

INFLUENCE OF THE ROAD NETWORK IN THE ECONOMY AND SOCIAL DEVELOPMENT OF CUBA

AUTHOR: Luis Emilio Serrano Rodríguez C. E, Ph.D.
Deputy Director of Planning and Road Studies of the National Roads Centre of Ministry of Transport.
Associate Titular Professor of High Politechnic Institute "José Antonio Echevarría". Member of C4 Committee of World Roads Association (AIPCR-PIARC)

ADDRESS Edificio MITRANS, 8^{VO} Piso, Ave. Carlos Manuel de Céspedes esquina a Tulipán C. P. 10600 Phone 537 8814446 Fax 537 335377
E-mail: lserrano@cnv.transnet .cu

ABSTRACT.

The road network in Cuba is increased almost four times from 1959 to the actuality.

It was influenced in the quality of life of the population in urban and rural areas, principally in the last. The paper exposes as the roads are a fundamental part of the economic development along its history and as they were influenced also in the increase of the quality of life of the population since the Triumph of the Revolution (1959).

Besides, the paper exposes like the Cuban Government works to preserve the roads patrimony and the development of the intermodality.

Key Words.

ECONOMY, PRODUCT, FREIGHT, PASSENGER, TRANSPORTATION, MULTIMODAL

INTRODUCTION:

The roads in Cuba were developed in different stages, they are following:

- Colony and Transition (until 1902)
- Pseudo republic (until 1958)
- After the Triumph of the Revolution (from 1959 till today)

In the first stage, its function were to facilitate the communication between the populations near the coast or the rivers.

Therefore they assure the travel from one population to other or to a near place.

The agriculture was the basement of the economy, the breeding of cattle and the cultivation were the principal items, for this reason the movement across the land was poor.

The fast development with great power of the sugar industry made absolutely necessary the increase of the quantity of existing roads and in addition was introduced the railroad to support the transportation, before than Spain.

We must say that in this age the majority of the sugar factories were in the West of the country.

At the end of the Nineteen Century, Cuba had two principal roads those communicating the country from East to West.

- The Royal Road, from Havana to Guantánamo, fundamental way to the East.
- The Central Road, from Havana to Guane, fundamental way to the West.

In the second stage the principal work was the Central Road, this road in this moment was principal way to the communication by road along the country.

Also in this stage were built works as the Havana-Varadero Road by the North Coast, this road was conceived for the tourism development of all north zone of the Havana and Matanzas provinces.

In this stage Cuba had a total of 10 108 Km of roads and unpaved roads, they were distributed in the following form:

- 5 933 Km of roads
- 4 175 Km of unpaved roads

Now, the network of the country has 68395,3 Km they are divided in the following form:

- 17814,9 Km of paved roads
- 34387,0 Km of unpaved roads
- 16193,4 Km of urban roads

The network of the National Interest Roads has 11459,2 Km they are under management of the Ministry of Transport, the entity delegate for this function is the National Roads Centre, this entity is the rector of the road activity in Cuba.

Cuba has an area of 110 922 Km² , the road density result is 0,67 Km/Km².

As we observe the road were increased in 42 093,9 Km in the last stage (from 1959 till today), these were in influenced in the economy and society.

Contribution of the roads for the economical and social development .

In our country the national road network were increased in 42093,9 Km. It was influenced in the development of differents areas of the economy and the society.

- We could electrify the 95% of the country.
- Stablish medical services, social assistance and schools in all mountain zones and areas with difficult access for that reason the quality of life were increased and is an incentive of the productive process in these areas.

The road network in the mountain zones has 9484 Km, of these 2061 Km are included in the national interest roads, in the mountain zones the agriculture production were increased according with the roads development, the following table indicates that those results.

Table 1.

Product	Period	Growth
Coffee	1995 - 2000	6%
Cacao	1995 - 2000	23%
Forest	1995 - 2000	226%
Apiculture or Beekeeping	1998 -2000	54%
Pork Cattle	1998 - 2000	16%
Aviculture or Chickenkeeping	1998 – 2000	40%
Aquaculture or Fishkeeping	1995 - 2000	51%

This table reflects the contribution of the road network in the mountain zones, because if they do not exist, is practically impossible for our country to obtain these increments in the production in these zones.

Besides, we have the obligation to stand out (to be evident) that in the decade of 80 in the Past Century in our country were transported 81, 5 millions of tons of goods (merchandises) by roads.

It is clear that when the socialism dissappear in the East of Europe, area of the world with we had strong economical links, this phenomena affected our transportations of goods and any other merchandises. We need express that the 85% of the products that we imported proceeded of this area of the world, in spite of that in 1999 the 84, 6% of the transportations of goods and any other merchandises, were by roads, in the table.

“Freight transported in thousand of tons” , we can observe so was the transportation from 1988 to 2000.

In this table as we can appreciate the freight transportation by roads is greater than the transportation by railroad and by coastal trade. Now in order to obtain a better and more reasonable freight transportation in our country the Ministry of Transports develop a policy in a multimodal approach of the transport system, with the increasing of the relation railroad–road.

Referring the passengers transport by road we have that in Cuba we reached the quantity of 3089,7 millions in 1985.

By the lack that motived the disappear of the socialism on the East of Europe this quantity were decreased, but in the last years it increasing with values in percent until 13%, showing the behaviour as we can observe in the table “Passengers Transported by road”.

The tourism is an area of the economy with powerful development, we can express the follows in order a better comprehension of the importance of the roads.

From 1995 to 2000 the tourism of nature that is exploiting in the mountain zones was growthing 30% by year approximately.

For the tourism in general this value is around the 15%.

Table 2.

FREIGHT TRANSPORTED (THOUSANDS OF TONS)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	98149.9	91855.6	87075.7	83882.0	54783.7	37605.5	38219.5	36247.1	45294.5	56491.1	41774.4	41989.1	-
Other Organims	5589.5	60501.3	57959.2	43687.0	40188.9	27313.5	26600.9	26162.1	34069.8	45482.6	31411.5	31904.3	-
By road	63100.0	57800.0	55379.2	41218.6	37658.4	25173.9	25417.2	24723.6	32359.2	43864.7	29974.4	30115.3	-
By railroad													
Ministry of Sugar	2489.5	2701.3	2580.0	2468.4	2530.5	1539.7	1183.7	1438.5	1710.6	1617.9	1437.1	1789.0	
Ministry of Transports (total)	32560.4	31354.3	29116.5	20097.5	14594.8	10292.0	11618.6	10085.0	11224.7	11008.5	10362.9	10084.8	9871.7
By road MITRANS	18400.0	17200.0	15472.1	10304.1	7179.1	5262.6	6572.6	5105.6	5514.5	5564.7	5240.3	5419.6	5439.8
By railroad MITRANS	13041.5	13031.1	12543.0	9015.7	6910.3	4745.5	4815.5	4713.3	5276.3	5104.0	4700.0	4279.6	4027.5
Coastal Trade	1118.9	1123.2	1101.4	777.7	505.0	283.9	230.5	266.1	433.9	339.8	422.6	385.6	404.4

Note: MITRANS = Ministry of Transports.

Table 3

PASSENGERS TRANSPORTED BY ROADS

Year	Passengers transported (millions of passengers)
1960	930.0
1965	1378.9
1970	1599.0
1975	2251.7
1980	2656.3
1985	3089.7
1990	2703.8
1991	1978.5
1992	1148.9
1993	725.4
1994	567.3
1995	507.7
1996	562.4
1997	653.7
1998	634.7
1999	719.0
2000	776.9

In the tourism the influence of the roads is fundamental, because is established the multimodal relation between the roads with the maritime transport, and the roads with the air transport, ways that use the tourists to arrive to our country in addition we say that many tourist rent cars to go different places by itself.

Besides, to increase the tourist development in the keys, (small islands), at the North of the country, in this moment are finishing the construction of rockfills they will constitute the ways that will link these keys with the island of Cuba.

It will increase the road network, for the roads are the fundamental way that will use the tourism that will arrive to the country.

Actually the tourism is one of the issues more important of our economy.

As we observe the roads network has a great importance in the economy of Cuba and is decisive its influence in the development of the economy.

Because that the Cuban Government were disposed funds for the construction and maintenance of roads, to obtain for this way recovery the patrimony, for example we observe in the following table the projection of this policy: along the last years.

Table 4.

Condition of National Interest Roads from to1995 and 2002 (in percent of the total length)						
Year \ Condition	1995	1997	1999	2000	2001	2002
Good	35	47, 4	55, 2	67, 4	67	67
Regular	54	37, 3	30, 2	22, 5	24	24
Bad	11	15, 3	14, 6	10, 1	9	9

This table is only for the National Interest Network.

In the table is reflected the effort of the Cuban Government in the roads and their maintenance, the information supplied in the paper offer the increments on the mobility of persons and the freight transportations, those were affected for situations that were mentioned, but is observed a recovery of these.

Conclusions.

- The Cuban history is linked in the economy with the road development, this make that Cuba has an infrastructure with a high value of density.

- With the Revolution Cuba obtain this high value and a great movement of charges and passengers, they are affected for causes mentioned in the paper, but now we can observe a recovery.
- The Cuban Government knowing the importance of the roads in the economy of the country make a policy for construction of new roads and for the maintenance of existing roads in an agreement with the different aspects that the country need develop.
- The Cuban Government in order to make an harmonic and affordable development impels and stimulates the link between the different modes of transport in order to obtain an use more rational of the resources.
- All that were expressed in the paper and in the former conclusions reflect the huge influence of the roads in the economy and social development in Cuba .

References.

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| 1 | National Assembly of Cuba | Law N ^o 60 “Code of Road System and Transect of the Cuban Republic” |
| 2 | Marin González F. | “The Road System in Cuba “ International Congress of Road System and Transit. Dominican Republic 1999. |
| 3 | Serrano Rodríguez, L. E. | “Development of Road in Cuba” . Notes for a meeting of C4 Committee AIPCR – PIARC, Oslo Norway May 1999. |
| 4 | Serrano Rodríguez, L. E. | “The airports as a support of tourism development”. Case of study. Varadero’s airport FIADICC II Iberoamerican encounter of civil engineering Brasil 1994. |
| 5 | Serrano Rodríguez, L. E. | Informs and responses to questionnaires of the Working Groups of C4 Committee during the period 2000 – 2003. |
| 6 | Valdés Baños, O. | Inform about the Mountain Zones Plan Habana, Cuba. 2001 |