

Economic Commission for Latin America and the Caribbean

**ECLAC SUBREGIONAL HEADQUARTERS
FOR THE CARIBBEAN**



**Report of the expert group meeting
to review a study on policy
considerations for sustainable
transportation in three Caribbean
small island developing States:
options for improving land
transportation efficiency in
Barbados, the British Virgin Islands
and Jamaica**



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Economic Commission for Latin America and the Caribbean
Subregional Headquarters for the Caribbean

Expert group meeting to review a study on policy considerations for sustainable transportation in three Caribbean small island developing States: options for improving land transportation efficiency in Barbados, the British Virgin Islands and Jamaica

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**REPORT OF THE EXPERT GROUP MEETING
TO REVIEW A STUDY ON POLICY CONSIDERATIONS
FOR SUSTAINABLE TRANSPORTATION IN THREE CARIBBEAN
SMALL ISLAND DEVELOPING STATES: OPTIONS FOR IMPROVING
LAND TRANSPORTATION EFFICIENCY IN BARBADOS,
THE BRITISH VIRGIN ISLANDS AND JAMAICA**

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A. ATTENDANCE AND ORGANIZATION OF WORK

1. Place and date

1. The Economic Commission for Latin American and the Caribbean (ECLAC) convened an expert group meeting to review a study titled “Policy considerations for sustainable transportation in three Caribbean small island developing States: options for improving land transportation efficiency in Barbados, the British Virgin Islands and Jamaica”. The meeting took place virtually by Webex, on 6 October 2022.

2. Attendance

2. There were 12 persons in attendance including representatives from the following organizations: Ministry of Sustainable Development, Energy, Science and Technology, Saint Lucia; the Organization of Eastern Caribbean States (OECS) Commission; the University of the West Indies, Department of Civil and Environmental Engineering; Justin Ram Advisory; Ministry of Communication and Works, British Virgin Islands; Ministry of Works and Transport, Government of the Republic of Trinidad and Tobago; ECLAC subregional headquarters for the Caribbean and three case country consultants. Written comments on the study were also received from one subregional expert and Engineer in Traffic and Transportation Management.

3. Meeting agenda

1. Online registration
2. Agenda item 1: Opening of meeting
3. Agenda item 2: Presentation of report “Policy considerations for sustainable transportation in three Caribbean small island developing States: options for improving land transportation efficiency in Barbados, the British Virgin Islands and Jamaica”
4. Agenda item 3: Comments from study consultants
5. Agenda item 4: Discussion
6. Closure of the meeting.

B. REPORTING THE PROCEEDINGS

1. Opening of the meeting

3. The Deputy Director of the ECLAC subregional headquarters for the Caribbean welcomed all participants online. He explained that the purpose of the meeting was to engage discussion on the study “Policy considerations for sustainable transportation in three Caribbean small island developing States: options for improving land transportation efficiency in Barbados, the British Virgin Islands and Jamaica”. He noted that this study was important as it sought to explore policy issues related to land transportation in Caribbean small island developing States (SIDS) in the context of the subregion’s current challenges in providing sustainable and efficient land transportation, as well as its obligations to mitigate greenhouse gas emissions, to which land transportation was a significant contributor.

4. The Coordinator of the Sustainable Development and Disaster Unit (SDDU) also noted the importance of the study as a contribution to examining the role of land transportation in meeting the

development targets as specified under several Sustainable Development Goals of the 2030 Development Agenda as well as the Small Island Developing States Accelerated Modalities of Action (SAMOA Pathway).

2. Presentation of the report “Policy considerations for sustainable transportation in three Caribbean small island developing States: options for improving land transportation efficiency in Barbados, the British Virgin Islands and Jamaica”

5. In introducing this presentation, the Economic Affairs Officer of SDDU noted that the research was undertaken in order to respond to the growing challenge of improving the sustainability and efficiency of land transportation in Caribbean small island developing States, and particularly in light of the subregion’s obligations to mitigate greenhouse gas emissions (GHGs) under the Paris Agreement. He pointed out that transportation was pivotal to overall economic development, and that notwithstanding that international transportation systems were fairly well studied in the Caribbean, the area of internal land transportation remained relatively unexplored for the subregion. He noted that in terms of the issue of global climate change, transportation contributed up to 30 per cent of GHGs thus making it an important challenge for the subregion. Further, he emphasized that the Caribbean’s internal land transportation system was highly dependent on imported fossil energy, and alongside growing urbanization, and congestion, now required significant policy changes in order to enhance its sustainability and efficiency.

6. In setting the economic context for the analysis, he observed that transportation itself is regarded as a derived demand and reflects the state of economic activity in any country or region, since it was necessary for the movement of persons as both consumers and suppliers of labour and other production inputs. He outlined that this relationship was apparent with the growth of commercial shipping and international tourism over the past three decades. He also indicated that the sector was capital intensive, with investments being lumpy, which often required public sector investments in order to provide both the fixed and rolling assets necessary for transportation services. Hence, transportation services were typically subject to congestion of use given the open access nature of this type of infrastructure.

7. The Economic Affairs Officer then outlined the methodology of the study, noting that the two key metrics evaluated were per capita vehicles in use and per capita vehicle kilometres travelled, which were used as proxies for land transportation sustainability and efficiency respectively. For the three case countries assessed, the period of analysis was 2011–2020, and data were sourced from desk and field studies; intergovernmental bodies; transportation departments; planning agencies and Central Statistical Offices.

8. With respect to the study findings, it was reported that the analysis revealed that in all three case countries both vehicles in use and vehicle kilometres travelled showed generally upward trends over the past decade. This trend was temporality affected in the British Virgin Islands during 2017, when it was affected by Hurricane Irma in 2017, and in all the countries in 2020 as a result of the suspension of economic activities due to the COVID-19 pandemic. With respect to per capita vehicles in use, 2020 estimates for the countries were 0.50 (one vehicle for every two persons) for Barbados; 0.63 (1.26 vehicles for every 2 persons) for the British Virgin Islands and 0.24 (0.48 vehicles for every 2 persons) for Jamaica. These Caribbean estimates were higher than South America (0.21), Asia/Pacific (0.14), the Middle East (0.18), and Africa (0.05). Moreover, with the exception of Jamaica, per capita vehicles in use approached and/or exceed that of Europe (0.51) and North America (0.71). The Economic Affairs Officer pointed out that these comparative metrics provided an insight into the sustainability challenges which the subregion faced with respect to land transportation, since these measures were observed in the physically small space of Caribbean SIDS.

9. Considering vehicle use efficiency measured by per capita vehicle kilometres travelled, a 2020 annual estimated was made of 4,860 km for Barbados; 6,066 km for the British Virgin Islands; and 3,197 km for Jamaica. Like vehicles in use, these measures for the Caribbean case countries were also

high relative to the non-OECD (650 km) and the World (2,060 km) and were only exceeded by the OECD (6,650 km).

10. With respect to policy options for sustainable land transportation, he pointed out the following:

- Strengthen/restructure National Transportation Authorities
- Improvement in public transportation offerings
- Electrify public transportation systems
- Incentivize electric/hybrid vehicle ownership
- Support for electric vehicle transitions
- Encourage and support use of non-motorized modes
- Integrate sustainable transportation in national development policy
- Improve data collection and availability
- Renewable energy adoption

11. Several important limitations of the research were also presented by the Economic Affairs Officer, with the most important of these being:

- The difficulty in accessing relevant data
- No consideration of overland freight transportation systems
- The focus on GHGs emissions from fossil fuel combustion only
- No consideration of physical planning issues for urban and rural spaces
- No consideration of negative externality effects from the disposal of end-of-life vehicles and consumables into small island ecosystems

12. In concluding his presentation, the Economic Affairs Officer noted that the study provides only a preliminary look into the policy issues that are pertinent to the improvement of land transportation sustainability and efficiency in Caribbean SIDS. He expected that further assessments would be necessary in order to inform policy decision making with respect to the future development of land transportation in the subregion.

3. Discussion

13. The Economic Affairs Officer then invited the three consultants to share their insights on the final draft of the study and updates on their respective case studies.

14. The Barbados case study consultant identified a critical limitation of the study, this being the issue of costs related to effectively transferring the transportation sector from internal combustion engines to electrical vehicles. He informed that most governments have been focusing on reducing duties and this has boosted some uptake of this technology, but there is still a level of resistance. He also pointed out that one of the main related concerns was the potential waste generated when these electric vehicles are nearing their end of life. He suggested that strong policies were needed to tackle this issue. He further explained that in the case of Barbados, that country's thrust to becoming a carbon neutral state was progressing slowly even though it was the third in the subregion with respect to electrifying its public transportation sector. He also said that the cost related to this transition is high, and since this was an issue that all Caribbean countries faced, the issue of financing the transition was also to be addressed. Noting also that the Caribbean is poised to enhance its tourism product, he felt that the transportation sector was critical in providing support. He felt however that given that much of the public transportation capital is privately owned, this may limit the uptake of electrification. He suggested that the study should make recommendations as to how these policies could be supported financially. Finally, he also recommended the need to address the efficiency of the transportation subsector in the countries before addressing the other issues.

15. The British Virgin Islands case study consultant was in agreement with the comments on financing and efficiency by the Barbados case study consultant and raised additional concerns regarding the British Virgin Islands' peculiarities related to the data issues in the aftermath of Hurricane Irma and the COVID-19 pandemic. Further, he noted the importance of public education in supporting the transition to a more sustainable transportation system. He also informed the meeting that he had some updated data that he would share with the researchers subsequently. He observed that sustainable motor vehicle use was gradually increasing over time in the British Virgin Islands and electric vehicles (EVs) had become relatively common place especially in the private sector. He explained that the British Virgin Islands was in a unique situation as its new government was supportive of renewable energy (RE) and was pushing for the electrification of the public sector minibuses. He nevertheless pointed to the high cost related to operating EVs in the British Virgin Islands, since most EVs were not built for navigating through the islands' hilly terrain. Still, he informed that a local company was working alongside Tesla on improving the existing charging station network on the island.

16. In response, the Economic Affairs Officer recognized the key role public education would play in reducing the impact on land transportation in the context of high disaster frequency in the subregion. He also noted the implication of land transportation in enhancing visitor experiences, as well as supporting ferry services in the case of multi-island states. He suggested that these issues would need further enquiry going forward.

17. The Jamaica case study consultant shared perspectives on the uniqueness of the Jamaican transportation system which demonstrated high vehicular traffic despite that country's low vehicle per capita. However, he pointed out that public transportation usage was significant, especially in the Kingston metropolitan area, because of substantial urban sprawl. Further, he observed that the study did not fully explore the dynamics of public transportation since there was not much data to argue the case. Additionally, he felt that looking at the situation from a policy perspective and the ownership structure in the subregion could offer some guidance to address it. He pointed to the general trend in the subregion where most of the public transportation sector capital was privately owned, with governments owning a small percentage in comparison. Hence, he suggested that the challenge would be how to motivate the ownership to transition to more sustainable options for the sector. He highlighted that in Jamaica, the share of state ownership was higher than the other countries (33 per cent), and suggested that overall, governments should formulate their land transportation policies taking into consideration the private ownership of the public transportation infrastructure.

18. The Jamaica case study consultant also observed that a comparative analysis of the relative costs of importing electric vehicles versus hybrid vehicles versus gas was necessary for future policy decision-making. Indicating that currently the subregion is a large importer of EVs from South-East Asia, he questioned whether the compensation would be enough to cover the overall cost of importing these vehicles. He however reported that in the case of Jamaica, their policy stance had recently changed and that country was now a bit more cautious with the importation of EVs as the high cost may distort the market.

19. He also pointed to one of his main challenges faced while preparing the subregional report, this being the differing metrics used to capture transportation data across the three countries. He was unsure of the solution going forward but suggested a change in the methodologies used for data collection and statistical analysis.

20. In responding to this latter suggestion, the Barbados case study consultant believed that a metric which provided insight into the number of vehicles per kilometre in cities and countries was essential, as Caribbean vehicle ownership was unique. He felt that proceeding in this manner would provide better guidance in complying with the goals set out in the Paris Agreement.

Discussion and comments from the floor

21. The floor was then opened for comments and discussion. There was consensus that the study represented a good body of work that could lead to further inquiry to better understand the dynamics of the sector as the subregion moves towards sustainable land transportation.

22. The representative of Organization of Eastern Caribbean States (OECS), Coordinator of Climate Change and Disaster Risk Management commended ECLAC for its robust work given the paucity of data in this field. He further suggested the need to explore the social aspects related to persons' desire to purchase vehicles, noting that this might be a signalling to society that "one has arrived" or a need to demonstrate affluence. He also pointed to the importance of including physical planning in the analysis as this was central to finding appropriate solutions. He offered a few considerations in this regard such as the need to decentralize public services and zoning as is done in the United Kingdom of Great Britain and Northern Ireland where drivers are charged a fee to enter the city.

23. In response, the Jamaica case country consultant offered that possible reasons for the current low level of usage of public transportation could be attributed to convenience of a personally owned vehicle. He believed there was a need to decouple the economic side of the transportation challenge from the desire to own a vehicle, and to counteract this with a more robust public transportation system.

24. The representative of Justin Ram Advisory was of the view that society should not be built around vehicle ownership but rather that people should be encouraged to use alternative modes of transportation for example biking to their destinations. She referenced other nations which shaped their transportation systems around people's movement throughout their cities. As such, she suggested SIDS countries review their road networks in a similar fashion.

25. However, the consultant from Jamaica held a different view regarding alternative modes of transportation. He indicated that the Caribbean environment – the terrain, climate (heat and rain) would cause problems in adopting some of these transportation options. In some cases, cyclists, after a long ride will not be in a condition to work and will need to have a bath and refresh themselves. But such facilities were lacking in the workplace. Although he did not discourage the proposal of implementing bike lanes, he believed that it would not gain traction due to the cultural practices and environmental conditions. Moreover, he observed that bike lanes are a part of physical planning, for which in the case of the Caribbean, there was little room for change. Instead, he felt action should be focused on limiting urban spread.

26. The meeting also noted that across the subregion high levels of privately owned public transportation capital was evident – in the case of Saint Lucia it was 100 per cent, in Jamaica 33 per cent, with Trinidad and Tobago also having high levels of private ownership. This type of ownership was evident in their organizational structure of the Z vans in Barbados and the maxi taxis in Trinidad and Tobago. The meeting felt that the study should reflect these nuances. Therefore, in formulating policies, consideration should be paid to what strategies will be effective incentives and what approaches will motivate private owners to convert their fleets to electric vehicles. In the discussions, the importance of reliable and updated data in making these kinds of analyses was also acknowledged.

27. The Jamaican case country consultant believed this task was not insurmountable as that country's legal framework incentivized their private owners prior to the introduction of electric vehicles on the market. He however noted that renewable energy sourced from the grid was critical for sustainable transportation to be truly effective in the subregion.

28. The University of the West Indies (UWI) representative congratulated the ECLAC team for capturing a realistic macroeconomic overview of the transportation sector of the subregion and the plausible

policy options to address the challenges. One of his observations of the subregional landscape was the absence of transportation authorities or agencies capable of analysing and managing public transportation. He cited the Jamaica scenario as the closest to having a transportation authority in the Caribbean. In the case of Trinidad and Tobago, he indicated that there was no agency to address the medium to long term planning of this sector. Further, he shared the outcome of a UWI symposium that looked at the revitalization of dying cities in the subregion, integrated planning, private sector transportation and the use of information and communication technology applications to assist in mobility. He referenced the findings of a recent UWI survey on the transportation demand in Trinidad and Tobago in which respondents shared major concerns related to personal safety, reliability, and costs as the major factors. He reported that the survey showed that 31 per cent of the respondents felt unsafe in taxis, 21 per cent felt unsafe in buses and only 1 per cent felt unsafe travelling in their personal vehicles. This demonstrated the general 'on the ground' perception of transportation in Trinidad and Tobago.

29. The Deputy Director, ECLAC subregional headquarters for the Caribbean, inquired as to whether countries were addressing the increased demand on transportation systems which would likely arise as a result of booming housing developments, such as for example in Jamaica. The consultant from Jamaica recognized a similar trend in Trinidad and Tobago and suggested the implementation of alternative routes with incentives; the application of spatial technology to optimize the use of such incentives; and the adaptation to SIDS context of zoning options as applied in metropolis such as New York and London. The enhancement of the public transportation facilities such as redesigned bus stops, and installation of covered bus shelters to boost public transportation usage were other suggestions shared.

30. Most of the participants agreed that one of the major constraints to advancing public transportation sector was the lack of a designated agency or ministry to treat with regulating public transportation, through routine analysis such as for example, determining the capacity of the road network. The meeting participants welcomed ECLAC's efforts in shining a light on the issue, and there were suggestions for ECLAC to partner with UWI and the University of Technology in Jamaica to continue similar enquiry into this area of work.

31. The OECS representative raised two main concerns regarding the study. He suggested amending the first recommendation encouraging the formation of an overarching institution to address transportation planning in countries where this was absent. He further suggested the need to examine conditions that would make public transportation a viable option, particularly given that it required major cultural and behavioural changes over an extended period. Citing the reluctance of white-collar professionals to utilize public transportation to drive home his point, he emphasized that it would require all transportation stakeholders (bus operators, taxis, businesses, commuters and organizations) working together to collectively achieve a solution.

32. The Economic Affairs Officer admitted the study did not consider physical planning as that would require a specific set of skills to formulate an opinion but agreed that they could address this issue as part of the preamble. Regarding the issue of incentives, he believed that this might be more of a spatial challenge. Additionally, he suggested that the physical smallness of SIDS and the need to own a vehicle needed further examination. He proposed instead revisiting how towns and urban spaces are linked through the land transportation management system, as this perspective might be a better fit for the subregion.

33. The Unit Coordinator inquired about the gender dynamics related to implementing sustainable land transportation. She noted that many women travel either in their own vehicles or via public transportation in the late evening. There was agreement among the participants that safety and security of women in transportation was a serious concern.

34. The UWI representative pointed to the Trinidad and Tobago scenario where as much as 60 per cent of the people accessing public transportation were women. The consultant from Jamaica cited similar trends

in that society, noting further that it was primarily poor women who utilized public transportation services. He shared that several women reported feeling unsafe at bus shelters and travelling in the evenings or nights. He said that even using Uber type transportation services did not increase the feeling of security for women in that society.

35. The meeting also raised the question of freight transportation. The Economic Affairs Officer acknowledged that the study did not initially consider freight transportation, but in retrospect perhaps it may provide important insights into the holistic concept of sustainable land transportation in SIDS, in which case, an examination of first and last mile logistics issues may be valuable. The Jamaican consultant agreed on the value of that enquiry but noted that it might be challenging given the paucity of data. However, he believed with the application of geospatial tools there could be a possible workaround to arrive at a plausible solution. He presented a few options to encourage sustainable transportation in the subregion including improvement in biking and bus facilities; investigation in how trunk roads are used by buses and trucks; and the interaction with the feeder roads, delving into an analysis of how people travel to access services and how to best address the interconnectivity of the transport system.

36. The UWI representative added to the discourse the issue of intermodal facilities which would support persons switching vehicles as they move through the transport system. He shared the experience of UWI's travel demand household survey in east Trinidad, which revealed how people travel which enabled his team to make some projections in this regard. He noted that this survey looked at the household level demand, unlike ECLAC's study which explored land transportation issues at the macro level. He nevertheless felt that both approaches were quite insightful. The meeting recommended the exploration of a more modally integrated transportation system –walking, cycling, physical and urban planning strategies –which together could yield some further benefits of reducing GHG emissions while at the same time promoting health. The meeting however briefly debated whether Caribbean people would embrace to this approach as it was not believed to be innate to their behaviour.

37. The idea of transportation systems as a strategy that could involve a wide variety of needs in both urban and rural areas was also discussed, in reference to a multi-modal transportation system. The Barbados case study consultant felt that even though Caribbean people feared change, there were some instances where governments could motivate behavioural change through the application of appropriate incentives. He reiterated the strategy of public education in this context as useful for promoting behavioural change.

38. Another important point raised during the discussions was the issue of waste as EVs neared their end of life. It was suggested that the cost of replacing an expired battery and the environmental impact of improper disposal of these batteries should also be considered. For SIDS, the issue of waste was a major concern. The meeting was informed that there were persons in the subregion that had begun work in the area of battery replacement for both EVs and hybrids. Also, there was work being done with expired batteries so as to make them useable as emergency backup system for homes.

39. The Jamaica case country consultant noted that the subregion was a taker and not a maker of technologies so that governments were at the mercy of the population with respect to its choice of transportation technologies. He also affirmed that subregional governments also depend on high taxation on motor vehicles to partly support economic activity, and this was another aspect of the dynamic that should be explored. Finally, the Jamaica case country consultant indicated that in spite of what technology the Caribbean chooses to advance its sustainable land transportation evolution, globally by 2030, production of all internal combustion engines will cease, and that this is a hard deadline and critical deadline that subregional leaders must be aware of.

40. The meeting also agreed that the implications of economic externalities were critical and should be mentioned in the study. The meeting participants agreed that this was a pivotal issue, and that the subregion should not pursue this path without careful examination of all the implications.

41. Additionally, there was some discussion regarding whether an expansion of the road network would assist in alleviating traffic congestion, given that in a SIDS space, with the possible exception of Jamaica, this would not be an effective strategy. The meeting also suggested that the additional aspects of sustainable transportation such as energy efficiency and the effective use of transportation should be examined.

42. The British Virgin Islands case study consultant, for example, indicated that the population in that country was highly resistant to change, and might therefore be reluctant to embrace non-motorized transportation options. He suggested that public education to demonstrate the benefits of this approach to the people would likely be necessary. The meeting nevertheless noted that one intervention could be to focus on combining EVs in the public transportation network, while encouraging walking through the development of suitable walking spaces in the cities and towns.

43. The discussion turned to the role that culture plays in charting people's behaviours and explaining people's reluctance to modify their personal mobility modes. The meeting encouraged the integration of different modes of transport in SIDS so as to encompass the different activities people are involved in such as city walks for leisure, cycling to work, public transportation to school or for shopping.

44. The expert from Saint Lucia indicated that in the case of that country, whenever a cruise ship arrived at the main city, there was an instant increase in traffic congestion, with taxis competing for the tourists' interests. At the same time there was also an increase in pedestrian traffic. He observed that tourists liked to walk in the city notwithstanding that it was not designed to facilitate pedestrians. He noted that other Saint Lucian towns such as Soufrière and Gros Islet had evolved differently and were therefore more pedestrian friendly compared to the main city. He emphasized that these touristic towns evolved to accommodate free movement of tourists and urban planning was applied in creating these areas.

45. In concluding the discussions, the Economic Affairs Officer encouraged meeting participants to explore how visitors impacted transportation and how tourism towns differed from other official cities and towns with respect to the organization of their public transportation systems. Further, he stated that the intent of developing this study lay in the ability to shine a light on land transportation in SIDS. He noted that there were several dimensions to land transportation that were not explored previously. However, he was hopeful that this work will begin the discourse. One area he observed that will require closer examination in the future was inter-island transportation, such as for instance ferry transportation. He concluded that the local economy and social environment in small physical spaces also implied high environmental vulnerability to land transportation activities. Therefore, he felt that it is critical to understand the economic drivers related to how citizens make land transportation choices, and how this drives the economy. He thanked all the participants for their valuable contributions.

4. Closing of the meeting

46. The Coordinator of the Sustainable Development and Disaster Unit commended all the participants for their contributions to this body of work. She stated there were other stakeholders who were unable to attend but had nevertheless expressed their interest in commenting on the study which they would share via email. She further indicated that the study served as a starting point in engaging the subregion in the discourse on sustainable land transportation and by extension will serve the development priorities of the subregion.

47. The Economic Affairs Officer thanked the consultants for their contributions to the work and made special mention of the support provided by the Team Assistant and other members of the ECLAC team.

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