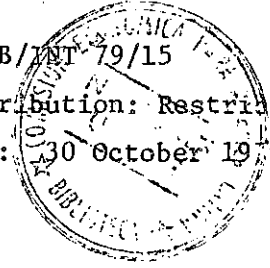


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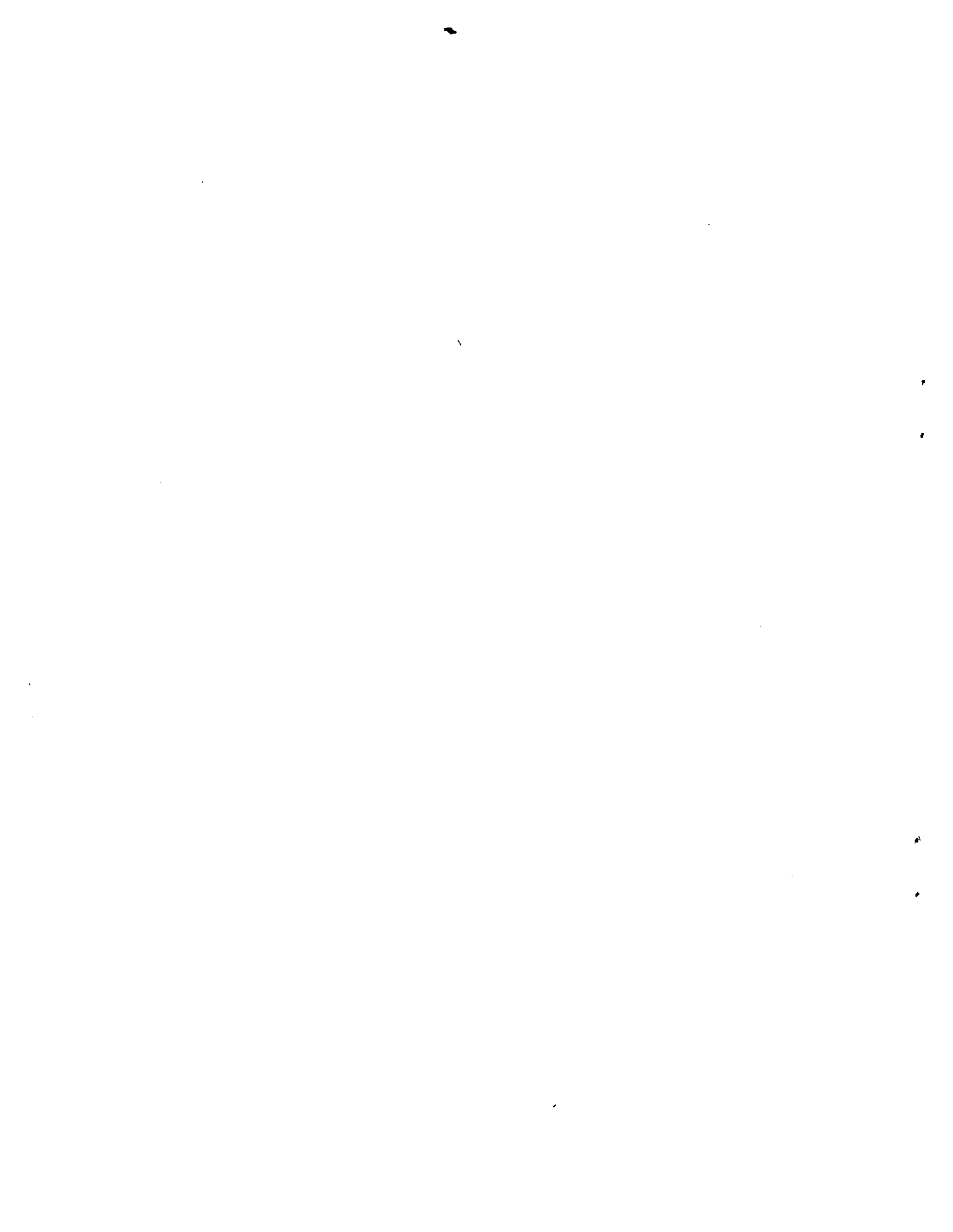


ECONOMIC COMMISSION FOR LATIN AMERICA
Office for the Caribbean

TRANSPORT DEVELOPMENT IN THE
THIRD DEVELOPMENT DECADE

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THIRD DEVELOPMENT DECADE

Transport

Generally, aid funds have not been difficult to obtain in the Caribbean and this applies equally to the transport sector. Sources have been British budgetary support, Canadian aid, while France and the Netherlands have spent a great deal on former colonies. The United States has provided funds on a similar scale for the Dominican Republic and Haiti, as well as contributing aid to the rest of the region. These funds have been made available and spent on a country-by-country basis, and as a result the regional transport system has "grown like topsy" instead of being planned.

The problem was recognized by the British, Americans and Canadians, who initiated the Tripartite Study of 1966 to determine how aid funds might best be spent. One result from that initiative was the establishment of the Caribbean Development Bank (CDB), through which aid was intended to be channelled. In practice, the three donors divided the aid programme between them and continued on an ad hoc bilateral basis as before, while also contributing to the CDB. In fairness to the donors, it should be pointed out that this happened, in large part, on the insistence of the individual governments.

As a result, the donors failed to indicate how much aid was to be provided for each sector in the region, and so the opportunity was lost for system planning on a rational basis. In the 1966-1976 period large amounts were spent on transportation. Canada alone spent about Cdn\$100 million. Yet, today, there still remains a number of deficiencies in the system that could have been rectified with proper planning in a regional perspective.

There have been many consultancy studies and reports in the sector, funded by a variety of donors. In several cases, even the organization which commissioned the work was dissatisfied with the

conclusion; few recommendations have been implemented; much work has been repeated.

There would appear to be two main reasons for this unsatisfactory history. First, the transport policies appropriate to a multinational archipelago with disparity, both in trading history and physical size, are more difficult to comprehend than consultants are used to. Standard methodology and solutions are often inappropriate. Second, the difficulties of communication, travel, and data collection in the Caribbean are not often fully taken into account by external consultants.

The end result is that studies have been re-examined rather than implemented, and the region has found itself educating successive generations of consultants rather than receiving the benefits of their work expressed in tangible improvements to the system.

The initiative displayed by the World Bank in the creation of the Caribbean Group for Co-operation in Economic Development (CGCED), and that organization's Technical Assistance Steering Committee, should be able to plan the development in the Third Development Decade, not only in transport but in other areas. This will rectify the previous situation where the regional perspective was lost. An opportunity will arise where the emphasis should be on less studies and more action; equipment rather than infrastructure.

For the first time there is a forum where donors and recipients can meet collectively to determine the course of action for the region.

The main areas of concern in the 1980's will be:

- Civil Aviation
- Infrastructural Deficiencies

The region is characterized by the close proximity of airports capable of handling the largest commercial aircraft; these are frequently less than one hour's flying time apart. However, there are three airports that are clearly inadequate to handle present and projected traffic

because of operational restrictions. Climate and topography impose severe constraints on the use of Arnos Vale Airport, St. Vincent. Landing is into the wind from the sea, while take-off is down-wind towards the sea. Wind velocity can close the airport and in any case causes weight restrictions for take-off.^{1/} Night flying has recently been implemented. The runway is 4,850 feet long, surrounded by hills on three sides, rises from the sea-end, and is crossed by the main road near the terminal building. Studies have rejected both an extension into the sea and an alternative site on prime agricultural land as being too expensive. STOL equipment would eliminate the down-wind traffic.

Pearls Airport, Grenada, also has severe operating restrictions, which limit flying to daylight hours only. A very tight turn is required in order to avoid the peaks of adjacent hills on approach to the 5,255 feet long runway. Both landing and take-off are towards the sea. The approach is considered too dangerous to attempt after dark, although using the most sophisticated automatic landing systems now available, together with STOL equipment, the runway could be made operational on a 24-hour basis.

The British first studied the problem in 1955 and since then five or six major studies have also been completed. An alternative site was identified in the original examination, but this is close to the recent hotel developments on Grand Anse Beach and would involve cut and fill. A cross-wind runway on the existing site has also been evaluated.

The Government wants better air communications, the lack of which is blamed, rightly or wrongly, for the slow growth of tourism. As it is over 25 years since the first study, perhaps this is the prime example of studying studies instead of solving problems, and all should share the concern of the Government of Grenada that nothing has happened.

^{1/} This results in empty seats and occasionally baggage being left behind.

The 5,000 feet long runway at Melville Hall, Dominica, has a difficult approach over a mountain range which precludes night landing. Take-off into the sea is permitted after dark because of the proximity of an alternate runway on nearby Martinique, although there is no night landing. Again, STOL aircraft could operate 24 hours per day.

A fourth runway at Blackborne, Montserrat, has a difficult approach which limits commercial flying to daylight hours only. However, foreseeable traffic demands do not appear to justify improvement and an adequate shuttle service using small aircraft can be provided from Antigua, only 15 minutes flying time away.

Aviation Service Deficiencies

Mention has been made above of limitations on night flying. It should be borne in mind that in the region the sun always sets between 6.00PM and 7.00PM. Thus a 30-minute in-flight delay by a jet from Europe or North America to Barbados can cause passengers bound for Grenada to miss the connecting flight, and force them to overnight in Barbados.

An examination of route structures shows that the region does not form a single system; it is often physically impossible to travel from one island to another on the same day. Despite the lack of links, the services that do exist are with one notable exception, reasonably reliable. That exception is LIAT which serves the Eastern Caribbean. While it must be conceded that LIAT operates the most intensively used equipment in the world, it is also without a doubt the airline with the worst reputation.

LIAT is owned by CARICOM Governments and cannot be allowed to go out of business as the carrier forms the only means of passenger service to many of the islands.

Passengers even with confirmed reservations cannot guarantee they will travel because of chronic overbooking made necessary by a high-rate of "no-shows" according to LIAT; schedules are sometimes not kept and delays caused by equipment breakdown are frequent. Coupled with the

operational limitations, these combine to make it difficult to offer the published service, and overflying of airports is fairly common.^{2/} Ground staff appear to lack commitment and are generally unhelpful to the travelling public. North American Travel Agents are most reluctant to book clients on the carrier for fear that they will lose future business because of problems, and this limits tourism development on LIAT-monopoly routes.

Until recently there was no alternative method of reaching some destinations because no passenger ships now operate between the islands. However, other scheduled carriers have initiated service on routes formerly the monopoly of LIAT, and small plane charter traffic has increased significantly. Businessmen and heads of diplomatic missions now charter instead of risking the possibility of being stranded.

These problems were recognized by the CGCED. A study is to be made of LIAT Fleet Requirements and Routing Structure. The objective is to define the aircraft replacement programme and service improvements that will permit the Company to attain viability. It will analyse the operating costs and revenue that would be produced with the existing route structure and alternative structures, using the present fleet and new aircraft of the present type or other types.

It may well be found that a change in aircraft type to STOL equipment can obviate the need for further infrastructure investment, while improving the level and reliability of operations.

While the study is being undertaken, LIAT has leased some aircraft of the existing type and performance has been improved.

^{2/} Two examples illustrate the difficulties. A recent St. Vincent-Trinidad flight arrived 26 hours late on a one-hour flight, and a passenger with a confirmed reservation from Grenada to Trinidad on a Sunday was not able to fly until the following Thursday.

The CGCED also initiated an Airport Maintenance and Operations Study with the objective of determining what is needed in terms of improvement in maintenance and operations, and the equipment required to bring selected airports to the standard needed for safe and efficient handling of current and expected air traffic levels.

Work will also be needed on air freight development. If airports can be operated on a 24-hour basis, and if the aircraft type can be readily converted to freight operations then they could carry freight at night and so increase their effective utilization.

The results of these studies will provide the key to the direction that further work on civil aviation will take in the 1980's.

Maritime Transport

Infrastructure Deficiencies

Most islands already have or plan to have deep water port facilities capable of handling ocean vessels. However, as in aviation, there has been over-investment in this sector. The World Bank Mission to CARICOM in 1973 found that all islands had port development plans, based on the assumption that they would handle transshipment as well as domestic traffic. While airport investment was largely complete by 1972, port development occurred from that date and is likely to be completed by 1980. Up to April 1977, loans from CDB amounting to US\$20.5 million had been approved for this purpose, which totalled 17.6% of all loan disbursements made by CDB.

It can be accepted that the CDB had to yield to demands made by members in its formative years, and it is a fact that strenuous efforts were made to scale down the proposals and restrict the amount lent. It can also be accepted that there was a need to eliminate lighterage in the region. But when the programme is complete, deep water facilities are available and the loans have to be repaid, it may be questioned on

grounds of under-utilization if it was necessary to provide facilities for ocean-going vessels at all ports.

As is known, the trend in ocean transportation is towards larger ships making fewer port calls. Already, container ships serve the region from Europe and North America. Major intra-regional shippers are demanding containers for shipments. Furthermore, 65% of intra-regional trade is carried in small vessels. One of the regional shipping lines, WISCO, plans to operate shallow draft vessels to serve these ports with intra-regional breakbulk and container traffic, as well as offering transshipment service to ocean lines. WISCO is, in any event, likely to operate only container services during the decade. Some ocean lines have themselves announced feeder services to the smaller islands. Lines serving the region from Miami and Puerto Rico use RORO or tug and barge equipment. In the light of these developments, the provision of deep water berths in excess of 20 feet at each port would appear to be unnecessary as most, if not all, of the vessels calling at the ports will not require this depth.

In the case of Dominica, for example, while it was necessary to eliminate lighterage, a deep water port has been built at a cost of US\$5.4 million. This facility is only likely to be used regularly by the GEEST banana boats, which usually call every ten days. GEEST, with its vertical integration of operations, will gain the main benefits, while the Government of Dominica foots the bill. Ironically, this facility has now been damaged by Hurricane David before its official opening.

Maritime Transport Service Deficiencies

Apart from ocean lines that operate in intra-regional trade, there are two shipping lines owned by regional governments. These are NAMUCAR^{3/} and WISCO.^{4/}

In many respects there is a close parallel between WISCO and LIAT. The shipping line had always operated under subsidy; has a history of poor management; and survived from crisis to crisis. Canada spent large amounts of money over the years both for ships and technical assistance, yet the regional governments, while expressing a desire to see the line operate efficiently, have been unable to take the necessary steps to ensure that it can do so.

Inter-island small vessels carry most of the regional trade and there is a heavy concentration of services in the Eastern Caribbean. While these vessels do not operate regular scheduled services, they tend to remain on the same route. Half of the fleet operates between Trinidad, Guyana and Barbados, while there are regular sailings between these ports and St. Lucia, St. Vincent and Grenada. The traditional small wooden-hulled vessels with sails and an auxiliary engine are gradually being replaced with single or twin-screw steel-hulled vessels carrying up to 500 tons of cargo.

The small vessels have traditionally provided the cheapest form of sea transport, and this is made possible by low standards of service. There are frequent transit delays; damage and pilferage of cargo is prevalent. In an area where fresh fruit and vegetables form a significant part of the total traffic, there is an almost complete lack of reefer or chilled space. Insurance of cargo is difficult to obtain mainly due to

^{3/} NAMUCAR serves Tampico, Veracruz, Havana, Kingston, La Guaira, Puerto Cabello, Barranquilla, Cartagena, Cristobal, Puerto Limon, Bluefields, Houston, New Orleans, Curaçao, and Port of Spain.

^{4/} WISCO serves Guyana, Trinidad, Barbados, Grenada, St. Vincent, St. Lucia, Dominica, Antigua, Montserrat, St. Kitts and Jamaica.

the poor physical condition of the ships. Where it can be obtained, it costs roughly double that for larger vessels and generally applies only to total loss. The newer steel-hulled vessels can obtain more favourable rates. Individual vessel owners seldom entertain claims for cargo damage, even when this is attributable to poor cargo handling or pilferage. Finally, it is almost impossible to obtain finance for the purchase of replacement vessels.

The problems associated with this type of operation between Eastern Caribbean islands are almost identical to those found in internal cabotage in Haiti, where a lack of roads make outlying communities dependent on small vessels in coastal service.

The inter-island small vessel services do not demonstrate the same pattern as air services, and cut across heritage and language boundaries. However, there has been no scheduled passenger sea services since WISCO ceased to operate a joint cargo/passenger vessel in 1975. This makes the movement of passengers difficult especially in the light of the problems encountered with LIAT.

The CGCED has initiated a number of specific actions in this sector, which will improve the performance during the Third Development Decade.

A comprehensive project is being initiated that will provide shipping statistics; raise the level of safety, particularly for the small vessel fleet, up to IMCO Convention levels by assisting the governments to establish Maritime Safety Administration; provide technical and commercial advice to regional shipping lines and carry out a comprehensive upgrading of all aspects of the small vessel fleet.

Internal Transportation

The 1980's will see the need for traffic engineering techniques to be applied to the urban transport congestion. In addition, alternates to the private car transport will have to be sought.

Land links between contiguous countries will be provided and/or improved.

The Energy Question

The cost of energy will obviously affect all sectors of transportation in the region, as it will in the rest of the world. This will be vitally important to the internal movement of countries where the dependence on the private car for personal transport will have to be reduced where traffic flows are heavy. For example, the Express Busway in Trinidad might well be replaced by an electric railway, using the European pattern of light weight high speed equipment. Trinidad has sufficient supplies of natural gas to generate the electricity. Such a system in Trinidad could use the old railway right-of-way to the east of Port of Spain, and be extended west of the city on an elevated structure of concrete. The railway might have to be re-instated in Georgetown also. Where no railway exists, bus services will need to be introduced or improved.

The increasing costs of energy for civil aviation might require some initiatives for example, in order to reduce the number of "no-shows" (that is the people booked on a flight but who fail to arrive at the airport) a penalty could be introduced of say 20 per cent of the face value of ticket. This would reduce the waste caused by flying with empty seats when other people would have used them, but was unable to obtain reservations because the plane was full.

In maritime transport there might well be a re-introduction of passenger vessels to carry inter-island passengers. Higher energy costs will further reduce the number of ocean vessel calls, especially at the smaller ports making the introduction of efficient feeder services of paramount importance.

Conclusions

Until recently at least, there was a general feeling in the Caribbean that aid funds were easy to obtain, perhaps as a result of budgetary support from parent metropolitan countries or the former Canadian method of financing aid projects, where funds not spent in the year of allocation were retained instead of the more normal practice of reverting to the Treasury. As a result, CIDA always seemed to be able to find money for new projects.

In examining the present system of both infrastructure and services, the impression remains that if the total amount spent on transportation in the ten years between 1966-1976 had been known in advance, investment would have been planned differently and some attempt would have been made to ameliorate the remaining severe constraints.

There appears to have been over-investment in infrastructure for both aviation and maritime transport. For example, St. Kitts has a 7,600 feet long runway that in its first two years had only two jet freighters on it. There are no scheduled services for large aircraft, the Hawker Siddeley 748 is the largest scheduled user, and that needs only 4,000 feet of runway. This airport is now served once weekly by ALM, using a DC-9. The deep water ports appear to have been built on over-optimistic traffic forecasts with insufficient attention to ocean shipping trends. Of course, it can be argued that facilities must be provided if it is hoped to generate traffic, but it would appear that some of the facilities will never be fully utilized.

On the other hand, due to the lack of regional planning there has been no attempt made to vary equipment or services to overcome deficiencies, and thus obviate the need for further infrastructure development.

In short, there is a need for a comprehensive approach to regional transport rather than an ad hoc country-by-country (or island-by-island) approach. The fact that one island has an 8,000 feet runway or a deep water port does not mean automatically that a neighbouring island should then have or even need similar facilities.

In order to evaluate the options facing the region there is a need for a comprehensive knowledge of other regions and technological developments in transport. Generally, this knowledge can be obtained by the use of external technical assistance. However, the region must come to grips with its own problems and not be presented with a plan from outside. In short, the region must be encouraged and assisted, but in the final analysis has to resolve its own problems.

The transportation system must be kept as simple and therefore as cheap as possible. New technology is often complex requiring skills not found in the developing world. At all times it should be remembered that the region has to both operate and pay for the equipment provided.

Finally, the increasing cost of energy is going to cause a fundamental re-evaluation of transport operations that will affect not only Maritime and Aviation Operations, but also internal communications.

These changes can only be absorbed if there is a comprehensive approach to the problem. It is not too late to produce a regional master plan for transportation in the Caribbean for the Third Development Decade, and systematically plan the changes from the present system that have to be implemented.

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