

**TRANSPORTATION SYMPOSIUM HOSTED BY THE DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING
HELD IN LECTURE THEATRE 2, SECOND FLOOR, BLOCK 13, FACULTY OF ENGINEERING,
UNIVERSITY OF THE WEST INDIES, ST. AUGUSTINE CAMPUS**

Title of Session:	<i>The impact of urban planning and socio-economics on the island's transportation system and planning for the future in transportation, given economic constraints</i>		
Names of Panellists:	Dr. Trevor Townsend – Moderator (TT) Dr. Rae Furlonge- Transportation Consultant (RF) Mr. Ryan Darmanie – Planning Consultant (RD) Mr. Linus Philip – Route 2 Maxi Taxi President (LP)		
Date:	May 16, 2019	Recorded by:	Deena Dass
Start Time:	9:00 a.m.	End Time:	10:30 a.m.
Concepts, questions and problems to be addressed:	<p>Below provides the topics the main panellists intended to cover during their session.</p> <p>Panel Member: Dr. Rae Furlonge</p> <p>Topics: Land use planning and economic development impacts on Transportation Systems, in terms of the economic constraints, such a topic can be structured under the following three categories:</p> <ol style="list-style-type: none"> 1. <u>National Interest</u> Typically decided in cabinet but suggests that this decision should not be determined without the appropriate tools and information. Such supporting information should come in the form of collaboration between agencies of government, developers and other major landowners (due to the topic of land use planning). This step should be done before the decision is being made, the decision needs to be analysed from the perspective of multi-criteria/ multi-object analysis. 2. <u>Obvious Limited Data</u> Last 25 years, RF's own research has been in the area of maximizing the use of secondary and limited primary data collection. Such limited data ranges from population and employment data from the Central Statistical Office (CSO). Data regarding the effects of neighbourhoods and communities; the problems of neighbourhood accessibilities and community disruption. 3. <u>Methods of Approach</u> - <i>what is decided on in a time of such economic constraints</i> There is a need for data collection, but in a time of such an economic constraint, we need to maximize on the information we have currently from all data collection bodies and collect what we really need in a dispassionate and parsimonious manner. We need to also address the national non-transportation factors, such as regional growth rate, quality of the schools, the crime issues, etc. All our decision making to date has been in the sphere of mobility, i.e. the ease with which movement can occur, such as speed or veh/km of travel, that satisfies the decision maker's objectives. In addition, accessibility is another factor being considered that connects spatial areas/ geographically dispersed areas. The link between these two factors, mobility and accessibility, in RF eyes have not given any/ much emphasis on accessibility, for when housing communities/ new developments are set up, the first line of work is "PH cars," because the residents utilize this form of transport more frequently than regulated maxis/ taxis due to "PH" being readily available. Land use design principles should be part of the impact situation on transportation; there 		

should be an increase in opportunities for social interaction, such as the implementation of a public transportation as part of the improved quality of life. There should be access for all members of the community, regardless of their economic situation, mobilities, safety, freedom of risk or danger. At night certain public transport terminals/ locations become drug dens in the night and people waiting for transport late at night use “PH” services simply because there are no other options. Regardless of the risk factor, residents take such risk just to travel. There is also a need to minimize the risk and conflict of movement/ confusion between vehicles, cyclist and pedestrians.

In Urban Centres the following concepts should be implemented:

- Provision of parking - too much parking can be an issue, whereas smaller disperses parking can be a preferred choice for a multitude of reasons. Providing pockets of parking throughout the area would/ can avoid conflict/ congregation between people.
- Minimize, instead of maximizing, the number of lanes in urban centres.
- Reduce the lane widths in urban centres - This concept leads to a reduction of allowable speed but enables a higher capacity and provides for all the modes of travel. Thus, introducing road sharing and harmony between the users of the road space for walking and cycling.
- Allocate subsidized transit fares - make the cost of transit use more competitive with automobiles. We have to be able to give priority to the administration of public transport management. We have never had public transport management in Trinidad and Tobago.

We should be able to encourage:

- Passenger Information systems
- A cluster of compatible and complementary land uses (office/ retail). This would eliminate the need to drive.
- Our future is tied to be able to minimize personal car ownership policy, which Trinidad has adopted over the last 40 years.

Panel Member: Mr. Ryan Darmanie

Topics: Urban Form, in terms of where things are located on the macro and micro level in the design of the environment. RD view is that Urban Form is not discussed much, but the transportation system and urban form are both intimately connected and affects each other. Urban Form affects the society and policy making in ways that we don't quite understand.

In the era of automobiles, not just in Trinidad and Tobago but globally as well, the issues of urban form are not addressed the way it should be. In terms of the local context, in the macro-level, urban form is affected by the government on the location of building housing developments, such as in the post-independence era, locations include Diamond Vale which was suburban areas outside of the city centres.

Other policies include:

- Fuel Subsidy – making it a lot cheaper for people to drive and reducing the cost of commuting long distances to get into city centres for jobs.
- Mortgage interest deduction, for tax purposes - this affects urban form especially in city centres where rental of properties are more likely than owning properties. Thus, skewing the housing market towards more suburban development so renters don't get the same benefits of persons paying mortgages, thus, affecting the location in which people decide to live.
- Media and what is portrayed on a greater platform on what is the ideal "perfect home." - this concept idealises the "suburban family home with a white picket fence" and sells this to citizens to what their goal should be.
- The biggest impact is planning regulations – This addresses the following concepts such as; How can the land be used? Type of use? Height of the building? Quantity of residential units? Such regulations are the most important factor that affects the urban form, and thus impacts the transportation system.

RD would ideally like to focus on planning regulations, at the macro level it has the biggest impact on where we can locate things, and at the micro level it impacts the site design, where do you place a building on the site? Is the building close to a sidewalk/ far from the sidewalk? If the sidewalk is near, this means a greater opportunity for community interaction between the people who are using the building and the people who are walking alongside on the sidewalk. Thus, creating a friendlier sidewalk environment, making users more inclined to use the sidewalk and walk to places/ their destination.

For places that are far from the sidewalk, people would quicker drive and bypass the sidewalk, there is no life, the street is not a comfortable place to be, for it is not safe, it is not interesting. Thus, creating a disconnect between commuters and their surrounding environment.

RD work revolves on focusing on planning regulations and reforming such regulations to guide it/ help us achieve a more sustainable urban form, where people are more inclined to walk to destinations, not because they want to, but because it's a useful option. Reforming the planning code regulations would seek to encourage mixed-use land, where people can access work, home and leisure all in one location and not need to hop in their car and drive from place to place. Thus, the reformation of the planning code is a key step towards more sustainable development and transportation system.

Panel Member: Mr. Linus Philip

Topics: In terms of planning in the country and how the Government plans communities, the first step they look at is the infrastructure for roads, drains and parking facilities, but the lack lay-bys for bus stops or an area designated for taxi stands. This concept coincides with RF's statement, regarding new developments, the first line of transportation systems are "PH" taxis, but this mode of transportation is neglected in the planning stages.

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	<p>The government plans communities with no access to transportation for the residence that does not possess vehicles and this is where the issue lies. In terms of rural transportation and planning for such areas, there are already major issues regarding congestion on the nation's roadways, but the plans only/ mainly facilitate private car ownership, as though this is the only encouraged form of transportation, thus worsening the traffic situation. Then, the government would look to “improve” the road networks by adding a lane to reduce traffic, but before you know these lanes are congested, so they seek to gain land/ use sidewalks and create more lanes or discuss alternative measures such as the rapid rail and park and ride options.</p> <p>People choose to drive their cars for convenience, so in dealing with congestion and reducing carbon emission, we need to discuss what it is going to take to convince people to leave their cars at home and travel. In terms of reducing carbon emission in Port of Spain, we need to create inner-city transportation. The Government suggested putting restrictions on the number of cars into Port of Spain or park and ride, but yet they do not have sufficient inner-city transportation to accommodate or replace such suggestions. The government also discussed subsidizing gas, but this would only encourage private car use and discourage people from travelling.</p> <p>The Government’s suggestions are all without merit, for when options such as restricting car use or fuel prices are suggested, something else needs to be implemented to replace such methods. LP views on such lavish suggestions by the government, such as the rapid rail, would only encourage people to use the system once, just for the experience and then revert back to using their private cars, which would lead to a demand for more subsidy measures from the public. Transportation needs to address the private car drivers and the persons who use public transport to get to where they need to.</p> <p>Another issue in terms of transportation is the length of commute, from home to work can take up to 2 hours, this reduced the productive hours. LP suggestions that offices can pay partial transportation fees, ensuring employees put in sufficient hours into their place of work. Thus, reducing the need for reaching late or leaving the office before schedule all in efforts to avoid traffic. Essentially, without a proper transportation system in the country, we lose productivity and money.</p>
<p>Issues for further/future discussion:</p>	<p>Panel Member: Dr. Rae Furlonge</p> <p>The Zonal System, for the traffic zones, using the land use models may be too aggregated. RF suggests that we may have to disaggregate such models or even subdivide the lands/ zonal system in order to achieve a higher level of detail.</p> <p>We need to seriously address the current population issues regarding not having an accurate/ even close to an accurate record of the current population in Trinidad and Tobago. There is simply no way in which CSO can venture into certain areas in Trinidad and Tobago, for safety reasons, thus skewing the population of the country to lower, unrealistic figures. RF believes that there are more than 2mil. persons residing in Trinidad and Tobago and this estimate is prior to the current Venezuelan influx of refugees.</p>

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	<p>Panel Member: Mr. Ryan Darmanie</p> <p>No one is discussing the means in which we can get people back into the city centres to live. Lack of discussion on a person’s desire to live segregated from social interaction and cities, which can lead to a breakdown of the social system and create distrust and influence crime rates. This segregation is becoming more and more predominant and such issues need to be addressed, especially since the transportation system is linked to the urban form/ sprawl. We need to address the means of encouraging social interaction and the need for people to want to live amongst each other once again.</p>
<p>Audience interventions, doubts, inconsistencies and conflicts:</p>	<p>1. Question: What is meant by the need/ suggestion for more public transportation subsidy? <i>(Question by Dr Williams)</i></p> <p>Response By: Dr. Rae Furlonge</p> <p>Response: The public interprets that PTSC is the manager of public transportation, which is untrue. The overall administration of national transport has never been done in Trinidad. In a 1967 study, the consultants recognized that “PH” existed, partially serving persons along the East-West Corridor and transporting people from the hills (St. Joseph, etc.) and their suggestion of dealing with this issue was to “flood” the market with more PTSC busses annually up until 1985 and construct PTSC malls and thought that would solve the problem for public transport.</p> <p>RF suggestion of subsidy isn’t necessarily to give money to the public/ to buy more buses but to give an incentive for attractive, convenient, cost-effective national public transport and take away the subsidy from private automobile users. This “push and pull factor” shifts the money from fuel subsidy for the private users to either across the board vehicle ownership or management purposes for public transportation.</p> <p>We need to encourage attractive means of encouraging persons to want to use the public transportation system. The next step would be to disinterest private car ownership/ use by incorporating heavy penalties to use parking facilities (from \$20.00 to \$100.00).</p> <p>2. Question: What can be implemented for proper transportation education? Proper route education for the persons who use the public transportation system that is not familiar with the routes.</p> <p>What is your take on the impact of Uber? Are we ever going to get rid of “PH” taxis? How do you see the “PH” being implemented in RF’s plans to boost public transportation? <i>(Questions by Dr. Valerie Stoute)</i></p> <p>Response By: Mr. Linus Philip, Dr. Rae Furlonge and Dr. Trevor Townsend</p> <p>Responses:</p> <p>LP – “PH” has taken over in POS, because they don’t need to pay fees (for taxi badges, licensing and insurance (High risk category – twice the cost)) and the licensed taxi stands were taken from inside POS to the outskirts, so for a traveller, especially when raining, would prefer to</p>

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use the “PH” to drop off in the heart of POS as oppose to the outskirts at designated taxi stands and walk to their destination.

These are examples of why “PH” flourishes:

- It is easily accessible anytime and any day.
- At most locations where taxis/ maxis are not allowed/ wouldn't go.
- It all comes down to there not being a proper transportation system in place, so persons using the public transportation would simply take what they get/ what is available to them when they need it and what is most convenient to them.

The issues on “PH” drivers and having a more systematic transportation system (proper transportation regulations):

- Need to be addressed by the Government/ Authority regarding the implementation of proper transportation regulations.
- Revision of how persons obtain a taxi badge – such as minor police charges prohibiting potential taxi drivers from applying for a taxi badge.

In order to eliminate “PH” drivers, improvements must be made to the current taxi system.

RF – “PH” is a symptom of a lack of understanding of the transportation system. The level of thinking by the persons who are charged with the responsibility to take us forward in terms of transport is very concerning. Such persons do not grasp the severity of the issues surrounding public transportation, such as safety of women travelling at night.

In terms of Uber, the app is simply a modernized and efficient form of “PH,” these apps simply take you exactly where you want to go. RF predicts that Uber would return to Trinidad and Tobago, and when they do airport taxis and taxis throughout the country would go out of business due to their efficiency over the current system.

“PH” would be eliminated automatically only when there is proper management of the entire network of public transportation operators. RF has attempted twice to initiate measures from “The Institute for the Development of Public Transport Policy” to the Government and provide a solution/ options as to how they can introduce bus rapid transit to Trinidad and Tobago, but his attempts were futile. The Government, and by extension Trinidad and Tobago is simply not ready, and when we are ready for such changes, “PH” would disappear.

TI – In terms of Uber, Trinidad and Tobago already have a service called Ride Share which is essentially the same concept. At international conferences, they discuss such Transportation Network Companies (TNC) and the issues TNC are creating for the traditional taxis and transit operators and the safety associated with using such services. What can be learnt from such discussions of both the “PH” and the TNC, is that they are simply fulfilling a particular kind of need and when we recognise such need then we can

try to understand, especially in an era of such economic constraints, that need is a key element regarding making decisions about buying a car. Buying a car does not solely depend on whether they have a rapid line haul system, but it also depends on that last- and first- mile, and the miles in between. TT believes that based on our own limited experience that we believe the entire country behaves the way we do and the trips/ tours contain fundamental components that affect whether or not you have decided it's time to purchase a car. Essentially, commuters think about their whole trip and not just their need to get from one place to another, they consider each individual trip (short/ long haul). Thus, internationally, more and more progressive transit operators are recognising that they can partner with private sector TNCs to prove a better quality door-door service that is seamless. This level of thinking requires a radically different understanding of transportation, in terms of how you plan for it and provide people with what they need, or even what or who is subsidized must change in order to obtain the results we desire.

TT supports TNCs and not "PH," and suggests for the Government to insist on any TNCs operating in Trinidad and Tobago utilizes legitimate, bona fide, certified, authorized taxis and drivers. Ideally linking and partnering the Taxi Associations with such TNCs, eliminating unnecessary conflict between these services.

3. **Question:** In terms of supply and demand, if the demand is not there, the transport operators would not provide the supply. For example, in residential areas, such as Maracas Valley, there is no real public transport, aside from private taxis/ "PH." Especially in the night, where there is not much of a demand, the wait for public transportation is not ideal. Trinidad and Tobago lacks flexibility in terms of transportation operator's routes and options for the commuters. *(Question by Mr. Cecil Chin)*

Response By: Mr. Linus Philip and Dr. Philbert Morris (PM)

Responses:

LP - Regarding the Maxi-taxi system, and how they operate, there is a lot of flexibility as opposed to the PTSC. According to surveys, ~75% of the population utilizes public transportation, not just for convenience but such systems operate at no cost to tax-payers, and at the end of the day money drives the system. If a PTSC driver only makes one trip, that operator gets paid for the day, but if a maxi driver does not work, they simply don't get paid.

In terms of colour coding the maxis (red band, black band, etc.), this ensures that not every operator works in the area with the most demand, but throughout the country, thus, spreading the supply of transportation throughout Trinidad and Tobago. However, in rural areas, yes public transportation is lacking, thus, LP suggests that adding additional colour coded services in such rural areas. Such suggestions include, for an extension of the red-band route, have chequered red-band that supplies operators and restricts them to rural areas within the red-band zone. LP believes such an extension of the colour coding of public transportation will be successful due to the success of the current coloured-band maxi

system for the main roads.

LP urges that the Government/ stakeholders need to pay proper attention and stay abreast with the flaws and initiate useful improvements to the transportation system within the country, they simply lack control over the regulations that govern the system. Such improvements include updated archaic regulations, for the last amendment was in 1996, where we went from owner driven to drivers into the system and no accommodation in the regulations has been made for the governing of latter (drivers) into the system.

PM – There were maxis in rural areas such as Maracas Valley, but they are all being driven out of work by “PH” operators. This nationwide issue has caused the number of taxis/ maxis to decline and stick to the “main routes,” we simply don’t see the relationship between the rises in the illegal “PH” and the concomitant rise in the general illegality in the country. If we cannot implement laws for something as simple as having taxis/ eliminating illegal “PH,” then we cannot implement any laws.

Policymakers/ decision makers drive their private vehicles/ utilize priority transportation networks, so their interest in improving/ addressing the public transportation system is simply not there. PM views the Ministry of Transport as not being for the people utilizing the public systems, but for political reasons. The fact that Trinidad and Tobago never had an independent Ministry of Transportation says a lot on how the government/ country views transportation.

4. **Question:** The discussion is really between the Urban and Rural form because the transportation system is designed to serve a particular kind of form. In terms of all what is being discussed, to what extent is the issue of that Urban and Rural Form a key element in it and how do we address this going forward? *(Question by Dr. Townsend)*

Response By: Mr. Ryan Darmanie

Response: RD believes that people have already decided what the urban form must look like and makes everything else fit that idealized urban form. People have decided that they want to have a situation of urban sprawl consisting of that idealised single-family suburban home and live away from the city centres. Planners are more concerned with getting the jobs out to the people as opposed to getting the people to the jobs, and with the predetermined urban form/ outcome, they now have to play "catch up" to serve that need.

RD believes that this is the wrong approach and the entire concept of decentralization is not the cure for all. Having sprawling urban form, not only has economic implications, but can also lead to weak urban centres where you lose a lot of the benefits for urban agglomeration and economies of scale, but these issues are rarely addressed. There is also the issue of social isolation, where more and more people are looking to segregate themselves from each other and urban centres, thus, creating a breakdown of social interaction, increase in loneliness due to households now consisting of just one person (~20% of households are single occupancy).

The American culture has greatly impacted and influenced our development of the environment

and urban system where persons more desire to live alone and no longer trust each other, which can often lead to crime.

Trinidad and Tobago need to identify exactly how to address this issue/ problem and what exactly we want from the urban form system.

5. **Question:** How do we ensure that the transportation systems that we develop (whether it is via public/ private investment) encourage the right type of urban development, regarding the issues raised above by RD? Besides the recent investments regarding car parks and those that have been incentivised, given the current economic situation of limited funds. *(Question by Dr. Townsend)*

Response By: Dr. Rae Furlonge

Response: Islands in the Caribbean all have their unique transportation system, for example in Jamaica with Halfway Tree, in Barbados with their Transport Authority, in Grenada they have parking facilities above the transit system. In Trinidad and Tobago, we lack transportation authority/ transport administration, proper scheduling, proper financial management (money from passenger fares is not enough to fund the system).

With proper authority/ transportation board the following can be done:

- Sufficient schedule so that the operators would be selected for particular routes.
- Sufficient fare/ monetisation management for cashless operation, thus, reducing the chances of rubbery for the operators.
- Vehicle monitoring within the public transportation system. Possible introduction for smart cars to properly record trips made for each operator and scheduling purposes.
- Payment of operators via proper route tracking from the step above. This is reviewed by said authority/ board and then the driver is subsidised for his work done. This would encourage sufficient zoning of operators, a variety of types of vehicles (bus/ car based on the demand).
- Land preservation – by properly managing the public transportation system, the major benefit is the use of less land for such a system.
- Guaranteed public transportation for persons who resides in remote/ rural areas. This would also encourage interactions and opportunities to eliminate social segregation, where people are more encouraged to use public systems as opposed to travelling by themselves in their private vehicle.
- Create an opportunity for Public-Private Partnership for the transport operators with the incentives listed above. Thus, introducing persons to come into the business of public transport that is governed by an authority.

6. **Question:** What does the most viable solution look like? *(Question by CNC3)*

Response By: Dr. Trevor Townsend

Response: The reality is that there is no one size fits all solution that we can come up with now, there are a lot of issues regarding data collection and analysis; issues with matching demand to

supply and vice versa; issues regarding the designing that is required for the appropriate transport system and a multisectoral issue.

There is simply no single solution because there is no single problem.

7. **Question:** Do some of the responsibility/ problems reside with the public transport system for not providing adequate transport for particular areas within Trinidad and Tobago where “PH” or maxi-taxis would not venture into? What measures can be put in place to address security concerns regarding travelling to and from unsafe areas, both for the users and the operators?
(Question by Legal Alexander from TTT News)

Response By: Mr. Linus Philip

Response: Simply put, if persons from Laventille want to operate taxi/ maxi services in Laventille there are certain procedures/ protocols they need to follow in order to obtain their relevant operator’s license. The typical non-Laventille resident would not operate or travel to and from Laventille.

TT - Issues regarding safety and measures that can be put in place is to be addressed later in the symposium.

8. **Question:** Are we thinking radically enough or are we thinking too conservatively? We live in a global environment of massive and rapid change where technological changes are driving the way in which the world is going.

Internationally, decisions regarding the transportation systems are very radical for example:

- Banning diesel vehicles/ all vehicles from city centres.
- Committing to eliminating ICE engines completely from certain counties.
- Improving one way systems.
- Park and ride.
- Having an efficient inner-city maxi/ taxi system.
- Closing some streets down and making them pedestrian-only streets.
- Using technology in a much more aggressive way.

Not too many suggestions/ proposals regarding solutions were proposed that can be done that is of a relevantly low cost/ quickly that can have a big impact. Every citizen in the country suffers due to the poor transportation system structure we have and even though the forum lacked political input, they can bring a degree relief to all of us in terms of transportation *(Question by Dr. Graham King from Mechanical Engineering)*

Response By: Dr. Trevor Townsend

Response: We need to first separate short, medium and long term issues. A lot of the suggestions, such as one-way streets, deal with short term traffic congestion. However, majority of the issues raised in the context of the theme of the symposium is that we have planning and administration problems which are medium and long term problems and if these issues are neglected we keep trying to solve short term traffic congestion by doing short term traffic management that is uninformed. Such short terms solutions include the routing in St. James or

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	<p>the proposed interchange at Curepe or the constructed interchange at Grand Bazaar. Such an interchange is simply a means of storing vehicles that are waiting because they are in congestion, as opposed to reducing travel time and solving the long term traffic issue.</p> <p>The reality is that there are no short term solutions to long term problems. Hence, such symposiums are proposed to understand that there are multisectoral problems that are for medium to long term issues to be resolved notwithstanding the need to take short term actions, but such short term actions must be informed in terms of information to analyse the science of traffic engineering. If we are not applying the traffic engineering science to traffic engineering problems then we are simply guessing at an ideal solution, which has been the issue for years.</p> <p>The issue lies in first understanding the underlying problems, which are of the fact that there are planning, urban form and administrative issues that play a major role in the transportation experienced today. Once such information is understood, we can then utilize said information, adapt ICT and analysis solutions going forward.</p>
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Title of Session:	<i>Presentation/ Panel Discussion</i>		
Names of Presenters:	Mr. Adande Piggot – Traffic Engineer, Traffic Management Branch, Ministry of Works and Transport (MOWT) Dr. Godfrey St Bernard – Research Fellow, SALISES, UWI Mr. Lacey Williams – Director, CARITRANS Ms. Leah Wright – PhD Student, Transportation Engineering, UWI		
Date:	May 16, 2019	Recorded by:	Kohan Dolcy
Start Time:	11:00 a.m.	End Time:	12:30 p.m.
Session 1	<i>National Transportation Planning Framework - Yesterday, Today and Tomorrow By Adande Piggot</i>		
Key Ideas, major points, significant results	<ul style="list-style-type: none"> ✓ Many of the projects from the 1967 National Transportation Plan (NTP) are still incomplete; ✓ Both hard and soft projects have been proposed since, some of which are still in progress (e.g. Incident Management Pilot Program, Traffic and Parking Management in urbanized areas, Spot Speed, Red Light and Demerit Points System, Highway Construction, etc.) ; ✓ A new national transportation plan will soon be developed to address the current and future issues (e.g. safety, accessibility, affordability, efficiency, resilience, environmentally acceptable and technology innovation). 		
Concepts, questions and problems to be addressed:	<ul style="list-style-type: none"> ✓ Data collection is key to carrying out the plans for ‘today’; ✓ The demand side of the transportation issues is not being addressed – an improved vehicle inspection can address this if the approach is well planned; ✓ The focus is usually on short term solutions but medium and long term solutions also need to be presented. 		
Issues for further/future discussion:	<ul style="list-style-type: none"> ✓ Feedback and contribution to the new NTP are welcomed by the MOWT. 		
Audience interventions, doubts, inconsistencies and conflicts:	<ul style="list-style-type: none"> ✓ Based on the presentation, the 1967 NTP and elements of the Vision 2030 are the major influencers of today’s transportation logistics. Why are we being guided by a 50-year old plan that was developed in an era of highway building as a solution? ✓ There appears to be no relationship between transportation planning supply and demand; ✓ No mention was made about the National Spatial Development Strategy (NSDS), land use, urban form and their integration into the new NTP ✓ Has a policy study been done with respect to the NTP? How much money will be spent before the necessary studies are done? <p>Response: We are not putting down projects in an ad-hoc manner – we are following government policy. There is no need to worry because it would not be possible for a consultant to complete the NTP and not account for the spatial aspects.</p>		

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<p>Session 2</p>	<p><i>The Sociology of Ground Transportation in Trinidad and Tobago</i> <i>By Dr. Godfrey St. Bernard</i></p>
<p>Key Ideas, major points, significant results</p>	<ul style="list-style-type: none"> ✓ We should be proactive in treating with the problems that currently exist with ground transport; ✓ The population of Port of Spain (POS) has decreased while the overall population of Trinidad increases; ✓ Key variables that influence ground transport include i) motorization; estimates of real output; and iii) population size. ✓ Given the Central Statistical Office (CSO) projections, the population that is most likely to be road users (i.e. persons between 15 and 64 years) is expected to remain rather constant with time.
<p>Concepts, questions and problems to be addressed:</p>	<ul style="list-style-type: none"> ✓ We must understand how modes of transport operate in order to develop a proper transportation system; ✓ Data is required to support the choices made – collection must be encouraged at a municipal level as well as at a national level.
<p>Issues for further/future discussion:</p>	<ul style="list-style-type: none"> ✓ The CSO needs to define ‘urban’ and ‘rural’ in the context of development. Until then, policy prescriptions will not be applicable; ✓ Census data collection involving origin-destination trips has not been done since the 1980s – this is necessary for planning in cities.
<p>Audience interventions, doubts, inconsistencies and conflicts:</p>	<ul style="list-style-type: none"> ✓ Samantha Chedee PhD student of UTT in 2015 has defined ‘urban’ and developed an ‘urban intensity index’ as a quantitative definition of urbanization for Trinidad and Tobago. This information has been published and the intention is for the GoRTT/CSO to adopt and apply accordingly. <p>Response: Dr. St. Bernard is aware of this study but he was speaking from the context of the preparation of official statistics. It is good that the forum has provided an opportunity for the work to be made public. There are competent researchers who complement the work of the CSO and assist in driving the advancement of knowledge, but their work is not being utilized.</p>

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Session 3	<i>Travel Behaviour in Trinidad: A better Understanding</i> <i>By Leah Wright</i>
Key Ideas, major points, significant results	<ul style="list-style-type: none"> ✓ The traffic problem is a result of the poor management of the transportation system; ✓ Accessibility, time and comfort are major deciding factors in selecting transportation modes – cost is not as important to the users;
Concepts, questions and problems to be addressed:	<ul style="list-style-type: none"> ✓ There is little focus on the difference in the behaviour of private transportation and public transportation users in Trinidad; ✓ The presenter found that private car users do not consider public transportation within their choice set. What do the users see as major issues? <ul style="list-style-type: none"> ○ The no. of trips required for a tour; ○ Comfort; and ○ Safety.
Issues for further/future discussion:	<ul style="list-style-type: none"> ✓ The multi-modal perception is a deterrent for the private car user to switch to public transportation;
Audience interventions, doubts, inconsistencies and conflicts:	<ul style="list-style-type: none"> ✓ The study presented focuses on a very narrow demographic with people who have access to private transport. The study should be repeated using another demographic with a lower income and likelihood of a different split between private and public transportation users <p>Response: The original intent was for the area under study to have access to all of the transportation modes. The presenter will repeat the exercise to get a broader range of information on travel behaviour.</p>

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Session 4	<i>Data Collection: The Need, The Gap and the Future</i> <i>By Lacey Williams</i>
Key Ideas, major points, significant results	<ul style="list-style-type: none"> ✓ Early identification of the problems is key. ✓ Data is necessary for problem identification, situational assessment, validation and performance measurement; ✓ Historical data is lacking and therefore some estimation and guessing is necessary. However, data estimates are sometimes very far from the actual values; ✓ Data collection strategies must have clear and measurable objectives that are in line with the intended objectives.
Concepts, questions and problems to be addressed:	<ul style="list-style-type: none"> ✓ The lack of information is a hindrance to making informed decisions; ✓ The numerous initiatives that have been implemented need to be assessed.
Issues for further/future discussion:	<ul style="list-style-type: none"> ✓ Red light running and spot speed detection should adhere to the lessons learnt in other jurisdictions and be incorporated into the NITP; ✓ Planning is essential in for us to meet our objectives – understand the problem, plan the solution, implement, then assess and reassess; ✓ Connected vehicles, smart infrastructure and big data must all being incorporated into the planning and decision making.
Audience interventions, doubts, inconsistencies and conflicts:	<ul style="list-style-type: none"> ✓ Clarification was requested on the definition of the 85th percentile as a transportation term. Is it that all the speeds were measured and the stated speed limit was the 85th percentile? Meaning 85% of the population sampled was driving at or below that speed? Response: It's a measure used to assess the speed at or below which 85% of the drivers drive. In traffic engineering, it is typically a measure of the speed which they consider reasonable given the traffic conditions. It is an arbitrary selection and implies that only 15% of persons will exceed that speed.
Other points/Summary for all 4 Presentations:	<ul style="list-style-type: none"> ✓ We cannot maximize anything if we are not collecting the correct data - we need to start with proper planning and the involvement of consultants from the beginning; ✓ A lot of transport plans have been initiated by the government but were never approved by cabinet. Similarly, it is in nobody's interest if this and other work by researcher's is being done but not reaching the point where it is going to inform the decision making; ✓ The symposium was intended to bring collective and multidisciplinary wisdom, knowledge and experience forward. We are doing our part by having this informed discourse. ✓ We need to press for the feasibility studies, continuous data collection and data analyses done; ✓ We need to start thinking about bringing goods and services to people as opposed to them having to go out to use them; ✓ Accessibility for disabled persons needs to be highlighted and integrated into transport planning. ✓ Data collection for night time travel is also very relevant.

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Title of Session:	<i>Plenary Discussion: The Next Steps</i>		
Names of Panelists:	Dr. Trevor Townsend – Moderator Ms. Onika Morris-Alleyne- Moderator Ms. Leah Wright- PhD Candidate Mr. Adande Piggott- Traffic Engineer, Traffic Management Branch (MOWT) Dr. Godfrey St. Bernard- Research Fellow, SALISES, UWI Mr. Lacey Williams- Director, CARITRANS		
Date:	May 16, 2019	Recorded by:	Rekha Rampit
Start Time:	12:30 p.m.	End Time:	1:30 p.m.
Concepts, questions and problems to be addressed:			
Issues for further/future discussion:			
Audience interventions, doubts, inconsistencies and conflicts:	<p>Question 1- What plans are put in place to move forward? To what extent does the plan take into consideration of future plans? Are policy studies taken into consideration?</p> <p>Response: Yes, a policy plan is taken into consideration. Extensive data gathering, historical data would also be used to make a comparison</p> <p>Question 2- How do these large figures justify such large construction? What is the level of feasibility to justify the cost of expenditure?</p> <p>Response: NTP 1967 gave concepts to develop a national highway grid. Especially the Toco highway, the MOWT is guided by the government policies</p> <p>Other questions asked during this session of the symposium'</p> <ul style="list-style-type: none"> • How can we encourage leaders to think about the transport of people? • How does the transportation issue affect the elderly citizens of Trinidad and Tobago? • How do we collect data and what is the right method to collect data? • How does disaster preparedness relate to the transportation management system? 		

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Other points:	Other Policy Questions raised by Dr T. Townsend; <ul style="list-style-type: none">• What is our policy as it relates to elderly persons?• What is our policy with motorists versus non-motorists?• What is our policy in terms of government subsidy?• What is our policy as it relates to regulation of the maxi-taxi system?• What is our policy as it relates to additional lanes?• What is our policy as it relates to private and public transport?• What is our policy with respect to Tobago transport?• Who should be implementing measures within the NTP?