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VANUS INVESTMENTS LIMITED

ANNEX IV (G)

EXPANDED CIVIL INFRASTRUCTURE

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TABLE OF CONTENTS

1. Executive Summary.....	2
2. Introduction	3
3. The Interconnected Nature Of The Physical Infrastructure Supporting Carnival	4
4. The Physical Infrastructure Supporting the Carnival Industry	5
4.1. Impact of the Major Events on the Carnival Infrastructure, Problems Created and Possible Solutions	5
4.1.1. Fetes and Shows	5
4.1.2. Competitions.....	7
4.1.3. Panorama	7
4.1.4. Parade of the Bands.....	7
4.1.5. Temporary Structures	9
4.1.6. Data Requirements – Pre-requisite for a Solution.....	10
5. The Primary Focus of Innovations.....	11
6. The Design of a Strategy for an Awareness Program	12
7. Recommendations to Improve the Carnival Product	13
7.1. ALTERNATIVE RECOMMENDATIONS.....	13
7.1.1. The Fete Industry	14
7.1.2. Competitions including Panorama.....	14
7.1.3. Mas – Parade of the Bands	14
References	16

1. EXECUTIVE SUMMARY

This report was prepared for Vanus Investments Limited, a company commissioned by the National Carnival Commission of Trinidad and Tobago (NCC) to prepare an Aide Memoire that amounts to the design of a sector wide program for measuring the social and economic impact of the Carnival Industry and the subsequent design of consequential policy, strategy and implementation methods.

In accordance with the terms of reference provided by Vanus Investments Limited, this report is divided into the following four (4) sections:

- I. The interconnected nature of the physical infrastructure supporting carnival.
- II. The physical infrastructure supporting carnival and regarded as essential to the sustainable development of carnival.
- III. The primary focus of innovations, taking into account current and anticipated trends in related technologies and markets.
- IV. The design of a strategy for an Awareness Program

The NCC, as the national body responsible for Carnival, has the responsibility to provide the required carnival infrastructure for all of their sanctioned events. Wherever there is a carnival event, all the necessary infrastructure needs have to be provided and wherever there is a need for one service, there is a need for all the others.

The Carnival events have grown significantly over the years in both scale and number, however the capacity of the Civil Infrastructure has remained relatively unchanged during this period. The result of this difference in growth rate between supply and demand is that the demand for infrastructure facilities has outgrown the supply with resulting congestion and bottlenecks in the system. An industry has emerged with characteristics being displayed as a result of a lack of planning.

The growth in the carnival industry has been facilitated by innovations of the product and the process. Significant innovations have taken place within the mas bands. To a lesser extent, innovations have also taken place within the Steelbands.

Innovations in the use of civil infrastructure have been minimal and have been driven by trained technical personnel and entrepreneurs utilizing technology.

The problems associated with carnival in Port of Spain have led stakeholders to conclude that the festival has outgrown Port of Spain and the Savannah. Carnival as an industry stands to suffer if solutions are not found to address the current and developing problems.

Solutions must include an Awareness Program directed towards the stakeholders and highlighting the benefits of the development of carnival as industry. An Awareness Program must start with a governance system that includes stakeholders and the impact that such inclusion could have on policy and on democracy.

2. INTRODUCTION

Carnival in Trinidad and Tobago takes place on the Monday and Tuesday just prior to the beginning of the Lenten season on Ash Wednesday. The carnival season however *unofficially* commences four (4) to six (6) months before the actual two (2) day event with numerous very large fetes being held all over the country. As the two (2) day Carnival event approaches, activities intensify with more frequent fetes accompanied by competitions which include Steelbands and Calypso. A recent trend in the celebrations is the addition of Shows to the landscape by major artistes. The Parade of Bands through the streets of the various towns and cities in Trinidad and Tobago where carnival is celebrated is the culmination of the Carnival festivities.



The major Carnival related events which place peak demands on the Civil Infrastructure can be separated into the following three (3) classifications: Fetes & Shows, Competitions and the Parade of the Bands. In the current setting, none of these events would however be possible without significant temporary facilities being made available by the NCC to accommodate the events and their patrons. Each of the above events will be examined in detail with respect to its demands that are placed on the Civil Infrastructure.

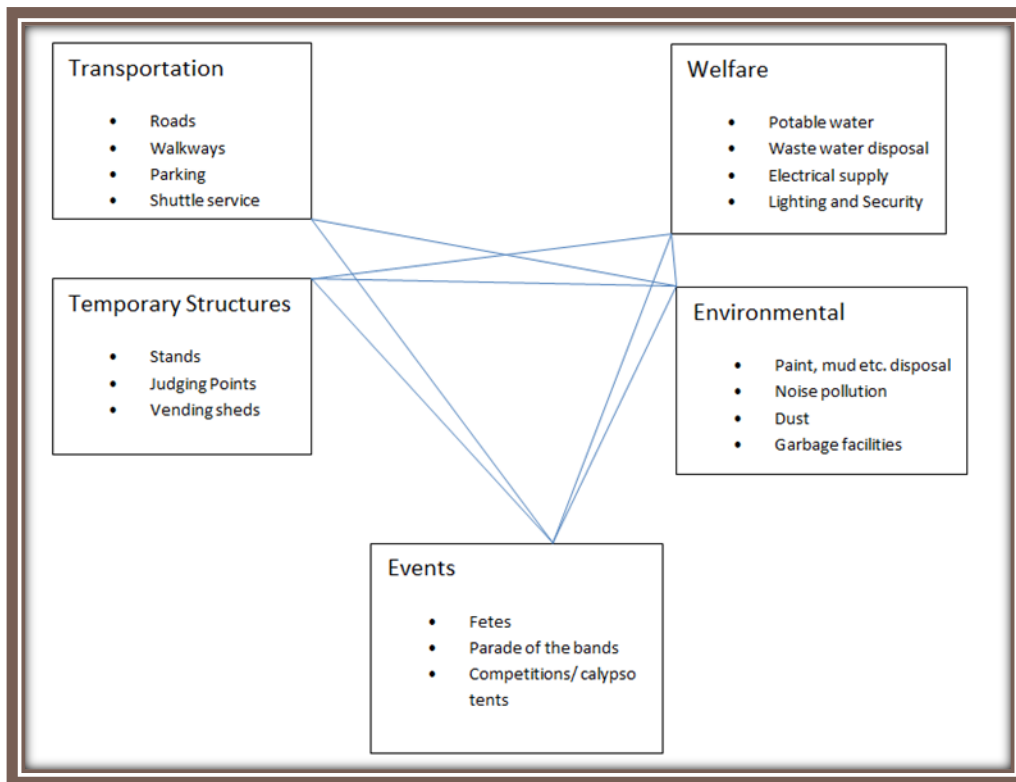
3. THE INTERCONNECTED NATURE OF THE PHYSICAL INFRASTRUCTURE SUPPORTING CARNIVAL

Figure 3-1 broadly separates the physical components of the carnival infrastructure into four (4) main areas and shows the linkages between these components. The four (4) main areas are as follows:

- I. Transportation
- II. Temporary structures
- III. Welfare
- IV. Environmental

Figure 3-1 also shows the events which give rise to the demands on the carnival infrastructure. It is worth noting that for every carnival event, all the infrastructure needs have to be provided, hence their interconnection.

FIGURE 3. 1



4. THE PHYSICAL INFRASTRUCTURE SUPPORTING THE CARNIVAL INDUSTRY

Table 4-1 “Civil Infrastructure Demands of Carnival” provides a snapshot of the demands placed on the Civil Infrastructure by Carnival and serves as the basis for identifying the data requirements that are needed as input into requisite solutions to improving the “supply” of the infrastructure.

Table 4. 1 - Civil Infrastructure Demands of Carnival				
Major Event	Transportation Related	Temporary Structures	Welfare	Environmental
Competitions	High	High	High	High
Parade of the Bands	High	High	High	High
Public Fetes & Shows	High	High	High	High

The following comments provide clarity to Table 4.1:

- I. Competitions include Steelband/ Dimanche Gras/ Soca Monarch etc.
- II. Public Fetes and Shows. Shows (as a fairly recent addition to the carnival landscape) include events put on by specific high caliber artistes.
- III. Transportation includes public transportation, public roadways and parking & shuttle service. Public transportation by sea (ferry) needs to be included in instances where Tobago based steelbands appear in the National Panorama competition.
- IV. Temporary Structures include Structural Steel Stands & associated Seating, Wooden Stages, Lighting & Sound Systems including their dedicated Structural Support Systems, Vendor Booths and Tents
- V. Welfare includes Potable Water Supply & Waste Water Disposal Systems, Toilet Facilities including Sewerage Disposal, Power & Lighting, Evacuation Routes
- VI. Environmental includes Noise, Dust and Garbage Collection

4.1. IMPACT OF THE MAJOR EVENTS ON THE CARNIVAL INFRASTRUCTURE, PROBLEMS CREATED AND POSSIBLE SOLUTIONS

The following sections of this report identify the demands placed on the civil infrastructure by carnival, the problems created and offer possible short term solutions to the problems.

4.1.1. FETES AND SHOWS

Hosting a fete requires that the promoter satisfy certain guidelines established by the Environmental Management Authority. These guidelines include, but are not limited to, the following:

- I. The public welfare facilities required

- II. The number of parking spaces required
- III. The location of the event (proximity to a residential area)

Attendance at these major events is of the order of several thousand patrons per event. Many of the locations used to host these events adequately accommodate the events, however some locations were not designed to host events of the scale (several thousand people) and type that they are asked to host. Examples include the Central Bank Fete, the various Stadia and their associated car parks and beaches where carnival “cool down” parties are held. The connecting and servicing infrastructure usually is unable to adequately handle the spike created in the demand. This type of environment can exist around the country for the duration of the carnival season.

4.1.1.1. Problems/Hypotheses

The resulting challenges faced as a result of these events include:

- I. Road Capacity. The roads in and around Port of Spain and other major cities in Trinidad can barely cope with their daily demand. Fetes, whether single or multiple, add significantly to the demand for road capacity. Since the road capacity cannot be increased in the short term, the result is generally traffic congestion for lengthy periods over major sections of the public roadway system.
- II. Parking. Generally, the patrons park on the streets in the vicinity of the venue thus disrupting the flow of traffic on the roads.
- III. Noise Pollution. Some stadia and recreational grounds are located near residential neighborhoods. When fetes are held at these venues, the noise created can often keep residents up all night.
- IV. Converted Facilities. When fetes are held in sporting facilities, the facilities, over time, are often damaged making them unfit for their original purpose. E.g. the tennis courts at the Jean Pierre Complex have been damaged to the point of disrepair and can no longer be used to play tennis without considerable financial expenditure by the facility owner.
- V. Beaches. When events are held at beaches, no concern is generally given to the environment and the waste produced there. Special provisions need to be made to prevent pollution of the eco-systems surrounding the beach

4.1.1.2. Possible Short Term Solutions

- I. Hold fetes at locations dedicated to hosting such events
- II. If sufficient parking is not available at the event location, utilize a shuttle service between parking arranged for the event and the event location. Fete promoters should consider including such a service in their event package complete with attendant security during the actual shuttle and at the parking locations. Given the potential logistical problems associated with this added feature, an opportunity can be provided for budding entrepreneurs to get involved in this type of business and offer their services to fete promoters.

4.1.2. COMPETITIONS

Several competitions are held in the weeks leading up to Carnival. These include Soca Monarch, Calypso and Panorama. At most of these competitions, patrons park outside the venue and gather together inside to take in the performances.

4.1.2.1. Problems/Hypothesis

These competitions involve large numbers of people gathering in the same location and demanding the same resources as people in fetes do. With the exception of Panorama, the problems faced by the patrons are similar to those faced by patrons at fetes. The solutions therefore to these problems will be similar and have been outlined above.

4.1.3. PANORAMA

4.1.3.1. Procession of Band

Several bands (large and small) assemble at one of the entrances to the Savannah, locally known as “the strip”, to prepare for crossing the stage. This area is usually very crowded and disorganized resulting in many bands assembling their sections and members in the street.

4.1.3.2. Possible Solution

- I. The day before the competition, the bands can be lined up in the order in which they are to appear. This action can be taken in the Queen’s Park Savannah with expansion of the existing paved strip.
- II. Temporary stalls and small observation booths can be set up along this paved strip so that supporters can listen to the bands as they prepare for the stage

4.1.4. PARADE OF THE BANDS

During the parade of the bands, several revelers parade through the streets accompanied by truck outfitted with: music, food, beverages, toilet facilities and rest and relaxation areas. These facilities are however provided by the band for their members only and none are made available to the general public.

4.1.4.1. Problems/Hypothesis

Lack of Rest Points

For carnival to be marketed as an international product, there must be facilities for the general public from which to observe and to participate in the activities comfortably without being a part of a mas band. Reasons to make the festival more spectator friendly include:

- I. Tourists may wish to observe for their first year, understand what is going on before deciding to join a band if they so desire.
- II. The general public should be able to enjoy the festival as a form of redistribution of wealth. To participate in a carnival band typically costs several thousand dollars. This is well out of the reach

of the poor and some middle class individuals. An event of such cultural importance should be enjoyed by all who so desire including those who cannot afford to be a member of a band.

The judging points along the parade route have seating and washroom facilities, however these are not open to the public. “Observers” may find themselves walking several miles without access to the following:

- I. Toilet facilities
- II. Seating to rest the tired legs
- III. Shelter from the sun

The Capacity of the Roads in Port Of Spain

The number and size of carnival bands have been growing, however the capacity of the roads have remained constant. Certainly in Port of Spain, the capacity limits of the roads have been reached.

Waste Disposal

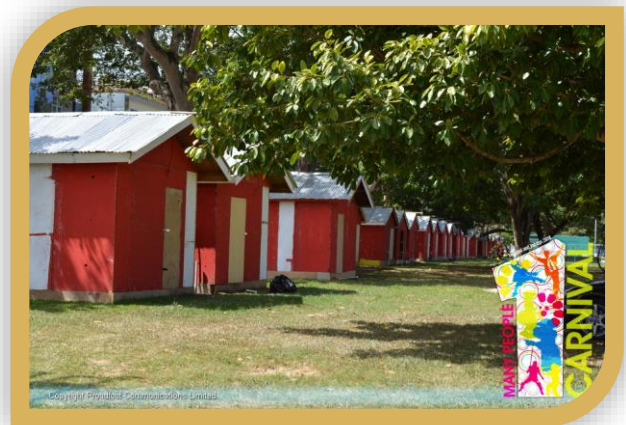
A lot of garbage is produced during the carnival festivities. Systems need to be implemented to collect and properly dispose of the waste produced in a timely manner. Mud, paint, chocolate and a host of other substances are used during the street parades. When washed of, these end up in water courses and finally the sea.

4.1.4.2. Possible Short Term Solutions

Make Small Rest Points

Rest points can be set up on side streets along the parade route at intervals of approximately 1/2 mile from each other. These can be small temporary structures with two rest rooms (one male and one female), a few seats (say 15 – 20) and a public official. The rationale behind this design is that at any time during the parade, a member of the public/ observer should be no further than 1/ 2 mile from the following:

- I. Toilet facilities
- II. A seat and shade from the sun
- III. A public official who can provide current information on where to get help, find a lost child etc.



Increase the Efficiency of Given Road Capacity

Very little can be done to increase the physical capacity of the roads in Port of Spain, however the efficiency obtained from these roads can be improved. Through meetings with the relevant stakeholders and undertaking traffic simulations and analysis, a range of options can be considered, with each option providing an improvement in efficiency. The option which meets the approval of the greatest number of stakeholders can then be selected.

Waste Disposal

Ensuring that people are mindful of the waste they create needs to be done by:

- I. Making it convenient to use a bin. There can be no excuse to litter, but, having dustbins nearby surely makes it easier to use them
- II. Inform the public of the damage of littering.

4.1.5. TEMPORARY STRUCTURES

As mentioned previously, none of the aforementioned events would be possible without the availability of significant temporary structures. Some of these structures are constructed completely and dismantled yearly while some are prefabricated and merely require erection, dismantle and storage on a yearly basis.

The main categories of temporary structures are as follows:

- I. Structural Steel Stands (used at the judging points)
- II. Wooden Stages
- III. Vendor Booths/ Shops and Tents

4.1.5.1. Problems/Hypothesis

The following are areas of concern:

- I. The structural steel stands are handled annually (transported to and from their place of storage, erected and dismantled at the judging points and stored for a lengthy period).
- II. Are there maintenance procedures in place upon return to their storage to ensure their structural integrity for future use?
- III. What procedures are in place to ensure that any defects discovered in the structural members are rectified immediately upon discovery?
- IV. The services running to these vendor booths.
 1. Most of the vendor booths erected at carnival time are food stalls. Are the services required at these booths adequate to ensure a safe and hygienic environment?

4.1.5.2. Possible Short Term Solutions

- I. A structural assessment needs to be done for all the temporary structural steel structures. Such an assessment needs to be carried out annually at the storage locations and a thorough inspection undertaken prior to release for erection.

- II. The services run to the temporary structures could be privately installed (on behalf of the GOTT but inspected by the relevant agent of the GOTT). If these services are considered to be permanent, then their installations can be so reflected in their designs

4.1.6. DATA REQUIREMENTS – PRE-REQUISITE FOR A SOLUTION

Given the size and growth rate of carnival and its importance to the social and economic well-being of Trinidad and Tobago, the health of the industry needs to be closely monitored and managed. Given the potential far reaching implications of decisions taken relative to the future of carnival, it is important that such decisions be data driven. At a very minimum, the following data appears to be needed:

- I. Traffic (preferably by origin/ region) and parking information should be obtained for every major carnival event, the results of which would then be available as inputs to civil infrastructure demand and ultimately into civil infrastructure designs.
- II. Likewise the number of patrons in attendance at every major event.
- III. The number of people observing the parade of the bands should be estimated at designated points along the parade route. This information can then be used to estimate the optimal capacity of the “rest points” and ultimately influence their designs.
- IV. Plumbing and electrical services to the vendor booths. Given the number of these booths and their location relative to each other, are inspections by the relevant authorities a part of the approval to operate process? What is the most efficient manner in which to deliver these services to the end users?
- V. Likewise the Public Health environment at the vendor booths.
- VI. Levels of noise produced and other inconveniences to the general public at every event
- VII. Results of structural assessment surveys performed on the temporary structures
- VIII. What is the segregated total annual cost of making available the structural steel stands and associated seating, the wooden stages, the lighting and sound systems including their dedicated structural support systems, the vendor booths and their associated services and the tents?
- IX. What is the total tonnage of garbage collected and disposed of during and after each carnival event?



5. THE PRIMARY FOCUS OF INNOVATIONS

Carnival has changed dramatically over the years. Some of these changes, rather than planned, have evolved in response to the lack of changes in the supply. A system of governance for carnival is needed whereby changes in the demand can be recognized at an early stage, acted upon and solutions implemented efficiently and in a timely manner in response to developing trends in the festival.

A representative body of stakeholders should be set up specifically to undertake a post mortem of the festival immediately upon its completion and to produce a comprehensive report aimed at influencing the direction of carnival in the future. Such a report could significantly drive innovative solutions to developing trends in the festival.

Significant innovations have taken place within the mas bands. To a lesser extent, innovations have also taken place within the Steelbands. Innovations in the *use* of civil infrastructure have been minimal and have been driven by trained technical personnel and entrepreneurs utilizing technology. A recent case in point is the use of traffic simulations, computer facilitated, to improve the efficiency of use of the roadways for the parade of bands. This innovation may suggest the need for a combination of skills emanating from outside the carnival industry to drive innovation in a more efficient use of civil infrastructure.

A system of governance for carnival is needed whereby changes in the demand can be recognized at an early stage, acted upon and solutions implemented efficiently and in a timely manner in response to developing trends in the festival.

6. THE DESIGN OF A STRATEGY FOR AN AWARENESS PROGRAM

Given the problems associated with carnival, it is a well-accepted position that carnival has outgrown Port of Spain and the Savannah. Stakeholders are clamoring for solutions to address the current and developing problems. It therefore suggests that the environment is right for the acceptance of change by the stakeholders.

An Awareness Program must start with highlighting the benefits of a governance system that includes stakeholders and the impact that such inclusion would have on policy and on democracy within the industry.

Publicizing the annual carnival post mortem report and communicating current information to the public via the media on progress being made in the project implementation at regular intervals must form part of the Awareness Program. Outlining the global scope of the industry and its potential impact on the economic and social development of Trinidad and Tobago will go a long way towards the success of an Awareness Program.



7. RECOMMENDATIONS TO IMPROVE THE CARNIVAL PRODUCT

- I. Traffic congestion on the roads. Measures suggested above offer very little chance of significantly reducing the traffic congestion on the roads. The Government of Trinidad and Tobago (GOTT) must accept its responsibility to invest heavily in public transportation to ensure that adequate transport capacity is available to handle the normal non carnival traffic demand simultaneously with the demand arising at carnival. This may mean that consideration be given to a form of mass transit.
- II. Investment in permanent/ fixed capital. The NCC spends considerable sums of money annually on the utilization of temporary structures. The long term benefits to the nation of this course of action are minimal at best. The GOTT should encourage private investors through incentives to invest in fixed capital along the routes of the Parade of the Bands and in the main areas of mas display. Ariapita Avenue serves as an example of what positives can be achieved. Such a course of action would provide significantly more benefits to the nation than the present course of action.
- III. Investment in Vending Facilities. Except along Ariapita Avenue, the quality of vending facilities on display at carnival events can be significantly improved. Typical examples include those at the Savannah and downtown Port of Spain. Visitors to carnival spend considerable sums of money to see and enjoy carnival. Improved vending facilities should encourage both locals and visitors to spend more at the improved facilities. The GOTT could act to encourage such a course of action.
- IV. Picadilly on the Greens. The NCC needs to take steps to better integrate Picadilly on the Greens into the carnival development process. Such a development could provide benefits to the community. Given the anti-crime success achieved by the Ministry of National Security during carnival 2014, a crime management plan could be developed specifically for Picadilly at carnival and thus encourage development of carnival in the area. Investments would be required and should be directed towards fixed capital formation. Funding should be provided by the GOTT through incentives to the private sector.

7.1. ALTERNATIVE RECOMMENDATIONS

Whereas the above four (4) recommendations can improve the carnival product, it is generally accepted that Port of Spain has reached its capacity to handle its growing carnival celebrations. Unfortunately Port of Spain has limited space for physical expansion, thus a conventional solution to the traffic problem is unlikely. An unconventional solution appears to be an option that can produce the desired long term result. Consideration should therefore be given to the construction of a custom designed “**Carnival Village**” to replace what obtains at present in Port of Spain. A similar consideration should be given to the other major carnival centers. The advantages to such a consideration are many with the primary advantages being the removal of the bottlenecks in the system during the carnival celebrations and the long term viability of the industry. The decision to construct a Carnival Village is a major one and would require a significant initial investment and possibly an on-going investment on the part of the GOTT. It is therefore recommended that a **Carnival Facilities Needs Assessment** be undertaken to guide government decision making in this matter.

7.1.1. THE FETE INDUSTRY

Available data suggests that there are an estimated three hundred (300) parties/ fetes held during the official carnival fete season between December and February/ March. In spite of this thriving industry, there exists limited documented data on the fete industry in Trinidad and Tobago. The combination of a very high seasonal demand for fete venues, the short carnival fete season and the limited availability of adequate venues creates a great demand for temporary facilities¹. It is therefore recommended that a specific Needs Assessment be undertaken to guide decision making. The Needs Assessment must consider the following necessary physical infrastructure requirements:

- I. Number, location and capacity of venues. Location must direct traffic away from the main commercial centers. Capacity must exceed current demand and allow for growth
- II. Access to proposed venues must meet or exceed four (4) lane high speed divided highway
- III. Well lit parking to accommodate expected traffic associated with the intended events.
- IV. Noise pollution must be considered
- V. Built-in security features to include “access control technology” to ensure a safe environment for patrons
- VI. Built-in support services normally provided at fetes
- VII. Accessible features such as relocateable seating, stage, lighting and audio-video equipment

7.1.2. COMPETITIONS INCLUDING PANORAMA

The physical infrastructure requirements for Competitions are similar to those for the fete industry as outlined immediately above. The main deviation from what is required for fetes is the structure itself which needs to be multi storey and which surrounds a lower central area where the competition actually takes place. The multi storey structure, sub-divided into compartments, could be utilized for year round carnival related activities as identified elsewhere².



7.1.3. MAS – PARADE OF THE BANDS

- I. The physical infrastructure requirements for the Parade of the Bands are in many respects similar to those for Competitions. The major differences include:

1 Lisa James – (April 25, 2014) A Technical Report on the Fete Industry in Trinidad and Tobago. Fete Consultant
2 Vanus Investments Ltd. (2014) Carnival Industry Development Program for T&T, An Overview.

- II. Elevated structures complete with seating and support services for the viewing public placed at strategic locations along the parade route
- III. Judging points spread out along the parade route. These structures may also be elevated to accommodate the viewing public.
- IV. A paved roadway to be utilized as the parade route.

REFERENCES

- James, L. (2014). A Technical Report on the Fete Industry in Trinidad and Tobago. Fete Consultant**
- Vanus Investments Ltd. (2014). Carnival Industry Development Program for T&T, An Overview**