS PER WEEK FROM AIRPORTS OF MEMBERS OF THE ORGANIZATION OF EASTERN CARIBBEAN STATES TO DESTINATIONS IN OTHER CARIBBEAN STATES AND DEPENDENT TERRITORIES 1977 and 1987

State or Dependent Territory	Type of Aircraft		erto co* 87	Virgin Islands*(US) 77 87		Caribbean State Virgin Islands*(UK) 77 87		Anguilla*		Saint		itories - Not Saint Eustatius* 77 87		Members Guade- loupe* 77 87		of CECS Marti- nique* 77 87		Barbados		Trinidad & Tobago 77 87		Weekly Single- plane Service Links: Out- bound per OECS Member 1977 1987	
Antigua & Barbuda	P N W	7 7 -	32 12 3	15 2 -	18 - -	3 -	10	- - -	6 - -	14 7 -	35 8 -	-	- - -	20 - -	21 - -	14 - -	14 - -	16 9 -	14 10 8	15 -	7 21 10	89 40 -	157 51 21
Dominica	P	-	6	-	4	-	~	-	-	-	-	-	-	15	37	16	29	16	14	-	~	47	90
Grenada	P N W	-	-	- - -	- - -	-	-	- - - -	- - -	- - -	- - -	-	- - -	- - -	- - -	7 - -	- - -	16 - -	54 - -	16 - -	30 7 1	39 - -	84 7 1
Montserrat*	P	-	-	-	-	-	-	-	-	-	-	_	-	-	5	-	-		-	-	-	-	5
St.Christopher & Nevis	P N W	28 - -	28 - -	35 - -	20 - -	- - -	13	- - -	6 - -	29 - -	52 -	8 - -	9 - -	-	-	-	- -	- - -	- - 1	-	1	100	128 1 2
Saint Lucia	P N W	- 4 -	10 -	1 -	- -	- - -	-	- - -	-	- -	- - -	- - -	- - -	2 - -	17 - -	14 4 -	55 - -	28 3 -	28 2 1	7 4 -	7 7 4	51 16 -	107 19 4
Saint Vincent & Grenadines	P	_	~	-	-	-	-	-	-	-	-	-	-	-	~	~	14	14	28	7	22	21	64
Weekly single- plane service links:Inbound per Non-OECS Points	P N W	35 11 -	66 22 3	50 3 -	42 - -	3 - -	23	- - -	12	43 7 -	87 8 -	8 -	9 - -	37	80	51 4 ~	112 - -	90 12 -	138 12 9	30 19 -	66 36 16	347 56 -	635 78 28
Totals	All Types	46	91	53	42	3	23	-	12	50	95	8	9	37	80	55	112	102	159	49	118	403	741

Symbols: P - Propeller aircraft

N - Narrow-body jets

W - Wide-body jets

Notes: 1. "Other Caribbean States and Dependent Territories" are listed clockwise in the sequence of their geographical location in the Caribbean.

Sources: ABC World Airways Guide: March 1977 (services in first week of March); February 1987 (services in last week of February.

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Weekly services shown exceed actual flights due to more than one market being served on certain flights.

This table, unlike Table 1, shows services in one direction only, outbound from OECS territories.