 Роузёр Девелопмент План, Стратегия и Действия
План 2020

Подготовлено для:
Правительство Доминики
Через Министерство Туризма, Индустрии и Развития Приват Сектор
Эко-Туризм Программа Развития
8-й НДП НИП, Проект # DOM/6002/002

Подготовлено по:
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Комонуэл оф Доминика

Дата: Июнь 2005
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I. Introduction
This study was commissioned by the Government of the Commonwealth of Dominica (GOCD) through the Ministry of Tourism, Industry and Private Sector Relations (MTIPS), under the Eco-Tourism Development Programme (EDP), financed by the European Union (EU) and the GOCD.

The Project Management Unit (PMU) of the EDP had direct responsibility for supervising the work of the Consultant, through a Steering Committee/Working Group.

II. Methodology
The Roseau Development Plan, strategy and Action Plan 2020 (RDPSAP) study embraced a participatory approach involving many stakeholders and the general public. The public participation processes began with the issue of a news release to local newspapers, radio and cable television stations informing the general public of the award of the contract to undertake the study, objectives and the consultant’s intentions to invite persons to scheduled consultation events during the course of the study.

The news release was followed by one main talk show via radio and television involving at least two members of the study team during which time the listening and viewing audiences were encouraged to call the programme live to ask questions, make comments and recommendations regarding any aspect of the city’s development.

Within four (4) weeks of commencement of the study, two publicised town hall meetings were held in Central Roseau for residents of the city, property and business owners, and the public at large. Formal invitation was also
issued to owners of large business establishments in Central Roseau, financial institutions and non-government organizations (NGOs) based in the city.

At the town hall meetings, members of the study team made presentations on background studies and issues facing the city, followed by discussions soliciting comments and recommendations on all aspects of the city’s development from the audience.

A one-day consultation at which key stakeholders, including government officials were issued invitations to attend, was also held. Issues which arose out of the town hall meetings and key stakeholders one-day consultation are presented in Appendix 2.

A fourth component of the consultation process consisted of face-to-face interviews by members of the study team with stakeholders, concerned members of parliament, senior government officials and staff of concerned private sector establishments. In addition to discussing issues and soliciting recommendations regarding development of the city, such interactions allowed for the compilation and updating of relevant background information. Appendix 5 contains a list of persons with whom face-to-face interviews/discussions were held.

Preparation of the draft plan documents was informed by comments and recommendations resulting from the various consultation events. Preparation of the RDPSAP, especially the background study section also necessitated review of numerous reports and legislation relevant to development of Roseau – see Appendix 6. Land use information obtained from desk research was complimented with a land use reconnaissance
survey in respect of properties with street frontage in Central Roseau, Pottersville and Victoria Street, New Town. Time and budgetary constraints did not allow for conduct of a land use survey covering the whole city or other reconnaissance surveys.

Study reports were presented in two stages to a working Group/Steering Committee. A Draft Background Study, Strategy and Development Plan and Draft Action Plan were presented separately to the committee. Recommendations of the committee in response to the draft plan documents further informed preparation of the final draft Roseau Development Plan, Strategy and Action Plan 2020.

III. Objectives of the Plan

The RDPSAP will serve as a tool to assist the GOCD in its macro-economic diversification efforts, by providing guidance for the management of socio-economic and physical development in the island’s premier urban centre, in an efficient and sustainable manner.

The Plan, among other things, seeks to:

- Present a coherent apolitical vision of how the physical environment can be gradually improved over the next fifteen (15) years
- Recommend ways to strengthen the tourism assets of Roseau
- Make provision for the orderly and progressive development of the city and
- Propose measures to strengthen the Planning Authority in responding to its mandate under the Physical Planning Act.
Scope of Work
The Terms of Reference (ToR) required that the Consultant focus attention in nine (9) broad areas of study, namely:

- Institutional strengthening and human resource development in the PPD
- Public participation in the planning process
- Documentation and reporting on public participation activities
- Review of existing documents, policies, programmes and projects
- Consultation with stakeholders
- Undertake background studies to include reconnaissance surveys
- Identification and analyses of issues facing the City of Roseau
- Formulation of a Strategic Vision, Development Plan and Action Plan
- Prepare in digital and hard copy format Existing and Proposed Land Use plans for the City of Roseau

These broad subject areas are detailed in the ToR at Appendix 6.

Outputs
The outputs of the study are listed as follows:
1.1. Background study including vision and concept for Roseau Development in 2020
1.2. Strategy
1.3. Action Plan: Roseau Development Programme

2. Graphic Representation in hard and digital format
2.1. Existing Land Use
2.2. Proposed Land Use
Baptiste & Associates Ltd. commenced the fourteen (14) weeks study on April 19, 2005.

The Study Team comprised:

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<tr>
<td>Mr. Isaac Baptiste</td>
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<td>Mr. Lennard Andre’</td>
<td>Architect</td>
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<td>Mr. Gerard Frontin</td>
<td>Landscape Architect</td>
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<td>Mr. Lennox St. Aimee</td>
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<td>Miss. Marie Jose’ Edwards</td>
<td>Tourism Development Planner</td>
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<td>Dr. Rae Furlonge</td>
<td>Transportation Planner</td>
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<tr>
<td>Mr. George Butler</td>
<td>Environmental Management</td>
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<tr>
<td>Mr. Desmond Dougall</td>
<td>Geographic Information System (GIS)</td>
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Mr. Keith Stevens, Physical Planning Assistant at the Physical Planning Division (PPD) was assigned to work with the Study Team as a Counterpart.
II. Acknowledgements

Baptiste & Associates Ltd. and members of the Study Team would like to place on record our many thanks and appreciation to all those who assisted and co-operated with us in any form to facilitate completion of this Study.

We extend special thanks to representatives of the Contracting Authority for leniencies allowed during administration of the Contract, to members of Cabinet, government and non-government officials for the courtesies of face to face interviews; officials of the Land Use Section of the PPD for their sustained interest and co-operation throughout the study, and members of the general public and local media who responded to our invitation to participate in the planning process.

Isaac Baptiste Team Leader
Baptiste & Associates Ltd.
III Executive Summary

Introduction: The Roseau Development Plan, Strategy and Action Plan (RDPSAP) is one of many measures by the Government of the Commonwealth of Dominica (GOCD) to improve management of physical development, as part of an overall strategy to expand growth in the tourism sector, especially in the City of Roseau, Dominica’s premiere urban centre.

The study was financed by the European Union under an Eco-Tourism Development Programme, through the Ministry of Tourism and Private Sector Relations.

Baptiste & Associates Ltd. commenced the study in April 2005 under the supervision of a Steering/Management Committee of the Ministry of Tourism and Private Sector Relations.

The planning process adopted by the consultant to the study included public participation/consultations through news releases, radio/television talk shows, town hall meetings, one day consultations, face to face interviews; documentation reviews, reconnaissance surveys and presentation of draft reports to stakeholders for comments.

Strategic Vision: The vision of growth and development for the City that emerged out of the various consultations could be summarised as follows:

- Development of residential areas with adequate social amenities protected from incompatible land use encroachment
- Increasing population in Central Roseau
- Development of distinct but cohesive areas of urban activities
• Development of an economically vibrant, user friendly Central Business District to include the proposed Historic District
• Upgrading of the Roseau River into a dominant, attractive, recreational and leisure space
• A more user friendly Waterfront
• Well lit streets with smooth flowing vehicular and pedestrian traffic
• Cleaner and more visually pleasing street environment.

**National Setting:** Dominica, which gained political independence in 1979, has an area of 290 sq. miles and is located at Latitude 15° N and Longitude 61° W, between the French Departments of Guadeloupe and Martinique. The island is volcanic in origin, experiences very high rainfall and has large expanses of valleys, hills, mountains, flora and fauna. The country is seeking to exploit these natural assets by pursuing an eco-tourism development path.

In 2001, Dominica’s population stood at 69,625 people distributed in sixty-five (65) human settlements. Such a dispersed population coupled with the rugged terrain make the provision of engineering and social infrastructure on the island difficult and costly to maintain.

In recent past, the island has been under severe economic stress aggravated by changing world trading arrangements, particularly in respect of bananas. The economy is slowly improving, signalled by an increase of almost 3.5% GDP in 2004, after three consecutives years of protraction.

**The Study Area:** The City of Roseau is the capital of Dominica, seat of central government and largest commercial centre on the island. The city’s
boundaries established by the Roseau City Act 17, of 1982 covers approximately 1,343 acres and consist of the following communities.

- Central Roseau/Pottersville
- Goodwill/St. Aroment
- Fond Cole/StockFarm
- Bath Estate/Emsall/Louisville
- Kings Hill/Morne Bruce
- Fortune’/Bois Beau – Castle Comfort

Central government offices and the Central Business District are situated in Central Roseau, an area of about 130 acres.

**Population:** The population of the City has been declining since 1970, moving from a share of 24% (16,678) of national population in 1970 to 20% (14,219) by 2001. Similarly, Central Roseau’s share of the City’s population dropped from 49.5% in 1981 to just 12% in 2001. The dramatic decline in the City’s population was largely due to migration, urban sprawl, expansion of amenities into rural settlements and deteriorating housing condition particularly in Central Roseau.

Arresting the decline in the city’s population is essential to revitalization of economic growth and development as well as improving nightlife in Central Roseau. The plan advocates adoption of measures to attract persons, particularly the economically mobile, to reside in Central Roseau. To this end, the following measures are proposed:

- Improve housing conditions
- Increase rental housing stock
- Increase employment opportunities
• Protect residential neighbourhood/districts from incompatible land use activities

**Land Use:** Orderly physical growth is essential for efficient functioning of the built environment. The City of Roseau has many examples of planned development especially in the residential neighbourhoods. The downtown area also has a fairly well laid out grid system of streets.

Residential is by far the dominant land use zone. Other significant zones are residential/commercial, institutional, recreational and nature reserves. The city lacks a clearly defined central business district. There are many vacant lots and derelict buildings – 8.0% of street fronted properties in Central Roseau - giving the downtown area a semblance of urban decay and blight.

Generally, housing conditions in Central Roseau are poor with 26% and 28.7% of households lacking pipe-borne water and sewerage respectively. There also exist high incidence of dilapidated buildings, low-income housing and absentee landlords. Urban renewal in the City continues to be severely constrained by the land ownership pattern, land fragmentation and lack of finance. Housing needs over the plan period are projected at 2,094 and 1,245 new units for the City and Central Roseau respectively.

Advancement in residential land use over the plan period demands that greater attention be given to the following:

• Upgrading of existing low income housing stock
• Implementation of the purposed Infill Properties Project under the Roseau Water and Sanitation Programme
• Conduct of a City of Roseau Cadastre
• Review/enforcement of land use regulations
• Provision of incentives to facilitate land assembly and investment in rental housing in particular.

In addition to dilapidation and poor housing conditions, Central Roseau suffers from problems of vehicular/pedestrian traffic conflicts, low pedestrian comfort level, lack of off-street parking, proliferation of bus stands, uncontrolled street vending and lack of open space.

Institutional grounds occupying large areas are generally poorly maintained, public recreational space are inadequate, poorly maintained and lack children playing facilities. The city faces a critical shortage of buildable vacant land for expansion and squatting by vendors threatens the environment of the Roseau River.

The capacity of the planning authority through the Physical Planning Division to adequately respond to the many land use challenges facing the city is questionable. In addition to an apparent lack of will to effectively enforce existing land use standards, the authority lacks adequate and appropriate formally approved planning tools, including regulations and technical staff to meet those challenges. The physical development issues facing the City and Central Roseau in particular call for consideration of the following approaches:

• Introduction of interim land use controls
• More detail/local area planning
• Adoption/enforcement of new land use and building regulations
• Pooling of resources in the public sector to prepare, implement, monitor and review physical planning schemes and housing development programmes
• Review of existing house and land tax regime
• Prioritising state owned lands allocations
• Land assembly for redevelopment
• Land reclamation.

Historic District: The City of Roseau inherited a unique streetscape in the downtown area from its colonial past. Continued threat to this asset of significant tourism development potential is being challenged through establishment of a protected historic district. The proposed district covers approximately one-third of the downtown area and could have tremendous impact on the expansion of commercial floor spaces and property values. Soliciting the support of property owners and prospective developers is therefore critical to the success of this initiative. Sustainable management of the district would lead to job creation, increase up-market housing units, establishment of a unique duty free shopping district, increase number of hotel rooms and improve city nightlife. However, materialization of such benefits demands actions in the following areas:
• Formal establishment of the District with appropriate land use and building controls standards
• Application of a discretionary land use control
• Provision of fiscal, duty free and development incentives to investors.

Social Development: The ultimate goal of development is the improvement of the social conditions of the individual. In the past development plans tended to focus more on the physical and economic
activities of communities without due consideration to the impact on social well-being.

Recent trends have placed social advancement as a critical goal on the development agenda, exemplified by the increasing demand for participation of all stakeholders in development decision making and plan ownership.

Important social issues facing the City include poor housing conditions, unemployment and poverty, fragmentation of primary health services, inadequate levels of health professionals, degradation of the Roseau River, litter management, proliferation of small eating establishments, threats to public health and fire safety posed by empty lots and derelict buildings, ease of access to public sidewalks and public buildings for the elderly and physically challenged, problems of drug abuse, juvenile delinquency and gang violence, and inadequate recreational facilities, particularly for residents of Central Roseau. Failure to adequately address these issues could negatively impact development initiatives in the tourism industry and retard overall development of the city.

Action towards alleviating problems surrounding these issues should include:
- Advanced sector planning
- Facilitating community ownership of social infrastructure
- Greater emphasis on enforcement of existing regulations
- Design and implementation of more job creation and skills training programmes
- Promotion of volunteerism and co-operativism in addressing problems of low income household
- Facilitating community/NGO/Private sector initiatives
Tourism: Tourism is one of the fastest growing economic sectors in the world, generating up to US$5.5 trillion in visitors expenditure and an estimated 3.5% of the world GDP. The Caribbean Tourism sector has been described by the Caribbean Tourism Organisation (CTO) as “robustly holding it’s own”, with the region recording a 7% growth in 2004. In Dominica, both the cruise and stay-over tourist industries have recorded positive growth over the last year.

Dominica’s tourism sector, although presently the major contributor to GDP is still in its infancy compared to established destinations such as Barbados. The island’s unique physical features have encouraged policy makers to pursue a sustainable eco-tourism path. The tourism assets of the city have the potential of supporting this agenda.

The City of Roseau has the largest concentration of attractions (Botanic Gardens, historic sites/buildings), accommodation facilities, amenities, services and infrastructure (ports, yachting). The downtown area also has a large expanse of attractive waterfront and a potentially dominant natural features in Roseau with good tourism development potential. The islands major cultural events (World Creole Music Festival and Carnival) are also hosted in the City. The City therefore holds tremendous potential for both cruise and stay-over tourism development, but such potential demands strategic management if it is to be sustained.

Among issues facing decision makers regarding tourism development in the city are:

- Determination of a vision of the city as either hustling/bustling or quaint/historic
- Achieving sustainable balance between cruise tourism and eco-tourism
- Protecting the stay over tourism industry from threats of cruise tourism
- Limiting growth of cruise tourism in the city to its carrying capacity
- Increasing cruise ship passenger tours and spending as against increasing number of cruise ship visits
- Improving the quality of attractions, facilities, amenities and services
- Maximizing the development potential of the Historic District
- Improving safety and security of visitors.

The recommended approach to addressing these issues includes:
- Advanced sector planning
- Protection and expansion of the stay over tourism industry by:
  - Upgrading/increasing accommodation and facilities
  - Managing the volume of cruise visitors
  - Improving and expand amenities and
  - Further develop cultural resources
- Enhance the cruise industry by:
  - Upgrading berths
  - Improve passenger handling
  - Better management of the informal sector
  - Upgrade and expand natural and man made attractions
  - Improve the City’s landscape
Transportation: An inadequate transportation system is a constraint to efficient city functioning. Effective sustainable transportation planning involves a programme of selective road-building, sustainable improvements to public transport, action to manage demand for road use, action to manage operation of the transportation system and integrated planning of land use and transportation.

The transportation system of the city suffers from a number of weaknesses, among them being:

- A dated traffic flow pattern
- Vehicular/pedestrian traffic conflicts
- Indiscriminate use of sidewalks by motorists for parking
- Numerous bus stands
- High volumes of thru-traffic in the downtown area
- Lack of a proper road clarification system
- Lack of a managed and reliable public transport.

Commissioning of the Windsor Park Stadium currently under construction in Central Roseau will aggravate traffic problems facing the City if a traffic management plan is not prepared and implemented for this facility.

Other issues deserving consideration in addressing the transportation needs of the City are, the exploitation of the sea-ferrying potential as an alternative means of transportation and upgrading of the arterial roads within the city to reduce traffic congestion and facilitate movement of persons in the event of a major disaster such as volcanic eruption.

Proposals under the Roseau Road Rehabilitation project will alleviate some of the traffic congestion problems currently faced by the City but will be
inadequate to resolve the transportation management problems highlighted above.

The strategic approach the plan advocates to address these issues include:

- Reduce demand for private vehicular use into the city
- Establishment of a public transit system in order to make public transport more efficient and attractive to the public
- Adoption of minimum parking standards for new development in Central Roseau
  - Provision of Central Parking facilities for public transport and private vehicle owners
  - Preparation/implementation of a Traffic Management Plan for Windsor Park Stadium
- Establishment of a new Road Hierarchy
- Review of existing traffic regulations
- Establish routes for By-passing down town Roseau to include calming of Traffic on the Bayfront
- Encourage Private Sector investment in the transportation sector
- Prepare a disaster evacuation plan for the City and settlement in the South of the Island.

**Engineering Infrastructure:** The City enjoys a reasonably high level of engineering infrastructural services. The pipe-borne water and sewerage systems were replaced less than three (3) years ago and are adequate to meet the City’s needs over the plan period. There are plans by this utility company (DOWASCO) to upgrade including elimination of turbidity, increase storage capacity and improve revenue collection in respect of water and sewerage. Presently, the city consumes about 40% of electricity sold, of which 49% is residential consumption. Increasing fuel cost is a major
concern to upgrading and expansion in this utility service. An extensive network of overhead lines and poles are imposing negatively on the city’s landscape, especially in Central Roseau. Proposed improvements under the RRRP call for the removal of much of this overhead distribution system but at high capital cost.

The five telecommunication services providers servicing the city are together adequately positioned to meet the telecommunications services needs of the city.

Under existing port legislation, the whole waterfront of the city falls under the control of the Dominica Port Authority. All interventions which may hinder the operations of vessels in this section of coastline must therefore be referred to the authority.

There are three ports in the area namely; Woodbridge Bay Deep Water Harbour, Roseau Ferry Terminal and Roseau Cruise ship Berth. The first is the only deepwater commercial port on the island. Plans are at an advanced stage to upgrade the last two.

Preliminary proposals have also been drawn-up to extend the commercial port to provide for a figure pier cruise ship berth. The RDPSAP advises against proceeding with this proposal in the absence of studies to determine the carrying capacity of the city with respect to cruise tourism, maximization of the cruise tourism potential of Portsmouth and study of the cruise ship berthing potential in the New Town/Citronier foreshore area.

Sustainable infrastructural development in the city will also demand:

- Regular consultation between utility service providers and government
- Exploration of alternative sources of energy
- Phasing of the RRRP
- Revisiting of the Infill Properties Project
- Review of the current sewerage tariff structure.

**Urban Landscape:** Green open spaces are the “lungs” of cities. A well-integrated network of open space and urban land use contribute significantly to aesthetic appeal of the built environment, improve the quality of life of residents, enhance the experience of visitors and other users as well as contribute to the efficient functioning and vitality of a city.

The city’s main landscape features are made up of recreational facilities (playing fields, parks, etc.) institutional grounds (school compounds, burial grounds, etc.) and other spaces such as the Roseau River corridor, the Bayfront and the surrounding hillsides.

Among the key issues impacting the city’s landscape features are:
- Lack of amenities and security
- Poor lighting and maintenance
- Weak development control
- Environmental degradation
- Misuse and encroachment.

The guiding principles to improvements in the city’s landscape are:
- Provision of a healthy environment
- Conservation of essential ecological functions
- Enhancement of city functionality, vitality and aesthetics
- Establish of self sustaining landscapes
- Job creation
- Promotion of community participation and collaboration.
Measures that should be adopted towards fulfilling these objectives include:

- Provision of physical/visual access to valued natural sites, the Roseau River for example
- Protection and restoration of sensitive wildlife habitats
- Protection of the hydrological regime of water courses
- Provision of diverse amenities and activities
- Improved park management
- Integration of urban green space with land use and circulation
- Increased consultation and collaboration among stakeholders.

**Environmental Management:** A review of the existing situation indicated that there is a general lack of information on environmental matters related to the City of Roseau. Comprehensive/conclusive Environmental Impact Studies have not been conducted in respect of the some major ongoing/planned public sector development projects for the City. The situation is, however, within manageable scope.

Despite the signing of the St. Georges Declaration by the Government, a National Environmental Management Strategy (NEMS) has not been accomplished. As a result of the absence of a National Development Plan, the strategies, directives, programmes, projects and initiatives which should have arisen from the NEMS not been outlined.

The GOCD has entered a number of international conventions/agreements in addition to enhancing a number of laws, which indicate the likely position of Government Environmental Policy.

The effect of existing environmental conditions has been examined. It can be concluded that the problem of pollution is within manageable proportions. The enforcement of existing regulations could improve on air quality, which
is within manageable scope for a number of problems that have been identified, the main being foul odors.

Water quality requires simple control measures, with some more serious enforcement and supervision. The effluent of the sewerage processing plant should be monitored closely to ensure public safety.

The domestic water supply is of fairly good quality. The supply is muddy during and immediately following heavy rainfall. It is generally safe for consumption. An increase in storage capacity for at least one day’s supply or filtration would solve the problem of muddy water.

The main source of noise is from the entertainment. Noise abatement legislation is in place but the enforcement leaves much to be desired. Noisy engines from poorly maintained vehicles are another source of the problem. The revving of engines by roadside mechanics and more regularly, indiscriminate use of home and car sound systems are of concern. The use of burglar alarm systems in vehicles is poorly managed and constitute a nuisance in residential neighbourhoods.

There have been regular improvements to the management of solid waste in the City. A number of problems still exist including the scheduling of the collection of garbage. The enforcement of regulations and improvements to the system would alleviate these short-comings.

With the exception of pesticides, there is no control of chemicals in Dominica. While efforts have been made to channel household waste to the sewage plant, a significant amount of household waste still find its way into the surface system resulting in unpleasant odors.
Public health conditions are satisfactorily monitored under the Primary Health Care programme.

There is a critical shortage of burial space. This situation is compounded by the shortage of Greenfield land in the city. Amendment to existing legislation allowing for alternative methods of burial is proposed.

Visual challenges include, depilated buildings, derelict vehicles, misplaced structures and general lack of landscaping. A number of environmental issues related to poorly manage features like dry ravines exist.

The threat of volcanic eruption though precisely unpredictable should not be ignored. In this regard, all viable alternative sites should be evaluated and considered before making firm decisions on locating public sector projects in the city that require large capital outlays.

Strategies to achieve sustainable environmental management in the City should also include:
- Public education and awareness
- Updating regulations and enforcement
- More inter-agency consultation and co-operation
- New approaches to conservation, protection and management
- Zoning.

**Proposed Land Use Plan:** An integrated land use pattern is dispensable to efficient city functioning. Incompatible land use creates problems of pollution, adversely affects property value and can lead to dislocation of economic activities resulting in the loss of jobs. A disorderly land use pattern can also be a major contributor to traffic congestion. The land use plan proposed seeks to correct weaknesses in the existing land use pattern
and provides for future land requirements, particularly of public sector in a more integrated manner than presently exist.

Following are some of the main considerations for land allocations in the proposed land use plan:

- Protection of residential areas
- Increasing housing stock
- Public sector land requirements
- Job creation
- Improved traffic management
- Land ownership/value
- Increasing social amenities.

The plan makes provisions for the following major public sector projects:

- Vending Arcade/Food Court
- Central Bus terminals
- Central commercial parking facilities
- New Roseau Health Centre
- Roseau Central community playing field
- Stockfarm community playing field
- Carnival City
- Dominica State College Extension
- New Justice Building
- New Government Office Building Complex

**Action Plan:** This section of the report outlines the steps that should be taken to realise proposals in the RDPSAP.
Physical development plan implementation, monitoring and review have not had an impressive record of success in Dominica for many reasons, among them being:

- Lack of will to pursue long-term objectives of development planning
- Insufficient capacity in the public service
- Financial constraints

A number of measures have been proposed in the Action Plan to counteract these limitations including:

- Establishment of a new agency through pooling of existing technical capacity in the public service
- Adoption of more creative methods of public sector project financing
- Broadening of existing incentives regimes to attract private sector financing/participation.

The plan proposes a total of twenty-seven (27) projects for implementation, provides draft terms of references, design guidelines and schematic designs to facilitate further document preparation for financing.

Projects proposed fall under the following sectors:

- Institutional strengthening
- Housing and Urban development
- Social development
- Tourism
- Transportation
- Open space

The various projects are further prioritised into short, medium and long-term to facilitate implementation scheduling, but the majority are expected
to commence within the first five years of the plan period. The projects are as follows:

- Vending Arcade and Food Court
- Roseau River Corridor Regeneration
- Botanic Gardens Restoration
- Roseau Cruise Ship Berth upgrading
- Roseau Ferry Terminal Upgrading
- Establishment of Urban Development Corporation
- Land use and Building Regulations strengthening
- City of Roseau Cadastre
- Traffic Impact Assessment of Windsor Park Stadium
- Bus Terminals and Commercial Parking Lots
- Development of Transit System
- Road Improvements
- Rehabilitation of Roseau Old Market
- Bayfront Regeneration
- Roseau Infill Properties, Water and Sanitation Project
- Youth Apprenticeship Scheme
- Newtown Fish Ball
- Central Roseau Beautification
- Central Roseau Housing Development Strategy
- Parks and Playing Fields preservation
- Strategy for upgrading Tourism Facilities and Services
- Central Roseau Pedestrian Environment Upgrading
- Central Roseau Duty Free Shopping Development Strategy
- StockFarm Landfill Recycling
- Ravine Areas Regeneration
- Hillside Conservation
- City of Roseau Land Reclamation.
Pre-feasibility and feasibility studies cost of these projects are estimated to total approximately EC$3.5 million.

In order to advance the planning process of the RDPSAP, it is recommended that the planning authority take the following action:

- Accept the Final Draft Plan
- Subject the Final Draft Plan to public review
- Consider submission from the public and prepare the Final Plan
- Submit the Final Plan to the Minister of Physical Planning for adoption under existing physical planning legislation
Part 1.  BACKGROUND INFORMATION AND ANALYSIS

1.  National Setting

1.1.1.  Physical

Dominica has an area of 290 sq. miles and is the largest of the island grouping known as the Organisation of Eastern Caribbean States (OECS). The island is positioned at Latitude fifteen degrees (15°) North and Longitude sixty-one degrees (61°) West in the Eastern Caribbean, between the French Departments of Guadeloupe (north) and Martinique (south).

Dominica is volcanic in origin and inherited a very rugged terrain and rich soils. The island enjoys abundant rainfall, swift flowing rivers with sparkling clear water and lush tropical forest with unique flora and fauna; attributes which lead to adoption/acceptance of the eco-tourism promotional phrase, “Nature Island of the Caribbean”.

Dominica’s expanse of valleys, hills, mountains, flora and fauna has also earned it international recognition through registration of one World Heritage Site listing (Morne Trois Pitos National Park) with UNESCO. At the national level, about 30% of the land mass (including the highest peak Morne Diablotin) and territorial waters on the south-west coast are legislated protected areas.

Dominica’s climate is tropical with temperature ranging from 15°C to 34°C and humidity averaging seventy percent (70%). Prevailing winds are the Northeast Trades. February to May is usually the dry season. The period June to October is observed as the Hurricane Season, during which time the island could be adversely affected by such natural occurrences. Other significant natural occurrences threatening the island are volcanic eruptions.
and earthquakes. With respect to the former, the Study Area is in close proximity to the region of greatest concern.

Dominica’s rugged terrain and colonial history greatly influenced the distribution of existing human settlements, which in turn dictated the existing road network.

Based on its British colonial past, the island is divided into ten (10) Parishes. The Study Area is situated in the Parish of St. George on the island’s west coast.

The island’s human population (69,625: 2001 census) is dispersed in over sixty-eight (68) settlements located mainly along the coast. The major road network linking these settlements is therefore not always continuous and has very narrow carriageway in many sections. The rugged terrain coupled with the dispersed pattern of human settlements make both engineering and social infrastructure costly to provide and maintain.

1.1.2. Administration

Dominica’s present administrative structure was inherited from its colonial parent - Britain. The island gained independence in 1979 and adopted a Democratic Republic system of Government, with a President as Head of State. Parliament is chaired by a Speaker and lead by a Prime Minister. It consist of twenty-one (21) representatives elected by the people (eligible voting age 18 years and over) and nine (9) appointed senators; all of whom seat in the same chamber as members of Government, Opposition or Independent.
Public sector decisions are made by Central Government headed by the Prime Minister, who chairs a Cabinet of Ministers. Cabinet decisions are implemented by ministries, departments and agencies of government.

Dominica also has a long established and very successful local government system comprising city, urban and village councils administering public sector managerial and maintenance functions at the community level. The Study Area has one such institution – The Roseau City Council. The island also has many non-governmental organisations with public welfare/good agendas, many of which operate out of the Study Area.

Since gaining independence, Dominica has become a member of many regional and international organizations as well as signatory to numerous protocols, declarations and understandings.

Central Government has also established diplomatic relations with numerous countries on all continents. Such membership, recognition and arrangements have and will continue to impact development of the island through both the public and private sectors.

**1.1.3. Economic**
Dominica’s topography coupled with the lack of material resources greatly constrained its economic advancement up to the present.

Historically, the island depended on a mono-crop economy, the most recent being bananas. Changing world trading arrangements and structures have lead to the near collapse of the banana industry, the socio-economic impacts of which are still being felt nationally and within the functionally associated sub-region – The Windward Islands. The island’s capacity to cushion and manage the resulting impacts is further complicated by obligations of
association in a currency union, the Eastern Caribbean Currency Authority and other externalities.

Dominica is slowly recovering from a prolonged and severe economic depression which necessitated introduction of an economic austerity programme, overseen by the International Monetary Fund (IMF).

According to reports produced by the Statistical Division of the Ministry of Finance and Planning (MFP), “the economy reflected positive signs of growth during the period October to December 2004”.

At the end of 2004, Dominica’s Gross Domestic Product (GDP) was estimated at EC$428.16 million, representing an increase of 3.49% over GDP of 2003.

For the last quarter of 2004, banana production increased by over 15%, the tourism sector registered growth in the region of 51% and 12% in cruise and stay-over visitors respectively. Total export increased by just over 4% and imports by 13%. Governments fiscal gap narrowed significantly from a deficit of EC$5.97 million to a surplus of EC$30.15 m.

During that same period however, the construction sector recorded a decrease of just over 23% in the number of building starts and the consumer price index increased by 2.35%.

At the end of 2004, the unemployment rate was estimated at 11.5% of the labour force, with the highest incidence among persons in the age group 18 – 25 years.

Tables 1 and 2 below list some key economic indicators.
Table 1: Commonwealth of Dominica Economic Indicators January to December 2004

<table>
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<tr>
<th>Indicator</th>
<th>Jan – Dec.</th>
<th>% change Jan – Dec</th>
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<tr>
<td>Total export (EC$M)</td>
<td>111.33</td>
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<tr>
<td>Total imports (EC$M)</td>
<td>390.8</td>
<td>13.13</td>
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<tr>
<td>No. of construction starts</td>
<td>149</td>
<td>27.35</td>
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<tr>
<td>Value of Construction starts (EC$M)</td>
<td>37.87</td>
<td>21.61</td>
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<tr>
<td>Stay over visitors</td>
<td>74,595</td>
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<tr>
<td>Excursionists</td>
<td>1,074</td>
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<td>Cruise ship visitors</td>
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<tr>
<td>Total visitors</td>
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<td>Total value of Expenditure (EC$M)</td>
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<td>Current Revenue (EC$M)</td>
<td>231.72</td>
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<td>Current Expenditure</td>
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<td>Current Account Balance</td>
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<td>Consumer Price Index (2000 = 100)</td>
<td>104.49</td>
<td>2.35</td>
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</table>

Source: Central Statistics Department

Table 2: Commonwealth of Dominica - Gross Domestic Product by Economic Activity, at Basic Prices in constant (1990) Prices (EC$M)

<table>
<thead>
<tr>
<th>Sector</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>Preliminary</th>
<th>% of Total</th>
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<tr>
<td></td>
<td>2003</td>
<td>2004</td>
<td></td>
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<tr>
<td>Agriculture</td>
<td>81.98</td>
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<td>76.09</td>
<td>73.31</td>
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<td>Mining &amp; Quarrying</td>
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<td>2.69</td>
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<tr>
<td>Manufacturing</td>
<td>31.32</td>
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<td>26.45</td>
<td>26.47</td>
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<tr>
<td>Electricity &amp; Water</td>
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<td>20.43</td>
<td>20.03</td>
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<td>Construction</td>
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<td>36.14</td>
<td>26.88</td>
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<td>Wholesale/Retail</td>
<td>58.45</td>
<td>58.02</td>
<td>55.02</td>
<td>56.99</td>
<td>59.27</td>
</tr>
<tr>
<td>Trade</td>
<td>11.7</td>
<td>10.30</td>
<td>10.47</td>
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<td>Hotel/Restaurant</td>
<td>44.68</td>
<td>42.22</td>
<td>36.7</td>
<td>38.67</td>
<td>44.78</td>
</tr>
<tr>
<td>Transport</td>
<td>53.16</td>
<td>49.71</td>
<td>48.91</td>
<td>39.39</td>
<td>41.75</td>
</tr>
<tr>
<td>Communications</td>
<td>58.56</td>
<td>56.54</td>
<td>53.27</td>
<td>54.76</td>
<td>55.86</td>
</tr>
<tr>
<td>Banks &amp; Insurance</td>
<td>15.66</td>
<td>15.81</td>
<td>15.96</td>
<td>16.28</td>
<td>16.28</td>
</tr>
<tr>
<td>Real Estate &amp; Housing</td>
<td>82.0</td>
<td>85.77</td>
<td>88.75</td>
<td>87.29</td>
<td>83.13</td>
</tr>
<tr>
<td>Government Services</td>
<td>5.98</td>
<td>6.14</td>
<td>6.42</td>
<td>6.61</td>
<td>6.74</td>
</tr>
<tr>
<td>Other Services</td>
<td>47.37</td>
<td>51.39</td>
<td>52.89</td>
<td>49.19</td>
<td>50.91</td>
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<tr>
<td>Less Imputed Service Charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>456.35</td>
<td>437.35</td>
<td>415.15</td>
<td>413.37</td>
<td>428.16</td>
</tr>
<tr>
<td>Growth Rate</td>
<td>1.31</td>
<td>(4.16)</td>
<td>(5.08)</td>
<td>(0.35)</td>
<td>3.49</td>
</tr>
</tbody>
</table>

Source: Central Statistics Department
Government’s fiscal and socio-economic development policy objectives, among other things, seek to:

- reduce public sector recurrent expenditure
- increase sources of revenue
- achieve sustainable debt servicing
- facilitate economic diversification in order to reduce unemployment, particularly among the youth, through greater emphasis on tourism and other non-traditional service industries.

The development programme of the Roseau Development Plan, strategy and Action Plan (RDPSAP) will be formulated in line with these objectives.
1.2.1 The Study Area

The boundaries of the City of Roseau, the Study Area, established by the Roseau City Council Act 17 of 1982 are as follows.

North: From the Sea along Ravine Cocque to the source of Ravine Cocque

East: A straight line from the source of Ravine Cocque to the Goodwill Reservoir at the junction of Roseau River and River Claire, thence along the Roseau River and River Douce to the Roseau Reservoir, thence in a straight line to River Canari near the Old Mill at Castle Comfort.

South: River Canari from a point near the Old Mill at Castle Comfort to the Sea.

West: The Sea

The area contains approximately 1,343 acres and consists of the following neighbourhoods/communities:

- Central Roseau
- Pottersville
- Goodwill/St. Aroment
- Stockfarm
- Fond Colet
- Bath Estate/Emsall/Lousiville
- Kings Hill/Morne Bruce
- New Town/Citronier
- Fortune’/ Bois Beau - Castle Comfort.
For administrative purposes, the City is divided into four (4) wards. Central Roseau, the focal point of this study, is by far the most built-up section of the City. The seat of Central Government and the Central Business District (CBD) of the City of Roseau are located in this area. Central Roseau covers approximately seventy (70) acres. This area is bounded as follows:

North: The Roseau River
South: New Town Savannah
East: Windsor Park/Botanical Gardens
West: The Sea

When the boundaries of Central Roseau are extended to include the Botanical Gardens, Windsor Park and the National Development Corporation (NDC) compound, the area increases to approximately one hundred and thirty (130) acres.

1.2.2 Historic Development of Roseau

Roseau is located on gently rounded headland, as opposed to other Caribbean capitals, which are in sheltered bays. The French, based on the great amounts of river reeds – roseaux - found in the river, named it Roseau. The French chose Roseau, as site of largest settlement, because it provided the greatest expanse of flat land along the leeward coast and water was also readily available from the river.

Roseau sits on a river delta composed of ash and pumice, which come from hot pyroclastic flows from Morne Micotrin, located at the head of the Roseau Valley. Volcanologists have made ominous remarks in relation to the city and the volcano, but it has remained dormant for the past 500 years. The Roseau River, which runs through the city, has changed course several
times. This created a number of lagoons, which have long since vanished, but the name (lagoon) was adopted in naming an area of the city. The Amerindians settlers who called it “Sairi” first inhabited Roseau. Successive indigenous settlements were covered by the construction of colonial Roseau. Missionary reports indicated that the Amerindians were still in Roseau in the late 17 Century, i.e. between 1642 and 1700. It was around this time that the development of Roseau began. French woodcutters came in from Martinique and built their huts and workshops among the native kalinago houses. By 1730, these had grown into a small village with the centre of it being what is now the Old Market Square. As the French moved in, the caribs moved out.

The French developed Roseau in a very haphazard manner and some of that development is still seen today in that particular section of the capital (French Quarter, which is south of Cork street and particularly around the Old Market area). These are exemplified by the narrow winding streets developed casually between the small buildings and have no standard width or organized direction.

The British captured Dominica in 1761 and two years later the island was formally surveyed and plans laid for a more orderly street pattern (A Grid System, which extends from Cork Street to River Bank). Surveyor Nathanial Meinshall did the final plans. The British supplied the names of many streets. An attempt was made to change the name of the capital to Charlotte Ville, in honour of the wife of King George the 3rd but this never materialized. There was also a failed attempt to shift the port southward, thus creating a new town. The name stuck but New Town was never popular. The hub of the colonial Government was positioned at the top of the hill that separates Roseau from New Town. This was the site for the Government Building,
Courthouse, Anglican Church, House of Assembly and a garrison (Fort Young) among others.

Roseau has suffered from military action including bombardment and pillage, and fires on three occasions. This was during the British capture in 1761, French capture in 1778 and another French attempt in 1805, when the entire town was engulfed; fire also engulfed the town in 1781. Additionally, several blocks of the city have been destroyed by fire from time to time over the past one hundred (100) years. Most of the capitals best architecture has been lost in that process. Roseau has also been hit by hurricanes in 1781, 1806, 1813, 1834, 1916, 1928, 1930 and 1979. In between, there have been lesser storms to contend with.

Most public utilities were introduced in the latter half of the 19th century. Pipe water from River Douce was brought to the town in 1874 and the first bridge was completed in that year. The Roseau Town Board was established in 1896 and electric power in 1905. Up to 1979, when the port was shifted to Woodbridge Bay, the main anchorage and shipping was along the bay front. The last steel and concrete peer was destroyed by Hurricane David in 1979. The House of Assembly Building on Victoria Street, then the centre of administrative function, was built in 1810, destroyed by fire in 1979 and has since been restored.

The local administration of Roseau saw the 1896 Act repealed in 1902 to make way for a Corporate Body for the Town of Roseau. There were two amendments to this Act in 1932. In 1938, the Act was further amended to make provision for a Town Council to be headed by a Mayor. On June 22, 1982, an Act of Parliament established the Roseau City Council. On June 30, the first City Council was sworn in after a non-contest 31 May election.
Dominica was never wealthy and this was reflected in the looks of the capital. Roseau claims distinction for quaint wooden and stone houses, most of which date back to Victorian times. Much has been lost through decay, fires and ugly replacements. Roseau has a number of small-scale buildings, the result of fragmented ownership. Attempts are current to preserve what’s left of this heritage.

Roseau is the hub of commerce, Government, health, education and information services, creating serious issues of congestion during the day. At nights and weekends, it is practically empty. Within the past two decades, the capital has expanded rapidly onto prime agricultural lands to provide the necessary living space and accelerating population (Bath Estate and Stock Farm for example). The capital and its suburbs now house approximately one quarter of the entire population of the island.

Meinhalls plans made no provision for open space in the capital. Gardens are not a feature of Roseau. Apart from the Botanical gardens, Peebles Park, Government building Grounds, Bishops House grounds and Cathedral grounds, one has to make a conscious effort to find greenery.

The first step towards the establishment of the Botanical Gardens was in 1889 and in 1891; Government bought the site east of the capital from Bath Estate. The area now known as Windsor Park was also purchased from Bath Estate by the then Roseau Town Board and declared a public recreation ground in 1910. In the last few years, there has been tremendous pressure on the Gardens due to lack of and misuse of playground space in Roseau, especially with the breakdown of the Windsor Park Playing Field to house an International Sports Stadium.
Boundaries of the City of Roseau
Map:2
1.3 Existing Land Use
This section describes the pattern of physical growth within the city and the factors that are like to impact future orderly growth and development.

1.3.1. Residential
Land use in the City of Roseau is dominantly residential; comprising largely of single and two family mixed income housing. With the exception of Central Roseau, Pottersville/Goodwill and Fond Colet, the rest of the communities making-up the city are mostly purely residential.

The residential neighbourhoods outside of the Central Area developed out of public sector planned housing schemes and squatter regularization. These neighbourhoods are near fully developed with low-density housing, generally in fair to good condition. Opportunities for infill exist but are few. Residential land use in Central Roseau is less clearly defined and housing condition generally of poorer quality than obtained in the sub-urbs.

From a total of four hundred and ninety six (496) building permits - four hundred and seventy eight (478) residential and eighteen (18) residential/commercial - issued by the PPD between 1999–2004, 63.3% were in respect of sites situated in the City of Roseau.

Residential land use in the Central Area could be grouped into two categories:

1. Mixed-use areas where the majority of the buildings are two or more floors, with the lower floor used for some type of commercial activity (mainly retail) and the upper floor(s) occupied for housing.
This pattern of land use generally occurs close to the centre of Central Roseau and in more recent times, encroached in the lower section of Pottersville and Victoria Street in New Town, thus increasing commercial floor space but at the expense of housing units.

Building condition in these areas is generally fair or better but there is a high incidence of vacant sites and derelict buildings - about 8% of properties with street frontage in the Central Roseau (1,013) consist of vacant lots and derelict buildings. Opportunities for infill in these areas are therefore many and should be encouraged.

2. The other type of residential land use in Central Roseau consists of pockets of buildings used primarily for dwelling. These areas are concentrated mainly on the northern and eastern edges of Central Roseau.

Buildings in these areas are generally congested, single storey, of timber construction and in poor condition. Many of the households lack pipe borne water and sewerage in their dwelling units. There also exist a high incidence of rental housing, absentee landlords, and low-income households. In places where public convenience facilities are lacking and/or inadequate, some residents use the Roseau River for disposal of human waste. Design proposals by the Dominica Water and Sewerage Company (DOWASCO) under an Infill Properties Sub-Project of the Roseau Water and Sanitation Project to alleviate unsanitary conditions in these areas still await implementation. In addition to lacking adequate amenities, these pockets of housing also constitute a threat to fire safety.

The problem of dilapidated housing in Central Roseau was recognised as early as the 1970’s in reports such as the “Roseau Master Plan 1972-1985”, which earmarked such areas for planned urban renewal. However, with the
exception of the Pound Project (late 1980’s) under which approximately two (2.0) acres of state and privately owned lands between Cork Street and Kennedy Avenue, west of Bath Road was cleared of dilapidated buildings and redeveloped, new developments in the residential districts of Central Roseau have taken the form of infill by individual property owners. Such projects, in addition to being few and far between, have generally been insignificant because, in the majority of cases, small timber buildings were simply replaced with two and three storied narrow concrete structures, within the confines of small plots of land.

Planned redevelopment in Central Roseau has and continues to be constrained by three main factors:

- Financing
- Land fragmentation
- Family ownership and absentee landlords

In the meantime, housing condition in Central Roseau continues to deteriorate, resulting in dramatic decline in population, depleted housing stock, poor housing condition and decay of the city’s landscape. Arresting deterioration in the residential districts of Central Roseau will therefore deserve greater attention over the plan period, than was previously given.

Tables 3-7 below provides further indications of existing housing condition in the City of Roseau in general and Central Roseau in particular as at the 2001 population census.
Table 3:
DISTRIBUTION OF HOUSEHOLDS BY GEOGRAPHIC AREA AND SIZE OF HOUSEHOLD, 2001 CENSUS

<table>
<thead>
<tr>
<th>Household Size</th>
<th>Total</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominica</td>
<td>22,359</td>
<td>6,483</td>
<td>4,388</td>
<td>3,045</td>
<td>2,202</td>
<td>1,401</td>
<td>710</td>
<td>367</td>
<td>197</td>
<td>71</td>
<td>367</td>
<td>46</td>
<td>44</td>
</tr>
<tr>
<td>City of Roseau</td>
<td>4,416</td>
<td>1,062</td>
<td>855</td>
<td>757</td>
<td>681</td>
<td>484</td>
<td>273</td>
<td>159</td>
<td>81</td>
<td>33</td>
<td>15</td>
<td>10</td>
<td>6</td>
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<tr>
<td>Central Roseau</td>
<td>598</td>
<td>171</td>
<td>136</td>
<td>107</td>
<td>69</td>
<td>58</td>
<td>33</td>
<td>14</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4:
DISTRIBUTION OF HOUSEHOLDS BY GEOGRAPHIC AREA AND MAIN SOURCE OF WATER SUPPLY, 2001 CENSUS

<table>
<thead>
<tr>
<th>Water Supply</th>
<th>Total</th>
<th>Private piped into dwelling</th>
<th>Private catchment no piped</th>
<th>Private catchment piped</th>
<th>Public piped into dwelling</th>
<th>Public piped into yard</th>
<th>Public well or tank</th>
<th>Other</th>
<th>None</th>
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</thead>
<tbody>
<tr>
<td>City of Roseau</td>
<td>4,416</td>
<td>182</td>
<td>12</td>
<td>24</td>
<td>3,042</td>
<td>420</td>
<td>616</td>
<td>9</td>
<td>111</td>
</tr>
<tr>
<td>Central Roseau</td>
<td>598</td>
<td>14</td>
<td>3</td>
<td>0</td>
<td>409</td>
<td>72</td>
<td>85</td>
<td>0</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 5:
DISTRIBUTION OF HOUSEHOLDS BY GEOGRAPHIC AREA AND TYPE OF TOILET FACILITIES, 2001 CENSUS

<table>
<thead>
<tr>
<th>Type of Toilet Facility</th>
<th>Total</th>
<th>W.C. (flush toilet linked to sewer)</th>
<th>W.C. (flush toilet) linked to Cesspit/Septic/Soakway</th>
<th>Pit-Latrine/VIP</th>
<th>Other</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Roseau</td>
<td>4,416</td>
<td>2,090</td>
<td>1,259</td>
<td>345</td>
<td>124</td>
<td>598</td>
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<td>Central Roseau</td>
<td>598</td>
<td>403</td>
<td>46</td>
<td>0</td>
<td>6</td>
<td>143</td>
</tr>
</tbody>
</table>
Table 6:

DISTRIBUTION OF HOUSEHOLDS BY GEOGRAPHIC AREA AND MATERIAL OF OUTER WALL, 2001

<table>
<thead>
<tr>
<th>Material of Outer Wall</th>
<th>Total</th>
<th>Wood</th>
<th>Concrete/Concrete Blocks</th>
<th>Wood Concrete</th>
<th>Stone</th>
<th>Brick</th>
<th>Adobe</th>
<th>Makeshift</th>
<th>Other/Don't Know</th>
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</thead>
<tbody>
<tr>
<td>City of Roseau</td>
<td>4,416</td>
<td>1,168</td>
<td>2,571</td>
<td>640</td>
<td>13</td>
<td>1</td>
<td>0</td>
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<td>7</td>
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<tr>
<td>Central Roseau</td>
<td>598</td>
<td>244</td>
<td>218</td>
<td>123</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
Roseau Central
Residential Areas in need of Refurbishment/ Redevelopment

Map: 3
1.2.3. Commercial
The City of Roseau lacks a defined Central Business District. Commercial land use is spread throughout Central Roseau with the highest concentration in the western half section to include the historic core of the City. With the exception of a handful of supermarkets and hardwares, the commercial buildings are generally average size, two to three storeys high, many of which were originally intended for housing. Consequently, many lack storefronts. Activities in the commercial area are sometimes conflicting, since the majority were not established in accordance with existing planning legislation.

Vacant lots, derelict buildings and sidewalk vending are common occurrences. Onsite parking, service entrances and public open spaces are also lacking. Sidewalks are often uneven and with the existing system of open street drains, pedestrian comfort level in the area is low. Together, these features create congestion and an image of urban decay in the commercial area.

The boundaries of a proposed historic/architectural preservation district – Roseau Historic District - embrace more than two thirds of the existing commercial area. Proposed standard to regulate development in this district will have major implications for property owners and developers in their quest to provide commercial floor space in respect of properties within the proposed district. It will be challenging therefore, to strike a sustainable balance between the need to preserve and protect the cultural heritage of the City and provision of an upgraded, efficient and functional Central Business District in the islands premier urban centre.
1.2.4. Institutional

This category of land use includes government offices, other public buildings (schools, churches, health facilities, etc.) and burial grounds. Institutional land use consumes approximately sixty-seven (67) acres of land in the City. About thirty five percent (35%) of this area is located in Central Roseau, with the highest concentration in the southeast sector, where most of the primary and secondary schools are found. The remainder are dispersed in sections of the residential neighbourhoods closest to Central Roseau - the Princess Margaret Hospital at Goodwill, for example.

Among the issues of concern in some pockets of institutional land use are:

- lack of onsite parking
- low pedestrian comfort level due mainly due to the absence of sidewalks, particularly in the school district
- lack of greenery or landscaping
- overcrowded burial ground, such as the Roseau Catholic Cemetery
- vehicular/pedestrian traffic conflicts

Planned interventions under the proposed Roseau Road Re-instatement Project will alleviate traffic problems presently confronting the institutional zone in Central Roseau. However, the grounds of many of these institutions could be upgraded to the level of that of the Government Headquarters through a programme of urban beautification. Given the critical shortage of large tracks of green-field land within the City, the problem of overcrowded burial grounds cannot be adequately resolved without giving consideration to alternative methods of burial, which would necessitate minor amendments to the existing applicable legislation.
The shortage of vacant land also holds implications for expansion of other existing institutional facilities and provision on new ones. Urban renewal, land reclamation and increased densities may thus be the only viable option over the plan period. Accordingly, government should give careful consideration to the allocation of state owned lands available for development within the City.

1.2.5. Industrial/Warehousing

This category of land use covers approximately forty-three (43) acres and is concentrated in the northwest section of the City at Fond Colet, in the vicinity of Woodbridge Bay Deep Water Harbour. Establishments in this zone generally consist of light manufacturing, hardwares stores and warehouses. The Public Works Department (PWD) garage, a central government facility earmarked for relocation, is also situated in this zone. The number of industrial establishment (The Tobacco Factory, for example), in Central Roseau are insignificant. However, this category of land use should only be allowed in areas zoned for that purpose.

Industrial land use is important to job creation in any community. In the case of the City of Roseau, the area classified industrial is not of concern with respect to pollution and it enjoys locational advantage relative to primary roads and commercial port access. Hence, from the standpoint of economic development of the City, this zone should be protected from competing land use encroachment. In this regard, proposals to utilise the existing PWD garage site for hotel development should be reconsidered, with a view to locating such development elsewhere and designating this site for light industrial use, including appropriate units of the proposed Business Incubation Centre.
1.2.6. Recreational/Open Space

Playing fields and other designated public spaces such as the Botanical Gardens are grouped in this category. Together, these areas cover approximately fifty-five (55) acres. However, when the Botanical Gardens and the Windsor Park/Dominica Grammar School compound (site of a new national stadium) are excluded, the remainder consist largely of playing fields covering a total of fourteen (14) acres.

The ratio of dwelling units to playing field area in the City, after the loss of the Windsor Park as a community playing field stands at 1:138 s.ft., which is less than the OECS minimum (1:200 s.ft.) recommended standard for new developments.

The existing playing fields in the City are also unevenly distributed relative to population, poorly developed and maintained, and lacks children playing facilities. The only community playing field in Central Roseau has been lost to the national sporting facility. The playing field for the neighbourhood of Stockfarm has also been absorbed by the existing sanitary landfill in the area. Provision must therefore be made to meet the recreational needs of residents in these areas over the plan period.

In this regard, attention could be given to:

- reallocation of existing playground space to allow shared use between community and schools
- provision of alternative recreational facilities
- facilitating more intensive use of existing facilities in a sustainable manner
- regulating the provision of recreational/open space in new development, including re-developments
- rewarding private developers who provide recreational/open space over and above minimum requirements with development incentives

**1.2.7. Agricultural**
This category of land use is not prevalent within the limits of the City.

A pocket of agricultural land located east of Fond Colet at Glasgow is privately owned and expected to remain under agriculture over the plan period.

The other two significant pockets of agricultural land use are the Livestock Centre at Stockfarm and the Plant Propagation Centre at the Botanical Garden, both owned and operated by the State – Ministry of Agriculture.

Presently, both facilities have lost locational advantage brought about by the pressures of urban expansion – most of the farmlands in and around Roseau which were serviced by these facilities, are presently under housing or other non-agricultural use. In this regard, consideration should be given to relocating these facilities closer to users of the service they provide and allocating the vacated lands to urban development.

**1.2.8. Nature Reserve/Greenfield**
This category of land use consist of lands which are too steep for building/development, watersheds and tracks of vacant buildable land.

The nature reserve areas are found mainly on the eastern periphery of the City and pockets within hilly neighbourhoods such as Kings Hill/Morne Bruce/Fortune’.
These lands are generally precipitously steep and if allowed to be deforested could be the source of mudslides and rock fall. The more accessible sections have over the years, attracted squatters who established housing enclaves which were eventually regularized at high public expense and associated environmental degradation. The lack of a visible institutionalized management system for such lands has undoubtedly contributed to this illegal and costly squatting activity and therefore deserves closer attention.

There are few remaining tracks of vacant land in the City of Roseau available for development. The vast expansion of buildable vacant land in localities such as Bath Estate and Stockfarm have been absorbed by irreversible low density housing and regularized squatter enclaves.

The more significant parcels of vacant land suitable for development within the City are to be found at Lolot Estate southeast of Fond Colet, Stockfarm in the vicinity of Simon Bolivia Housing Scheme and the State College, and Charlotte Valley east of New Town.

The first area is privately owned and in close proximity to the new sanitary Land Fill under construction. The housing development potential of this area has thus been considerably reduced. The second area (Stock Farm) is state owned and the subject of many competing demands, including future expansion of the State College, parking for the Netball Stadium among others. The area at Charlotte Valley has already been acquired and allocated to housing, primarily to relieve the housing pressures of New Town.

Therefore, given the critical shortage of large tracks of vacant land within and on the periphery of the City, consideration should be given to land
reclamation to meet land requirements of other sectors such as tourism, over the plan period.

1.2.9. Vacant Sites and Derelict Buildings
The existing large number of vacant lots and derelict buildings in Central Roseau should be of concern. A limited building survey conducted for the study in respect of street fronted properties in Central Roseau, Lower Pottersville and Victoria Street in New Town revealed that eight percent (8%) – 83 out of a total of 1,013 properties - in these localities consist of vacant lots and derelict buildings.

Many of the lots are un-kept and/or fenced with unsightly used corrugated galvanized roofing sheets. Some of these lots are used for the disposal of litter and therefore a source of rodents and other environmental health threats.

Some derelict buildings are so dilapidated that they constitute threats to motorists and pedestrians and constitute fire hazards. Generally, such properties deface the urban landscape and accentuate the image of urban decay visible in Central Roseau.

Attempts have been made by private sector individuals to make temporary use of a few vacant lots in a pleasing manner – ‘Our Things’ on King George Vth Street, for example. However, to a large extent, such properties continue to project an image of blight in Central Roseau, in the face of increasing property values.

Based on the current structure of Land and House Rate applied by the Roseau City Council, the owners of vacant lots and derelict buildings pay little to no tax in respect of such properties. This suggests that the existing
property tax regime is not a disincentive/or penalty for maintaining abandoned properties in the City. A sustainable development strategy for the City of Roseau should seek to redress this weakness.

1.2.10. Land Fragmentation/Ownership Pattern
Detailed planning for Central Roseau has been hindered by the lack of accurate information on land ownership. Many studies have recognized the need for a cadastral survey of Central Roseau in particular but to date efforts towards this important study have been unsuccessful due to the lack of finance.

The Land Valuation Unit of the Ministry of Finance has compiled ownership information on a limited number of city blocks in the commercial area. This data is however incomplete and does not cover the areas which are in need of upgrading/renewal.

Based on field reconnaissance and information gathered from previous reports such as the RMP 1972-1985, a large percentage of properties in Central Roseau are fragmented into very small plots, some as low as 250 sq. feet. Also, there is a high incidence of absentee landlords and family owned lots in the dilapidated section of the City.

Redevelopment in these areas cannot be meaningfully achieved without land assembly, a process which is time consuming, costly and difficult in areas where land is fragmented, privately owned and tied to many interested parties.

Planning for urban renewal in Central Roseau should therefore be preceded by a cadastral survey and supported by land development standards such as minimum lot area and frontage width to facilitate land assembly.
1.2.11. Squatting

Incidence of squatting in the City of Roseau has reduced considerably, partly due to the lack of state owned lands available for invasion. However, the problem still persists and should be arrested if the development of the City is to proceed in an orderly fashion. The proliferation of food vending huts along the south bank of the Roseau River, close to the New Market, is the latest in a long history of unauthorized occupation of state lands in the City. While it can be reasonably argued and accepted that squatting in urban areas here and in other developing countries is largely the result of failed housing and other socio-economic development policies, programmes and projects. It is however also true that the consistent lack of will on the part of those responsible to administer and enforce legislation designed to combat squatting encourages the practice.

Consolidation of the departments responsible for state lands, physical planning/development control and housing under one ministry would help to alleviate the problem; given adequate staffing, monitoring and enforcement.

Accordingly, consideration should be given to the following:

- removal of the food vending huts along the bank of the Roseau River
- provision of facilities for small food service providers in new vendors establishment(s) and planned/public open spaces
- provision for low income and social housing in public sector housing programmes
- development incentives to encourage private sector investments in rental accommodation for micro and small business
City of Roseau - Existing Land Use Map

LEGEND

- Community Names
- Existing Land Use
  - Botanical Gardens
  - Industrial
  - Commercial
  - Office/Institutional
  - Recreational/Open Space
  - Residential
  - Residential/Commercial
  - Sanitary Landfill
  - Stadium

- City Boundary
- Roseau River
- Existing Historic District

SCALE: 1: 25000

Project: Roseau Development Plan, Strategy and Action Plan
Client: Physical Planning Department
Date Created: 18th November 2005

Baptiste & Associates Limited

Map: 4
1.3. Population and Employment

1.3.1. Population

The last three-population censuses recorded declines in the population of the City of Roseau compared to 1970. The City’s share of national population dropped from 24.0% in 1970 to 20.4% by 2001. Between the census periods 1970 to 2001, Dominica’s population moved from 69,549 to 71,242, while that of the City of Roseau declined from 16,678 to 14,219 persons.

During the period 1991 to 2001, population in Central Roseau dropped from 7,185 to 1,715 persons. According to the 2001 population census, Central Roseau share of the City’s population stood at only 12.0% compared to 44.7% in 1991. See Tables 7.

The age and sex of the City’s population near mirrors that of the national population.

According to the 2001 population census, 50.3% of Dominica’s population were female and 49.7% males, compared to 56.1% and 43.9% for the City of Roseau, and 53.0% and 47.0% for Central Roseau respectively.

Like the national population, the City of Roseau has a youthful population with 46.0% falling in the age group 0-24 years compared to 41.5% and 53.5% for Central Roseau and Dominica respectively. Just over 48.0% of the City’s population are within the age group 20-44 years. Persons 65 years and over represent 9.4%, 8.6% and 13.0% of the national, City of Roseau and Central Roseau population respectively. See Table 9.

These demographic indicators further point to the likely increase demand in the areas of employment, housing and social services, over the plan period.
During the 1960’s and 70’s, natural increase and rural-urban migration contributed positively to the City’s population growth. However, significant improvements in social and engineering infrastructure developments in rural communities, development of new housing areas on the City’s periphery and migration during the 1980’s and 90’s sparked and maintained decline in the City’s population.

Deteriorating housing conditions and encroachment of commercial establishment into residential areas in Central Roseau further fuelled population decline in this part of the City. Should housing condition in Central Roseau continue to deteriorate and change of use development allowed to continue unabated, population in Central Roseau will continue to decrease over the plan period.

**Projections:** Assuming, however, that over the plan period economic conditions in Dominica improve sufficiently to cause a decrease in the high migration rates experienced over recent times and interventions proposed in this plan document to improve housing and employment conditions in the City generally and Central Roseau in particular are realised, there will be a reverse in the population growth trends observed over the last three censuses.

Based on the above, it is projected that Dominica’s population will increase by ten percent (10%), the City’s share of national population will average twenty-two percent (22%) and Central Roseau accounting for twenty-five percent (25.0%) of the City’s population over the plan period. The population of the City and Central Roseau are therefore estimated to increase to 17,400 and 4,400 people respectively by 2020. See Table 8.

---

1 Population and Land Use studies (1994) for the Roseau Water and Sanitation Project estimated the population of the City would increase to over 20,000 by 2020.
### Table 7: Non-Institutional Population 1970 - 2001

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominica</td>
<td></td>
<td>69,466</td>
<td>73,795</td>
<td>71,183</td>
<td>71,242</td>
</tr>
<tr>
<td>City of Roseau</td>
<td>% of National population (NP)</td>
<td></td>
<td>24.0</td>
<td>22.6</td>
<td>22.5</td>
</tr>
<tr>
<td>Central Roseau</td>
<td>% of City's population (CP)</td>
<td></td>
<td>-</td>
<td>49.5</td>
<td>44.7</td>
</tr>
</tbody>
</table>

### Table 8: Projected Non-Institutional 2005 – 2020

<table>
<thead>
<tr>
<th>Geographic Area</th>
<th>Population/census Year</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dominica</td>
<td></td>
<td>71,700</td>
<td>74,100</td>
<td>76,500</td>
<td>78,900</td>
</tr>
<tr>
<td>City of Roseau</td>
<td>% of National population (NP)</td>
<td></td>
<td>20.0</td>
<td>22.0</td>
<td>22.0</td>
</tr>
<tr>
<td>Central Roseau</td>
<td>% of City's population (CP)</td>
<td></td>
<td>12.0</td>
<td>15.0</td>
<td>20.0</td>
</tr>
</tbody>
</table>

### Table 9: Population by Age and Sex, 2001

<table>
<thead>
<tr>
<th>Geographic Area/Sex</th>
<th>Total</th>
<th>Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-4</td>
<td>5-14</td>
</tr>
<tr>
<td>Dominica (F) Female</td>
<td>69,966</td>
<td>6,087</td>
</tr>
<tr>
<td></td>
<td>34,086</td>
<td>3,059</td>
</tr>
<tr>
<td></td>
<td>34,549</td>
<td>3,028</td>
</tr>
<tr>
<td>Dominica (M) Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Roseau (F) Female</td>
<td>14,219</td>
<td>1,212</td>
</tr>
<tr>
<td></td>
<td>7,523</td>
<td>612</td>
</tr>
<tr>
<td></td>
<td>6,696</td>
<td>600</td>
</tr>
<tr>
<td>City of Roseau (M) Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Roseau (F) Female</td>
<td>1,715</td>
<td>127</td>
</tr>
<tr>
<td></td>
<td>962</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>753</td>
<td>64</td>
</tr>
<tr>
<td>Central Roseau (M) Male</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Housing Needs:** Based on the above projections, demand for new housing units, assuming no change in the average household size (3.2 persons), and allowing 25% and 50% for replacement and backlog in the City generally and Central Roseau, is estimated at 2094 and 1238 units respectively over
the plan period; which is equivalent to an average of 140 and 83 units per annum respectively.

1.3.2. Employment

According to the 2001 population census 5,795 persons, representing 65% of persons 15-64 years residing in the City of Roseau, reported to be employed. The equivalent figure for Central Roseau was 715 persons and 65.1% respectively. Those reported unemployed and seeking work was 8.0% and 5.0% of residents 15-64 years in the City and Central Roseau respectively. The employment indicators for the City were more favourably than that of Dominica, which then stood 60.0% and 7.4% respectively.

Service and craft related workers were by far the largest occupational group, representing 35.8% and 34.7% of persons employed in the City and Central Roseau respectively. See Table 10 and 11.

Realisation of the Tourism related interventions of the RDPSAP will result in an increase in the number of persons employed in this two occupational groups.

Table 10: Population by Geographic Area, Sex and Economic Activity for the past Week, 2001 Census

<table>
<thead>
<tr>
<th>Location</th>
<th>Total</th>
<th>Employed</th>
<th>Seeker</th>
<th>Other Unemployed</th>
<th>Home Duties</th>
<th>Attended School</th>
<th>Retired</th>
<th>Disabled, Unable to Work</th>
<th>Other</th>
<th>Not Stated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total - City of Roseau</td>
<td>10,172</td>
<td>5,795</td>
<td>599</td>
<td>107</td>
<td>1,177</td>
<td>1,051</td>
<td>1,052</td>
<td>205</td>
<td>53</td>
<td>133</td>
</tr>
<tr>
<td>Total - Central Roseau</td>
<td>1,319</td>
<td>715</td>
<td>106</td>
<td>6</td>
<td>127</td>
<td>135</td>
<td>164</td>
<td>37</td>
<td>11</td>
<td>18</td>
</tr>
</tbody>
</table>
Table 11: Population Employed by Geographic Area, Sex and Occupational Group for the past week, 2001 Census

<table>
<thead>
<tr>
<th>Location</th>
<th>Total</th>
<th>Legislators/senior officials and managers</th>
<th>Professional</th>
<th>Technicians and associate professional</th>
<th>Clerks</th>
<th>Service workers and shop/sales vendors</th>
<th>Skilled agricultural and fishery workers</th>
<th>Craft related trade workers</th>
<th>Plant machine operators/assembly</th>
<th>Elementary occupations</th>
<th>Not Stated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total - City of Roseau</td>
<td>5,758</td>
<td>441</td>
<td>348</td>
<td>718</td>
<td>847</td>
<td>1,134</td>
<td>100</td>
<td>925</td>
<td>284</td>
<td>960</td>
<td>1</td>
</tr>
<tr>
<td>Total - Central Roseau</td>
<td>711</td>
<td>76</td>
<td>47</td>
<td>83</td>
<td>95</td>
<td>128</td>
<td>6</td>
<td>109</td>
<td>31</td>
<td>126</td>
<td>0</td>
</tr>
</tbody>
</table>
1.4. **Social Infrastructure**

The ultimate goal of development is the improvement of the social condition of the individual. Therefore, a plan for the re-development of the City of Roseau must ensure that the social infrastructure which supports the institutions entrusted with maintaining the well being of the individual are capable of doing so, both now and in the future. A review of the Social Infrastructure of the City of Roseau and an analysis of the issues impinging on the functioning of these institutions are detailed below:

1.4.1. **Health**

The health of a nation is critical to its economic prosperity in many ways. The state of health is not only a factor in the productive capacity of the nation but can also have a high social cost. The health condition of a nation is measured by the standard of its health facilities and the availability of trained health professionals.

1.4.1.1. **Princess Margaret Hospital**

The Princess Margaret Hospital (PMH), which is situated within the City of Roseau, is the island’s premiere secondary health care institution. The facility has a capacity of 224 beds, including 56 in the psychiatric unit. The facility is presently experiencing difficulties in meeting the needs of all its patients, due to lack of resources. There is also the continuing migration of nurses which is not unique to Dominica. There has not been a marked increase in admissions over the pass three years. The present capacity of the hospital is not critical, as it can sometime be a question of redistribution of beds. This is particularly true in the case of the maternity ward which is usually under-utilized. The normal functioning of the facility, especially the Accident & Emergency Unit, is being overstressed due to the absence of a primary health care facility in Central Roseau.
The overriding concern is more one of limited floor space than lack of beds. This has resulted in limited mobility for patients and staff, cramped wards/quarters and the inability to isolate patients when necessary. The proposed renovation of the facility will alleviate some of the problems now being faced by providing additional space for the male/female medical and surgical wards, out-patients unit, and the psychiatric unit. The construction will involve demolition and erection of new buildings and the refurbishment of others.

It is projected that renovation could provide sufficient space to increase the beds in the medical & surgical wards and the intensive care unit from 84 to 144. This does not include the psychiatric unit for which funding has been confirmed and renovation is to commence soon. Additionally, the pressure on the hospital resources will be eased when the primary health care situation in the Roseau Central area is resolved. It is suggested that the establishment of a faculty of Health Sciences at the State College will address some of the concerns regarding the migration of nurses, in the short term. This may also improve the shortfall in health care professionals by providing graduates who may want to specialize.

1.4.1.2. Health Clinics
In the 1980’s, Dominica was considered a model for primary health care in the Caribbean through its network of type 1, 2 & 3 clinics in seven (7) health districts around the island. The system is presently going through some challenges and this may no longer be the case.

The primary health care system is designed to provide health care to the general public. It is meant to be easily accessible and free. The stated goal of the health care system, in the 1980’s, was “health for all by the year 2000”. This goal may not have been achieved in light of the numerous
challenges which faced the health sector even before the year 2000. One significant challenge was, and continues to be, the migration of nurses. Notwithstanding these challenges, the various services provided are all geared at maintaining a healthy society.

The Roseau Health Centre building was recently condemned as being unfit. A number of the services are now being offered at two separate locations, within Central Roseau. The additional services are being shared between the PMH and the two other clinics within the City of Roseau, situated at Woodbridge Bay and Newtown. This has placed additional pressure not only on the PMH but on the other two clinics. This has also brought into question the quality of the service now being delivered by these facilities.

There is an ongoing debate as to whether or not to build a health clinic in the Central Roseau area, now that the odds are heavily against utilizing this prime location to re-build the Roseau Health Centre. The question being asked is whether to up-grade the present health clinics at Woodbridge Bay and Newtown. The location of the Woodbridge Bay clinic is also at stake, as plans are being developed to locate a new hotel complex in the area. It has also been suggested that a modern clinic could be built in Newtown to replace the present facility which is a rented building.

Health officials and other stakeholders are also mindful that in the re-development of the City of Roseau, especially with a view of increasing the number of visitors and residents alike, there should be a visible presence of a primary health care facility.

The other areas that are of major concern to health authorities, outside social infrastructure, are HIV/AIDS, Sexually Transmitted Infections (STIs), Non-Communicable Illnesses, Drug Use and Environmental Health Issues.
The health authorities and other stakeholders are particularly concerned as to the cost of implementing a HIV/AIDS Strategic Plan (2003/07) which is estimated to cost in the region of EC$11.5 to 17.2 million. Figures from the Health Information Unit have revealed a high prevalence of STIs among the age groups 20 to 35. This indicates that there is a continuing need for sex education among the youths, as this trend may continue to expose young people to HIV/AIDS infections.

1.4.1.3. Environmental Health
The majority of issues associated with environmental health also impinges on many other sectors of the developmental process and may need an integrated approach to their solution. However, there is a growing concern regarding food safety in the City, especially as it relates to the numerous small food establishments which have sprung up at various points in the City - along the Roseau River bank, in recent times, for example. The Food Safety Act which empowers the Environmental Health Unit in its supervisory functions, as it relates to food establishments, lacks the necessary regulations. The standards to which these food vendors should adhere are embodied within these regulations. The Act has been passed in parliament but the regulations have not yet been approved.

Additionally, the following issues are also of grave concern:

- Litter Management;
- Abandoned/Empty Lots;
- Excreta Disposal;
- Roseau River Degradation;
- Stray Animals;
- Noise Abatement;
- Fish Vending; and
- Street Cleaning Schedule.
1.4.2. Education

Education remains the primary means of socialization and for social mobility in society. Any strategy for development, therefore, must also address the type and quality of education being offered. The Education Act of 1997 sets out the governing principles of the education system. This includes the teacher to child ratio and the physical space requirements which are 1 to 25 and 3 sq. ft., respectively.

There are four (4) main levels of education in the system, as follows:

1.4.2.1. Pre-school

Pre-school, as it is popularly referred to, is the pre-primary segment of Early Childhood Education which caters for the 3 to 5 year old child. The process begins at the home and, in some instances, continues into Day Care. These institutions were largely managed and operated by the private sector, especially the churches, until recently. An Early Childhood Education Council has been instituted by government with a mandate to regulate, supervise and monitor all early childhood centres/facilities on the island. The Education Act, which was amended in 2000 to incorporate children from birth to five years old, now provides guidelines for early childhood education. However, the act does not bind Government to any financial obligation to early childhood education, nor does it make it compulsory for parents to place their children at an early childhood facility. The home is considered the first learning centre.

The figures for the 2004/05 academic year indicate that there are nineteen (19) pre-schools in the City of Roseau, with a total enrolment of 767 pupils. The figures also indicate that there were seven (7) pre-schools in the Central Roseau area, with an enrolment of 198 pupils.
1.4.2.2. Primary School

Primary school education is free and compulsory between the ages of five (5) to sixteen (16) years. There is a general acceptance of compulsory education at the primary level and truancy in the City of Roseau is considered to be extremely low.

Central Roseau once featured the then prestigious Roseau Boys School, along with the Roseau Girls School and the Roseau Mixed Infant School; they were all government owned and operated facilities. All three institutions have given way to development, with the Roseau Boys and Girls Schools being integrated and relocated to Bath Estate.

There are presently nine (9) primary schools within the City of Roseau, with an enrolment of 3049 pupils (2004/5). Three (3) of these schools, with an enrolment of 1447 pupils (2004/5), are in the Central Roseau area. They are all government assisted schools managed by the Roman Catholic Church. The number of pupils enrolled in Roseau Central is not a reflection of the population of the area. The main factors influencing primary school enrolment in Roseau Central can be associated with prestige, the quality of teachers and the ease of travel/transportation with parents.

The majority of the primary schools in the City of Roseau are of recent construction. The schools are all fully staffed and meet the teacher to pupil ratio on a school basis but not necessarily on a classroom basis. Physical space is fairly well managed at these schools, especially with the continued decline in population in the Central Roseau area. There is a growing trend for children outside of the City’s boundary to seek enrollment in the City while the enrollment of a number of schools continue to decline.
1.4.2.3. Secondary School

The Roseau catchment area includes all the primary schools in the City of Roseau – south to Scott’s Head and north to Massacre, the Valley – including Giraudel/Eggleston and La Plaine/Delices. There are presently eight (8) secondary schools in the City of Roseau, with six (6) of these schools within the Central Roseau. The total number of students enrolled in the City of Roseau was 3159 for the 2004/5 academic year, as detailed in Table 5.1. The total for Central Roseau was 2,399 students. The only government owned secondary school in Central Roseau, Dominica Grammar School (879 students), is presently being re-built to accommodate 1000 students.

The construction of the new Dominica Grammar School will herald Universal Secondary Education (USE) for students of the Roseau catchment area. However, there are indications that the 2005 Common Entrance Examination will be the last of its kind. The goal is for Universal Secondary Education for all by 2006. Thereafter, all children will enter secondary schools where they will be assessed in the third grade and streamlined into an academic or technical/vocational stream.

One of the perceived challenges facing USE is the fact that a number of students who may have difficulty operating at the required level may be brought into the secondary school system. This may result in higher than normal numbers of dropouts and repeaters than what currently exists. In the academic year 2003/04 and 2004/05, repeaters totalled one hundred sixty three (163) and one hundred eighty six (186), respectively, while dropouts totalled 42 for each of the corresponding academic year.
Table 5.1.  **2004/05 Secondary School Enrolment Figures:**

<table>
<thead>
<tr>
<th>No</th>
<th>School</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D/ca Grammar School</td>
<td>594</td>
<td>285</td>
<td>879</td>
</tr>
<tr>
<td>2</td>
<td>Goodwill Secondary</td>
<td>424</td>
<td>226</td>
<td>650</td>
</tr>
<tr>
<td>3</td>
<td>Convent High</td>
<td></td>
<td>494</td>
<td>494</td>
</tr>
<tr>
<td>4</td>
<td>D/ca Community High</td>
<td>79</td>
<td>31</td>
<td>110</td>
</tr>
<tr>
<td>5</td>
<td>St Martin Secondary</td>
<td></td>
<td>298</td>
<td>298</td>
</tr>
<tr>
<td>6</td>
<td>St Mary’s Academy</td>
<td>412</td>
<td></td>
<td>412</td>
</tr>
<tr>
<td>7</td>
<td>Wesley High School</td>
<td>296</td>
<td></td>
<td>296</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1509</td>
<td>1630</td>
<td>3139</td>
</tr>
</tbody>
</table>

Source: Planning Unit, Ministry of Education

It should be noted that most of the schools have access to hard court facilities. However, the same is not true for other sporting and physical training needs. Increasingly, the Botanical Gardens is being used for that purpose. The plans for the new Dominica Grammar School include the establishment of a playing field in its vicinity. This will also be used as a practice field for the new national sports stadium.

**1.4.2.4. Tertiary Education**

The recent establishment of the Dominica State College has increased the number of student accessing tertiary education from below 200 to approximately 1500. There are four faculties in Arts & Sciences, Applied Arts & Technology, Health Sciences and Education. There is also a department of Adult & Continuing Education. These have provided additional opportunities, especially in the areas of hospitality services, adult and continuing education, to a large number of unemployed youths who can now gain a skill or upgrade their career. The Adult and Continuing Education Department
has the capacity to structure certain courses in accordance with the needs of organizations or groups.

The College is at the moment going through its teething stages and a number of shortcomings are being identified. Among suggestions being made, is for the establishment of a fully equipped library to serve the needs of students and the establishment of a campus for agriculture at the Northern Education Complex. Steps should also be taken to build a recreational facility, preferably on lands located in the vicinity of the college.

1.4.2.5. Non Formal Education

This sector also contributes to the education and training of young people in the Roseau area. Private institutions, such as the Business Training Centre, are now receiving a certain level of supervision and technical support from the Ministry of Education. While these private institutions offer their courses at a cost, Government institutions such as the Adult Education Division and the Youth Division offer academic and technical skills free of charge or at a minimal cost. However, there are major constraints facing the government institutions such as the lack of funds and/or physical facility (e.g. An Adult Education Learning Centre in Roseau).

The Youth Development Division has been involved in non-formal skills training since 1981. Young people, who have met the selection criteria, are trained in marketable skills and, on completion of their training, undergo a period of apprenticeship. They are subsequently placed in permanent employment. The Division estimates that 70% of its trainees are employed.

The Adult Education Division offers a broad range of training from basic literacy programs to the junior secondary level and up to the CXC. All courses are also offered at the State Prison, with limited success. A number
of volunteers are utilized as resource persons in the implementation of the program. The adult education program has been ongoing for over twenty-five years.

1.4.2.6. Library Services
Dominica’s main library is situated within the study area. It is housed in a 99 years old building and the services now being provided are partly computerized. It is linked to the Documentation Centre, a source of government information and has branches in Portsmouth, Grand Bay and Marigot. The Library also provides support services to community libraries on island. Among other services, the Library provides a mobile service to schools outside of the Roseau area.

The computerization of the library to include a network service among its branches is one of the many challenges faced by this institution. However at the top of the list is the issue of space. Over the years the library has come under increasing pressure to serve its growing clientele. The situation has been aggravated by the coming on stream of the State College, which lacks an adequate library facility.

The library is guided in its service delivery by the UNESCO Manifesto and so far has kept within standards as outlines, given its limited resources.

1.4.3. Social Issues:
There are generally a number of social issues that are endemic to city life. These issues are most often part of the development process or are a consequence of development. These issues are challenges which have to be addressed as part of the developmental process of any city.
The following is a list of the main social issues facing the City of Roseau which, if left unattended, may impact negatively on development:

1.4.3.1 Crime

The available statistical data reveals that the major crimes prevalent in the City of Roseau are burglary, theft, robbery, battery, wounding and malicious damage. The figures in Table 1.4.3.1 indicate that the major crimes reported for the Roseau District remain high and relatively constant throughout the last four years. Murder remains top of the least irrespective of the numbers. However, all other categories identified exceeded ten (10) reported cases in at least one year of the period under review.

The figures also indicate a high incident of violence against person, property, and gang related violence. Gang related violence is more prevalent during social gatherings and other festive occasions. The high level of crimes against the person and property may impact negatively on development, especially tourism related development as will be expounded on elsewhere in this study.

Table 5.2. shows 2001/04 Crime Statistics for City of Roseau, including the Roseau Valley (See Appendices)

Juvenile Delinquency in the City is also a growing concern for law enforcement officials. The juvenile court statistics for 1998, 2000 to 2005 (1\textsuperscript{st} quarter) reveals that, following a decline between 2001-03 from a high in 1998 & 2000, court cases are again on the rise for the past two years (Table 00).
### Table 5.2. Juvenile Court Statistics

<table>
<thead>
<tr>
<th>Year</th>
<th># of Cases</th>
<th>Indictable Offences</th>
<th>Probation/Supervision</th>
<th>Prison</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>142</td>
<td>18</td>
<td>59</td>
<td>5</td>
</tr>
<tr>
<td>2000</td>
<td>164</td>
<td>18</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>2001</td>
<td>63</td>
<td>10</td>
<td>32</td>
<td>-</td>
</tr>
<tr>
<td>2002</td>
<td>52</td>
<td>15</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>2003</td>
<td>32</td>
<td>8</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>2004</td>
<td>68</td>
<td>14</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>2005 (1st. quarter)</td>
<td>38</td>
<td>9</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>559</strong></td>
<td><strong>92</strong></td>
<td><strong>184</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

Source: Welfare Division, Ministry of Information, Community Development, Culture & Gender Affairs

The data also indicates that over the seven-year period a total of 17 prison sentences were passed down and the offenders sent to the Adult Prison due to the absence of a Correctional facility for young offenders. During the same period, 184 probation and/or supervision orders were made in spite of limited staff at the Welfare/Probation office.

### 1.4.3.2. Drugs

The abuse of drugs and an apparent drug culture, especially among the youths, remains a major concern for law enforcement officials. The main drugs being used are marijuana (cannabis) and cocaine. The use of alcohol is socially accepted. However, its abuse can have serious repercussions on the individual, family and society by extension. The figures for the possession of both cocaine and cannabis shows are decline over the last four years, which may not necessarily indicate a drop in the use of these drugs (See Table 5.3.).

There is no drug rehabilitation centre on island, but there have been instances when locals have had to access a centre in the neighbouring island of St. Lucia.
The Drug Education Unit falls under the Ministry of Health and Social Security. The Division works closely with schools and community groups as it seeks to promote public awareness on the dangers of drugs. It promotes and funds small income generating business as an alternative to drugs at the community level. The Unit has recently moved into the new area of street theatre, as part of its public awareness program.

1.4.3.3. Poverty

Unemployment is one of the main causes of poverty in the City. Available figures indicate that 18% of households of the City of Roseau are poor, with 5% being indigent. This represents 23% of the population of the City. It is worthy to note that most safety net programs, with the notable exceptions of public assistance and Education Trust Fund Program, do not target city residents.

1.4.3.4. Housing

The state of housing in a number of sections in the City of Roseau is characterized by poor physical structure, and inadequate toilet/bath facility. The availability of rental accommodation, especially for the low-income earner, is also a cause for concern.

1.4.3.5. Recreation & Sport

The lack of recreational and sports facilities in the City of Roseau is becoming ever apparent. This is evident on the growing use of the Botanical Gardens by schools and individuals alike, in light of the unavailability of the Windsor Park. There is widespread concern that the construction of the Windsor Park Stadium will aggravate the problem since the stadium will not be available for daily sporting and recreational activities. The three remaining parks in the City are either over-used or miss-used, as is the case
of the Pottersville Savannah. Open green spaces where children can play are also fast disappearing from the City of Roseau.

1.4.3.6. The Disabled
It is estimated that 10% of the population have some form of disability. However, the provision of access to public and other buildings still remains a major concern. There is also the pressing issue of equal opportunity in the areas of education and employment. The Dominica Association of Disabled Persons remains the primary organization which advocates on behalf of disabled persons. The organization is in the process of expanding its headquarters on land provided by the Government of Dominica.

1.4.3.7. The Elderly
Dominica is universally recognized for its large number of centenarians. The figures for the City of Roseau indicate that a growing percentage of the population is over the age of sixty (60) years. The Dominica Infirmary, with a population of 95, caters for indigent persons needing bedside care. Additionally, the Grotto Home for the Homeless accommodates not only elderly persons, but anyone who may be in need of shelter. Construction of the new sports stadium will necessitate relocation of this facility.

Activities relating to the elderly are coordinated by the Dominica Council on Aging, which is a non-profit Non Government Organisation, registered in 1993.

1.4.3.8. Public Amenities
Approximately 24% of the City’s household lacks flush toilets. Public conveniences built to facilitate residents are limited in use and generally poorly managed. Additionally, the situation is compounded by the removal
of public standpipes in the City. A project which would alleviate the situation - Infill Properties Sub-Project remains on hold.

1.4.3.9. The Disadvantaged/Vagrants
There are a growing number of reported cases of abuse, especially physical and sexual, against children and women. The table below indicates reported cases of abuse over the past four (4) years:

Table 5.4. Child Abuse Statistics:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sexual</th>
<th>Physical</th>
<th>Emotional</th>
<th>Neglect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>12</td>
<td>96</td>
<td>105</td>
<td>84</td>
</tr>
<tr>
<td>2002</td>
<td>1</td>
<td>36</td>
<td>60</td>
<td>36</td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>37</td>
<td>35</td>
<td>1</td>
</tr>
<tr>
<td>2004</td>
<td>1</td>
<td>15</td>
<td>24</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15</strong></td>
<td><strong>184</strong></td>
<td><strong>224</strong></td>
<td><strong>122</strong></td>
</tr>
</tbody>
</table>

Source: Welfare Division, Ministry of Information, Community Development, Culture & Gender Affairs

Plans are now underway to build a Halfway Home outside the City of Roseau. This facility will facilitate the housing of certain disadvantaged children until a permanent solution to their problem is fund.

1.4.3.10. Safety
Safety is becoming a cause of concern from many quarters. Permanent among these are the safety of the life & limbs of our children on the streets of the City, the safety of the visitors, the security of the ports and the safety of institutions like the hospital where the final assault in the gang war is lunched. Many of these issues will be addressed in other sections of the study.
The other area of concern, as regards to safety in the City of Roseau, has to do with fire hazards. These are in particular relation to wooden irreparable buildings and vacant lots. This concern extends to environmental health because they are also breeding ground for rodents and vectors. The locations of fire hydrants and unimpeded access to them at all times are also situations needing urgent action.
1.5. **Tourism**

**Objectives:** Revitalize Roseau as a major tourism attraction through the development and upgrading of tourism infrastructure, superstructure, facilities and services.

**Strategy:** To undertake an integrated, demand driven approach to the development and upgrading of tourism infrastructure, facilities and services that incorporates the residents, the private sector and government and in keeping with government’s tourism policy of sustainable development.

Tourism will be identified as the catalytic component within the larger socio-economic system developing and strengthening the links between tourism and the other components to achieve social and economic development.

To develop synergistic model of growth whereby major players/stakeholders contribute to the overall development of the city and provide a unique experience to visitors.

Care will be taken that the social, cultural and environmental integrity of the city is not compromised ensuring a revitalized city and an enhanced and diversified product.

1.5.1. **The Tourism Market**

1.5.1.1. **Global Trend:** The World Travel and Tourism Industry has described tourism as one of the fastest growing sectors in the world generating U.S.$ 5.5 trillion in visitor expenditure and an estimated 3.5% contribution to the world’s GDP. According to WTTC, tourism was expected to provide 3.3 million new jobs in 2004, 2.8% of the total world employment and is expected to grow at an annual rate of 4.5% through to 2014.
In a landmark study, the Travel Industry Association of America (TIA) has documented the strong feelings U.S. travelers have about preserving the natural environment as well as history and culture. The report called, Geo-tourism: The New Trend in Travel, showed that more than three-quarters of American travelers feel it is important that their visits not damage the environment, and 62% say it's important to learn about other cultures when they travel. Furthermore, 38% of travelers say they would pay more to use a travel company that strives to protect and preserve the environment. The two-part study was sponsored by National Geographic Traveler and is the first to define geo-tourists as specific psychographic groups and also begin to track their preferences.

There are more than fifty five (55) million Americans that can be classified as Geo-tourists. Geo-tourism encompasses all aspects of travel - not just the environment. It is defined as tourism that sustains or enhances the geographical character of the place being visited, including its environment, culture, aesthetics, heritage and the well-being of its residents - describes completely all aspects of sustainability in travel, and hits all of the definable touch points associated with providing the authentic travel experiences that travelers demand today. This is of interest to Dominica as it seeks to market a different type of tourism product also described as “experiential tourism” as stated its tourism policy.
1.5.1.2. Tourism in the Caribbean: The Caribbean Tourism Organization (CTO), in reporting on trends in Caribbean for 2004 indicated the following,

1.5.1.3. We can perhaps describe the Caribbean tourism sector as “robustly holding its own”. In 2004, CTO estimates that tourist arrivals to the region grew by 7% to reach 21.8 million in 2004, having enjoyed a similar increase in tourist arrivals in 2003.

During 2004, cruise passenger visits to Caribbean destinations increased by an estimated 13% to reach 20.5 million. Gross visitor expenditure was estimated to be U.S$ 21 billion.

In terms of the major markets to the Caribbean, tourist arrivals from the United States grew by just over 7% during this period, arrivals from Canada were up by some 16% (although most of these went to Cuba and the Dominican Republic) while tourist arrivals from Europe grew by just over 4%.

1.5.2. Overview of Tourism In Dominica: Dominica is ranked by “Islands Magazine” as one of the top ten (10) islands in the world in terms of adventure nature experience and one of the top five (5) dive destination in the Caribbean. Over the past twenty (20) years Dominica has positioned itself as an eco-tourism destination, promoting its natural, participation in the tourism development process.

Over the last fourteen (14) years, Dominica has developed special interest activities like Dive Fest, Sports Fishing and more recently, the World Creole Music Festival in addition to the traditional Independence and Carnival Celebrations. While the World Creole Music Festival has survived, we have seen the demise of Sports Fishing (1998) and Dive Fest has not shown the potential success envisaged.
In keeping with the eco-tourism /sustainable development, Dominica in 1988 developed and ratified a tourism policy that in its broadest sense correlated the development of tourism with the following:

- Improvement in the quality of life
- Creation of foreign exchange
- Enhancement and preservation of the nation’s cultural heritage
- Conservation of the physical resources of Dominica and earning of finance for conservation and development of Dominica’s renewable natural resources and contribution to the revival of
- National Arts crafts and the raising of the consciousness of the people in this regard.

The tourism policy has recently been expanded (2004) to integrate an action- oriented development process.

Tourism is the largest potential growth area in Dominica. Visitor arrivals figures have been fluctuating over the last nine years. It peaked in 1996 and 1999 to 68,648 and 77,430 visitors respectively, with dramatic decreases in 2000 up to 2003 and registering some level of growth from 2004 as a result of increased marketing activities and arrivals from Haiti and the Dominican Republic.

However, the statistics have not yet indicated any sustained level of growth when one factors in the visitor contribution from Haiti and Dominican Republic- a total of 22,336 from 1999 to 2004 inclusive of over 7,800 visitors in 2004 alone - this skews the expected “real tourism arrivals”.

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Based on the performance of the tourism sector over the last nine (9) years, a massive injection into marketing the destination as well as individual properties, training and product development must be undertaken in order to realize meaningful growth in tourism.

There has been a marked decrease (-28.9%) in Cruise ship arrivals from 1996-2003. In 2004 a 39.3% increase was recorded probably as a result of the hurricane in Grenada that forced some ships to change their itinerary to Dominica.

There was also a significant increase in cruise passenger arrivals in 2004 over 2003 - 115%. While the highest number of cruise ships occurred in 1996, passenger arrivals have been the highest in 2004.

**1.5.3. Tourism Economic Contribution**

Tourism’s contribution to GDP currently stands 2.64% (2002). Visitor expenditure has shrunk by 10.2 % over the last four (4) years from E.C.$M 137 in 1999 to E.C.$M 123.31 in 2002 (Statistical Unit /Min of Finance available figures). However this has increased by 31.7 % to E.C.$M 162.37 in 2004. The largest contribution comes from stayover visitors.
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total visitor Arrival</strong></td>
<td>68,648</td>
<td>68,756</td>
<td>66,969</td>
<td>77,430</td>
<td>72,254</td>
<td>68,372</td>
<td>70,869</td>
<td>75,290</td>
</tr>
<tr>
<td><strong>Excursionist Arrival</strong></td>
<td>5,389</td>
<td>3,310</td>
<td>1,468</td>
<td>3,924</td>
<td>2656</td>
<td>1979</td>
<td>1,676</td>
<td>2150</td>
</tr>
<tr>
<td><strong>Total tourist Arrival</strong></td>
<td>63,259</td>
<td>65,446</td>
<td>65,501</td>
<td>73,501</td>
<td>69,598</td>
<td>66,393</td>
<td>69,193</td>
<td>73,140</td>
</tr>
<tr>
<td><strong>Total cruise Passenger</strong></td>
<td>193,484</td>
<td>227,465</td>
<td>244,603</td>
<td>202,003</td>
<td>239,796</td>
<td>207,627</td>
<td>136,859</td>
<td>177,044</td>
</tr>
<tr>
<td><strong>No. of cruise Ship calls</strong></td>
<td>290</td>
<td>244</td>
<td>268</td>
<td>263</td>
<td>287</td>
<td>231</td>
<td>187</td>
<td>206</td>
</tr>
<tr>
<td><strong>Estd. Visitor Expenditure U.S. $M &amp; E.C.$M</strong></td>
<td>119.13</td>
<td>130.3</td>
<td>125.6</td>
<td>137.0</td>
<td>130.1</td>
<td>125.35</td>
<td>123.31</td>
<td>145.6</td>
</tr>
<tr>
<td><strong>% Contribution to G.D.P. (hotels &amp; Restaurants)</strong></td>
<td>2.75</td>
<td>2.74</td>
<td>2.66</td>
<td>2.65</td>
<td>2.73</td>
<td>2.65</td>
<td>2.64</td>
<td></td>
</tr>
<tr>
<td><strong>Rooms in tourist Accommodation</strong></td>
<td>764</td>
<td>824</td>
<td>847</td>
<td>867</td>
<td>890</td>
<td>889</td>
<td>889</td>
<td>889</td>
</tr>
<tr>
<td><strong>No. of tourist staying in paid accommodation</strong></td>
<td>29,819</td>
<td>30,856</td>
<td>25,241</td>
<td>28,916</td>
<td>29,394</td>
<td>25,567</td>
<td>26106</td>
<td>26987</td>
</tr>
</tbody>
</table>

Source: Central Statistical Unit- Ministry of Finance
Table T2: Visitor Profile, Sources of Origin, Tourist Arrivals – Major Markets 1999 - 2003

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Caribbean</td>
<td>34,934</td>
<td>35,786</td>
<td>36,617</td>
<td>42,641</td>
<td>39,919</td>
<td>37,851</td>
<td>40,289</td>
<td>43,280</td>
<td></td>
</tr>
<tr>
<td>Other Carib.</td>
<td></td>
<td>4370</td>
<td>7518</td>
<td>8684</td>
<td>7,687</td>
<td>9,025</td>
<td>11,850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OECS</td>
<td>6306</td>
<td>7021</td>
<td>6591</td>
<td>7087</td>
<td>7584</td>
<td>7997</td>
<td>9,559</td>
<td>9281</td>
<td>9118</td>
</tr>
<tr>
<td>Haiti</td>
<td>128</td>
<td>250</td>
<td>1832</td>
<td>1055</td>
<td>1082</td>
<td>1112</td>
<td>4430</td>
<td>7391</td>
<td></td>
</tr>
<tr>
<td>Dom. Rep.</td>
<td>627</td>
<td>121</td>
<td>335</td>
<td>2132</td>
<td>1097</td>
<td>322</td>
<td>588</td>
<td>811</td>
<td>485</td>
</tr>
<tr>
<td>USA</td>
<td>13,580</td>
<td>14410</td>
<td>14121</td>
<td>15,613</td>
<td>15,078</td>
<td>14,493</td>
<td>15,464</td>
<td>15,717</td>
<td>17,595</td>
</tr>
<tr>
<td>Canada</td>
<td>2,158</td>
<td>2,176</td>
<td>1,870</td>
<td>2039</td>
<td>1,959</td>
<td>1724</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>11898</td>
<td>12215</td>
<td>11710</td>
<td>12,264</td>
<td>11,147</td>
<td>10,825</td>
<td>10,131</td>
<td>10,749</td>
<td>10206</td>
</tr>
<tr>
<td>United kingdom</td>
<td>4,621</td>
<td>5408</td>
<td>5577</td>
<td>6633</td>
<td>6,140</td>
<td>5,967</td>
<td>5,652</td>
<td>6,034</td>
<td>6038</td>
</tr>
<tr>
<td>France</td>
<td>3011</td>
<td>2,902</td>
<td>2,662</td>
<td>2353</td>
<td>2,561</td>
<td>1860</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>1100</td>
<td>1255</td>
<td>1086</td>
<td>871</td>
<td>741</td>
<td>639</td>
<td>572</td>
<td>639</td>
<td>751</td>
</tr>
<tr>
<td>FWI</td>
<td>17899</td>
<td>18808</td>
<td>18488</td>
<td>20214</td>
<td>18900</td>
<td>16,873</td>
<td>16,935</td>
<td>17,669</td>
<td>20302</td>
</tr>
<tr>
<td>Total</td>
<td>63,295</td>
<td>65,446</td>
<td>65,501</td>
<td>73,506</td>
<td>69,598</td>
<td>66,393</td>
<td>69,193</td>
<td>73,140</td>
<td>79,386</td>
</tr>
</tbody>
</table>

Source –Central Statistical Unit-Min. of Finance

The Caribbean including the French West Indies is the largest market, making up 58%, the French West Indies 25%, the U.S 22% and the U.K. 8%.

1.5.4. Patterns of Stay

Over the last nine years tourism arrival in paid accommodation has fluctuated 38% and 48% with an average of 43%

Average length of stay is 7.8 days. The longest stays are recorded for U.K. tourists while tourist from the French West Indies stay the shortest periods. Overall, the largest percentage of tourist stay for 4-7 days (28%) while the second largest stay for 1-3 days (26%)

Cruise Passengers predominantly go on nature tours, very few disembark to undertake “walkabouts” in the city and the greater majority stay on board ship.
1.5.5. Evaluation of visitor arrivals within the context of the City of Roseau

1.5.5.1. Tourist Arrivals: Tourist arrivals fell by 5.3% in 2000 and 4.6% in 2001, followed by increases of 4.2% in 2002, 5.7% in 2003 and 7.9% in 2004; bringing arrivals in line with the 1999 all high figure of 73,501 - an increase of 8% over 1998 figures.

1.5.5.2. Excursionists: Excursionist to Dominica have been decreasing over the last nine years from 3,924 in 1995 to 1,704 in 2004 - a 68.4% % decrease.

This segment of the industry is an area of potential growth which could be of direct benefit to the City of Roseau since it is the largest recipients of this group because of the existence of transportation infrastructure – Roseau Ferry Terminal and Canefield Airport located in close proximity.

1.5.5.3. Cruise Ship Arrivals: There has been a marked decrease (28.9%) in Cruise ship arrivals from 1996-2003. In 2004, arrivals registered a 39.3% increase mainly as a result of hurricane damages in Grenada that forced some ships to change their itinerary to Dominica.

There was also a significant increase in cruise passenger arrivals in 2004 over 2003 - 115%. While the highest number of cruise ships occurred in 1996, passenger arrivals have been the highest in 2004. This indicates that larger cruise ships are calling, a trend which is likely to continue in 2005 and beyond. Significant increases in the number of passengers going on tours would have implications for the city in terms of carrying capacity and demand for services.
However, it should be noted that the CTO reports that in terms of available cruise capacity, the new berths expected in 2005 are at five percent compared to a double-digit increase capacity over the last couple years, which will impact upon cruise visitation. CTO also reports that in the last two years there has been some reposition of capacity towards the region. The prediction is that growth will continue but at a more modest rate of 4-5%.

1.5.5.4. Yacht Arrivals: There is no historical data on yacht arrivals to Dominica. However, Portsmouth is the preferred port of entry for yachts. Fort Young Hotel, Anchorage Hotel and one business enterprise, (Sukie’s) offer and provide mooring, boat spares and provisioning for yachts. Yachts visiting Roseau tend to anchor in the southern section of the coast where the bay is more sheltered.

There is potential for yachting in Dominica given that it is located between Guadeloupe and Martinique, two major yachting destination in the Caribbean.

Table T3: Yacht arrival by month and number of crew or passengers (Roseau) 2003

<table>
<thead>
<tr>
<th>Month</th>
<th>No. of Yachts</th>
<th>No. of crew</th>
<th>No. of pax.</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>81</td>
<td>364</td>
<td>4</td>
</tr>
<tr>
<td>February</td>
<td>52</td>
<td>239</td>
<td>3</td>
</tr>
<tr>
<td>March</td>
<td>64</td>
<td>278</td>
<td>-</td>
</tr>
<tr>
<td>April</td>
<td>53</td>
<td>192</td>
<td>-</td>
</tr>
<tr>
<td>May</td>
<td>39</td>
<td>167</td>
<td>-</td>
</tr>
<tr>
<td>June</td>
<td>31</td>
<td>116</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>321</td>
<td>1356</td>
<td>7</td>
</tr>
</tbody>
</table>

1.5.3. Projections for Tourism Development for the Next 5 – 10 years

Discussion with the Ministry of Tourism and the National Development Corporation have indicated a number of development initiatives
planned for the next four years that will impact positively on the tourism industry as follows:

- Re-development of the Melville Hall Airport to include the provision of night landing facilities and improved passenger services

- Construction of a highway from Melville Hall Airport to Roseau

- Provision of E.C$14 million for Eco-tourism development that includes the upgrading of tourism sites, upgrading and institutional strengthening of the Soufriere/Scott’s Head Marine Park, destination marketing, human resource development, institutional strengthening of the Dominica Hotel and Tourism Association and complementary organizations, and development of community tourism

- Redevelopment of additional access roads to tourism sites - Trafalgar Falls, Laudat, Fresh Water and Boeri Lakes, Wotten Waven and Soufriere Sulphur Springs

- The Roseau Road Reinstatement project - to re-develop and realign the streets, drains and sidewalks of the city and provide additional transportation links within the city

- Development of a national sports stadium

- Development and modernization of the Princess Margaret Hospital

- Introduction of a hospitality department at the Dominica State College
Taking into consideration all of these proposed projects, it is estimated that Dominica will realize an overall 8% in tourism arrival over the next 5-8 years (2005–2013), possibly increasing to 10%, barring any instability in the regional and international markets and in Dominica.

1.5.4. Review of Existing Tourism Infrastructure & Services In Roseau

The city of Roseau largely supports the tourism industry. The cruise industry is at present, largely dependent on the City of Roseau since the two ports that predominantly berth the two hundred and ninety-seven (297) cruise ships that visited Dominica up to 2004 are located there. The Portsmouth Cruise Ship berth is currently under utilized and has not been able to attract cruise arrivals for the past eight (8) years.

With respect to stay-over visitors, 24% of Dominica’s hotel plant is located in the City of Roseau.

A review of the tourism infrastructure and services in Dominica has revealed the following with respect to the City of Roseau:

- Large concentration of tourism attractions
- Highest concentration of historical buildings/sites
- Large waterfront area
- Largest concentration of accommodation facilities
- Largest concentration of amenities and services
- Concentration of tourism infrastructure- Ports, commercial, cruise, Ferry terminal, yachting facilities
- Largest concentration of sports facilities
- Yachting
Attractions

The six major tourism attractions in Roseau with potential for future development are:

- The Waterfront
- Rivers - Canari and the Roseau River
- The Botanic Gardens
- The Historical District
- The living component - the community
- Amenities

Table T4: Existing Attractions and Potential Upgrading

<table>
<thead>
<tr>
<th>Attractions</th>
<th>Existing</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Natural Attractions</strong></td>
<td>Botanic Gardens</td>
<td>Upgraded to world class</td>
</tr>
<tr>
<td>Rivers</td>
<td>Waterfront</td>
<td>Upgrading and development of the Roseau River</td>
</tr>
<tr>
<td>Vistas</td>
<td>Waterfront</td>
<td>Cleaning and upgrading of the Canari River</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expansion and upgrading of the waterfront Vistas</td>
</tr>
<tr>
<td><strong>Historical /Cultural</strong></td>
<td>Historic District</td>
<td>Development of the historical district of Roseau</td>
</tr>
<tr>
<td></td>
<td>Morne Bruce-the cross</td>
<td>Domfesta</td>
</tr>
<tr>
<td></td>
<td>Festivals- Carnival, World Creole Musical Festival, Independence</td>
<td>Traditional Fishing- Newtown Handicraft production and development. Artisans at work</td>
</tr>
<tr>
<td></td>
<td>Handcraft development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restoration of the war memorial</td>
<td></td>
</tr>
<tr>
<td><strong>Man-made</strong></td>
<td>Existing</td>
<td>Potential</td>
</tr>
<tr>
<td><strong>Sports</strong></td>
<td>Sports Tourism</td>
<td></td>
</tr>
<tr>
<td><strong>Marine</strong></td>
<td>Yachting –undeveloped</td>
<td>Development of Yachting facilities and services</td>
</tr>
<tr>
<td><strong>Shopping</strong></td>
<td></td>
<td>curio shops, art galleries, expansion and improvement of duty free shopping</td>
</tr>
<tr>
<td><strong>Entertainment</strong></td>
<td></td>
<td>Night clubs, discos, restoration of the Old market as an open air cultural and entertainment center.</td>
</tr>
</tbody>
</table>
1.5.5. Review and Evaluation of the Existing Tourism Product of Roseau

Physical Attractions
Botanical Gardens: The Botanic Gardens (BG) is the lung of the city of Roseau representing the largest open space (40 acres) in a City that lacks greenery. It is one of the major attractions in the city.

The BG was established in 1899 primarily as an experimental station for growing a wide variety of plants for the distinct purpose of providing farmers with seedling for planting, production and experimentation. Ornamental plants were introduced for aesthetic appeal and the BG was subsequently recognized as on of the best in the Caribbean.

Following hurricane David the BG lost a large variety of plants that were not replaced. In addition to this a number of buildings were erected in the Gardens including a school, transforming the area to look more like a park than a botanic gardens.

In spite of this, the Gardens has one of the highest visitation rates when compared to other attractions, with approximately 90% of visitors going through.

As a major attraction, the Gardens should be restored and re-developed to its former glory. It also has the capacity for self-sufficiency through the introduction of user fees.

The BG requires major restoration and administration to make it into an attractive gardens comparable to any world class Botanic Gardens which all Dominicans can be proud of. In its present condition, it does not reflect the lush plant diversity typical of Dominica and does not give Dominica the competitive edge with respect to other destinations.
**Parks and Rivers:** Rivers are to Dominica like what beaches are to destinations such as Antigua. In keeping with Dominica’s eco-tourism theme, the upgrading and preservation of rivers are an important element in differentiating Dominica’s unique tourism product.

**The Roseau River:** The Roseau River is a potential major attraction for the city of Roseau that would provide uniqueness to the city of Roseau as one of the Cities in the Caribbean to have a “living body of fresh water, unpolluted and providing leisure activities for residents and visitors”.

Presently, the River is under threat from high nutrient loading from neighbourhoods like Silver Lake (located upstream), Pottersville and the Riverbank/River Street that use it for solid and liquid waste disposal. Soil erosion and unscientific dredging of the river, as well as proposed development like the construction of a parking area spanning the mouth of the river are also of concern.

**The Canari River:** The Canari River acts as a landmark to the City of Roseau on the South. It is a fast flowing River and in the recent passed its upper reaches was used for bathing by residents. The river is adjacent to two hotels and is overgrown with grass.

Like the Roseau River, this river in under threat of pollution but could be beautified if restored and an attraction for residents.

**Parks:** Dominica’s Parks are under threat of encroachment and lack effective maintenance, and should upgraded to provide an ambience that reflects the lush, green characteristics of the Island and the needs of the residents of the city.

The Parks and rivers should make a statement with respect to Dominica’s rich ecology and Caribbean flavour and should be an
embodiment of Dominica’s goal of promoting a culture of conservation, complementing and highlighting Dominica’s tourism product.

1.5.5.2. **Historical Resources:** Very little has been done to restore and develop the historical and cultural resources of Roseau. In fact, the use of the Old Roseau Market as a vendor’s square has been detrimental to the historic character and architecture of the resource. SHAPE, has developed a plan for the restoration and development of a Historic District of Roseau, which is highly recommended and will be evaluated within the context of the proposed development plan for the City.

1.5.5.3. **Cultural Resources:** Roseau is host to major independence activities, the World Creole Music Festival, Carnival, Domfesta and other cultural events. Except for the Arawak House of Culture, there are no acceptable venues for hosting of these Events. The use of the Arawak House of culture should be rationalized within the context of development of cultural entertainment product for tourism.

Accommodations for the World Creole Music Festival and Carnival are substandard and deprives the community of Pottersville and schools in the this locality access to proper recreational facilities. These inadequacies should be resolved over the plan period.

1.5.6. **Social Environment**

**Visitor safety issues needing attention include:**
- inadequate lighting and effective street signs
- harassment by drug addicts and other social misfits

1.5.7. **The Accommodation Sector**

The accommodation sector within the city of Roseau is largely confined to a small belt of hotels along the waterfront south of Central Roseau
with the rest scattered within the city. Together they account for a total of 187 rooms or 21% of the total accommodation sector in Dominica and consists of 7 hotels, 4 guesthouses, 6 apartments/cottages and one bed and breakfast facility.

Average year round hotel occupancy is estimated at 55% with an average high of 90% in the winter season and 35% during summer.

An estimated 80% of the accommodation sector in Roseau need upgrading to provide a more upscale facilities. Many of the facilities face financial hardships partly as a result. A programme to assist in the area therefore deserves consideration.

There is a growing demand for larger conference facilities. While it may not be necessary to locate such facilities in the city, proposals to improve the tourism assets of Dominica should aim at meeting such demands of the tourism industry.

1.5.8. Ancillary Services Sector

Food and Beverage: There are approximately twenty-one (21) major food & beverage facilities out of total of approximately forty-two (42) located in the city. These range from restaurants within hotel facilities to stand alone facilities offering a range of menus. The only specialized restaurants are Chinese restaurants and Pizzerias. Dominica does not offer specialized restaurants in other popular cuisines or even Dominican.

Close to 80% of the restaurant facilities within the city should be upgraded and standards put in place as a criteria for operations. While one cannot dictate to the private sector areas for investment, there is a need to encourage variety and fine dining since these are
expectations in a world class tourist destination, to which Dominica should aspire.

Table T8: Other ancillary services located within the boundaries of the City.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Services located within the city</th>
<th>% of total services in Dominica</th>
<th>General Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxi Service and Associations</td>
<td>2 major Associations</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 major taxi operators</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Car Rental Companies</td>
<td>11</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Travel Agencies</td>
<td>4 travel agencies</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 Airlines/Agencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tour Operators/Ground Handlers</td>
<td>5</td>
<td>95</td>
<td></td>
</tr>
</tbody>
</table>

- **Taxi Services & Associations** – 4 major taxi service and the two association
  Availability of taxi services still remains a major problem. Access to after hours services including early evening remains a unacceptable in meeting the demands of the sector. This is further acerbated during festivals and the cruise season. Providing for taxi stands at strategic points in Central Roseau to facilitate the visitor also deserves consideration.

- **Auto Rental Companies** - 11 of the 25 or 44% of companies in Dominica - The number of service providers in this area have been increasing steadily in recent years

- **Travel Agencies/Airline** - Except for the town of Portsmouth and the two airports, all travel agencies (4 travel Agencies and 5 Airlines/agencies)
• **Tour Operators/ Ground Handlers** - The majority of ground handling operations - 5 ground handlers/ tour operators

It is important that evaluation of the ancillary services sector be undertaken with a view to upgrading the standards of service of this sector as an integral part of this project. Standards have already been prepared and the NDC is in the process of setting up the monitoring system.

**1.5.9. Amenities**

Evaluation of facilities and amenities in the city:
- Amusement centres and art galleries are lacking
- Rest room facilities are few and poorly maintained

**Sports & Recreation:**
- Newtown Sports facility
- Pottersville Sports Facility
- Proposed Windsor Park Stadium
- Peebles Park
- Public Library Grounds
- Lindo Park
- Goodwill Savannah

**Sports**
Cricket, Football - Sports stadium under construction
Netball stadium (incomplete)
Tennis courts - Except for the Dominica Club’s facility on High Street, this amenity is very lacking.

**1.5.10. Shopping, Dining and Entertainment**

**Shopping:** Roseau offers a wide variety of shopping due to the fact that it is the commercial centre of Dominica. However, it is limited with
respect high quality craft items and there is an absence of curio shops, art studios for display and purchase of local paintings.

Local Vending is still relatively disorganized with respect to legitimate locations.

• **Duty Free Enterprises**
Except for the Airports, 90% of duty free enterprises are located within the city. However, there is need to expand duty free shopping and improve the quality of arts and crafts available.

The entire procedure for pick-up of duty free items and purchase by incoming passengers should be reviewed to keep in line with the prevailing systems in the Caribbean.

• **Entertainment**
Entertainment within the city of Roseau is confined to weekly entertainment activities organized by hotels (Fort Young, Anchorage, Garraway and Sutton Place) and three smaller night clubs - Jazzwalk, Symzees and Palm Grove. There are no ongoing cultural activities except when there are specific celebrations - Independence, Domfesta, etc.

As such Dominica is perceived by visitors to be lacking in entertainment/ nightlife thus decreasing its marketability.

1.5.11. **Tourism Infrastructure**

**Ports- Airport and Sea Ports**
Cruise Ship Berths
The City of Roseau has two cruise ship berths that are managed by the Dominica Port Authority. The Woodbridge Bay Port is located north of
Roseau and is used by both cargo and cruise vessels. The wharf is constructed on open-ended 18-inch seamless steel pipes.

Roseau Cruise Ship Berth is a dedicated cruise ship berth in central Roseau constructed in 1995 and located within walking distance of the administrative and central Business District of Roseau. Facilities and services complimentary to the berth include a Tourist Information Center, a craft market and Museum.

**Limitations of the Roseau Cruise Ship Berth**

Capacity - The berth is not able to accommodate the emerging larger cruise ships of 101,353 gross tons unless mooring facilities are improved and upgraded.

Inadequate parking facilities for Tour buses and taxis create congestion at the Bay front that negatively impacts on tourism services.

The small area available for dispatching cruise tours and the absence of a passenger reception facility create a perceived security risk to passengers.

Growing animosity to cruise tourism by the public because of traffic congestion and back-up when the Bay-front is closed to thru traffic should be of concern.

**Roseau Ferry Terminal**

This facility has exceeded its carrying capacity. The departure, immigration and customs areas for incoming and outgoing passengers are too small.
Critical Passenger facilities and services are inadequate- This affects efficient passenger handling with respect to immigration duties. In addition passengers are forced to wait outside and are exposed to the prevailing weather conditions.

The ferry terminal poses a security threat and must be ISPS – compliant in order to maintain its classification as a port. The existing port does not provide facilities for inspection of luggage or screening of passengers before entry into departure.

Outgoing and incoming passengers share the same space providing an environment for illegal activities, stowaways etc. For safety and security purposes, the facility include provisions for the physical separation of incoming and out going passengers.

The existing shot comings increases the “turn-around” time for the vessels calling at the facility, resulting in long delays in Dominica.

The facility also does not provide safe docking or embarkation services for local dive boats requiring such services in the city.

**Yachting Services**

Yachting services are provided by Fort Young, Anchorage, Sea World and Sukie Marine Services. Services are limited to “basic provisioning, tours, garbage disposal and basic communications. Sukie Marine services also supplies, in addition to the above, yacht spares.” (Reference, Evaluation of yachting services in Dominica- ECLAC 2004)

Service required in the short terms are, duty free chandlery services, fuelling dock, freshwater showers, ice, grocery maintenance sails and custom brokerage as well as increase and safe mooring facilities for yachts.
A yacht marina is considered a long-term need by many. The Cabrits at Portsmouth has been identified as the best location for the establishment of a yacht marina. Another possible area is the mouth of the Indian River for a Freshwater marina that would be marketable because of its ability to get rid of barnacles that attach to yachts.

**Conclusion**

The city of Roseau has the basic resource base to provide many of the facilities required for support of a vibrant tourism industry in Dominica. However careful consideration and planning must be given to the allocation, use and development of the available resource if the industry at the local level is to be sustainable.
Map:6
1.6. Transportation

1.6.1. Introduction

Transportation is a vital function of society, and we cannot imagine our existence without it. Virtually everything we do relies on transportation, and our future advanced civilisation will depend on the quality of our transportation. To many people, the main problem in transportation matters is traffic congestion. Congestion occurs when traffic demand equals or exceeds capacity, and the excess vehicles stored in queues are to be processed during subsequent hours. While we may recognise that traffic congestion is a problem, it has not led to users and providers in effective numbers doing anything differently. Instead, there is generally the expectation that the solution to rising congestion is simple: provide extra roads to carry the increased growth in traffic. We need to consider that the thinking that gets one into a problem is probably not the thinking that will get us out of it. How do we strike a balance between our personal wants and societal needs?

The car has allowed many to travel where they will, in comfort and a level of security, and mostly at a time of their own choosing. The car is seen as a pre-condition for modernity, and owning a car remains a goal for many people in every part of the world.

Most congested roads have latent or suppressed travel demand, and increasing capacity does not affect the operation of the peak hour since the added capacity is immediately consumed by the latent demand in one of two ways: (a) people revert to their desired hour of trip-making; or (b) people divert from other congested roads along the route. This additional vehicle travel that results from the road improvement is called generated traffic, and in the short run, consists of trips diverted from other routes, times and modes, but over the long run consists of induced travel, or an absolute increase in vehicle
Generated traffic has at least two different impacts to consider in transportation planning projects appraisal: it reduces the congestion-reduction benefit that can result from increased road capacity; and it often increases external costs, such as downstream congestion, parking demand, and environmental pollution.

Traffic congestion tends to maintain a self-limiting equilibrium. Road projects that reduce congestion cause additional peak-period vehicle trips until congestion once again constrains further growth. Transportation planning practices that ignore generated traffic can result in inaccurate predictions and faulty decisions. This overstates the benefits of highway capacity expansion projects in congested areas and understates the relative benefits of alternative strategies that encourage more efficient use of existing road capacity. There is too much emphasis on only congestion reduction and too little on the environment, safety, accessibility and social inclusion.

Effective sustainable transportation planning involves a program of selective road-building, substantial improvements to public transport, action to manage the demand for road use, action to manage the operation of the transportation system, and integrated planning of land-use and transportation.

Traditionally, the world over, Government funding has emphasized capital construction over investments in transportation system management. Consequently, the mindset in many Government agencies views the job as being over once the construction is finished. Compared with traditional infrastructure, transportation system management improvements offer high returns on investment, with lower capital costs and modest or no environmental and social impacts. However, investments in performance require sustaining operating and maintenance expenses.
Transportation demand management is any action or set of actions aimed at reducing the impact of traffic by influencing people’s travel behaviour. Managing travel demand today is about providing travellers with choices of mode, location, route, and time. Strategies to manage demand are now more critical to better transportation operations and system performance than strategies to increase capacity of facilities.

1.6.2. Identification of Traffic And Transportation Deficiencies in the Study Area

- Government contribution to Road Reinstatement Project is 15 percent. Cost overall has doubled to date. Project to be phased: Phase 1 includes new bridge over the Roseau River at Bath Road, West Bridge widening, and a new road section along the River connecting the proposed bridge and Valley Road. New bridges would have pedestrian sidewalks. The entire programme to be done in this political term of office. Other issues include:
  - Traffic congestion relief needed
  - Aesthetic enhancement needed
  - Too many Bus stands, reserved packing areas, etc.
  - Need for parking improvement
  - Need for consideration of revenue generation from traffic – tolls, parking, etc.
  - Walking is dangerous – open drains, difficult to walk, pedestrian-vehicle conflicts
  - Levy has been imposed on the imported vehicles but the dealers started also bringing in used cars, and so there is a problem with the numbers of cars on the road.
  - There has never been an organised public transportation system in Dominica. Public suffers when there is a cruise ship (one weekly off-season, and an average of two per day in season), and it is difficult to access public transport then.
- Need to examine the Impact of stadium – vehicles and pedestrians, traffic, parking
- Need for parking for commercial activities
- How do we communicate between north and south? Inland or waterfront. Consideration of elevated roadway from southern bank up the north roadway instead of simply a new bridge and then up the road.
- Reclamation in north for cruise and associated activities. Consideration of boardwalk / water taxis linking Roseau River
- Disaster preparedness – volcanic eruption – road planning should consider this
- Western Rd – Roseau to Layou (Chinese are considering, and have committed themselves to road between Roseau and Portsmouth)
- Container trucks and break bulk transport
- How do we get the business sector to contribute towards cost of providing parking in the City
- No sidewalk / broken sidewalk / vehicles parked on sidewalk
- Government is obligated to provide parking alternatives
- Container vehicles – should have specific routes and specific time periods to operate
- Fire Service vehicles are impeded by traffic parked on both sides
- Need for bus terminal
- Safety
  - problems with bus drivers – ill-disciplined behaviour – accidents caused
  - road condition
  - street lighting
  - signs
  - educators needed in the pedestrian crossing
  - speeding is a problem
- Transport Board – advisory capacity
• Cost-effectiveness of one / two bus terminals, etc. – one definitely needed in the north
• Paid parking needed
• Laws needed to prevent parking on sidewalk will be recommended with the road reinstatement study
• Traffic lights may be needed in certain intersections
• Proposed stadium – parking would be a problem. We have not seen parking plan
• Stadium is wrongly placed
• Suggestion of High Street Terminal

1.6.3. Transportation Planning Principles
The following will be guiding principles in the formulation of recommendation to resolve the issues:
• Accessibility for all members of society, regardless of their level of mobility or economic situation
• Develop street patterns and pedestrian facilities to provide convenient access to public transport stops and shelters.
• Develop consistent public transport service standards and associated facilities (stops, shelters, walkways, etc) to ensure that new developments are provided with adequate and reliable service from the outset.
• Advocate for subsidised transit fares to make the cost to use transit more competitive with the automobile.
• Provide transit passenger information system, featuring real-time schedule information, trip planning services and advanced payment systems.
• Establish urban design, streetscaping, and greening guidelines that enhance the pedestrian realm.
• Consider the needs of all pedestrians, including children, adults, the elderly and individuals with sensory or mobility impairments, in decisions.
- Bypass traffic should be directed away from the core area utilising alternative or bypass routes.
- The roadway system should provide direct access for emergency and service vehicles.
- The circulation system should connect with both existing and proposed major thoroughfares beyond the town-centre.
- The roadway system should be flexible by providing more than one opportunity to reach a destination.
- The circulation pattern should be easily comprehended by the average driver and provide relatively direct routings without circuitous travel.
- The circulation plan should be designed for incremental implementation with individual elements available for use as they are completed.
- Complex intersections should be avoided.
- A road hierarchy should be identified according to the functions the roads will serve. The main basis for classification is whether the road is to be used primarily for movement or for access. It is important to ensure that roads are assigned to the appropriate level in the hierarchy on the basis of their proposed (or desired) functions rather than their existing functions which may or may not be the same as those required for safe, efficient and economic operations. Each class of road should clearly convey to the road user its role in the hierarchy by appearance and related design standards. Also, each road should intersect only with roads in the same class or one immediately above or below it in the hierarchy, so that change in operating conditions is gradual.
- Pedestrian access from major parking facilities and transport terminals to city-centre land-uses should be located to avoid traffic conflicts and enhance safety.
- Major pedestrian-ways should be properly defined and identified by landscaping and lighting.
A suitable environment for pedestrians should be established. This should include, in addition to other amenities, protection from weather, especially in high-pedestrian-volume areas, and adequate provision for the elderly and physically-challenged.

- Parking should not be permitted on major thoroughfares.

### 1.6.4. Private-Car Oriented Transport

The disadvantages of a private-car oriented policy for transporting people are better understood when the following characteristics are considered.

Even though private car ownership is fairly high in the country, the majority of the population do not have access to a private car. Clearly, private cars do not satisfy the needs of all travellers, neither is it expected or desirable for them to do so. Offering only limited space for vehicular traffic, the road network cannot cope with the peak hour traffic, and traffic jams have not only become inevitable, but are getting worse. Further, the huge and rapidly increasing demand for car-parking spaces is being constrained by the already limited and expensive land resources.

For the car-less, transport service means unplanned and irregular public transport or transit service, soliciting rides with private cars, as well as ad hoc and uncomfortable waiting areas, which serve to make the existing transportation system unreliable and unattractive, consequently leading to a desire for additional car use and thereby increasing congestion.

Private motorization alone cannot cope with the growing demand for efficient and affordable travel, and increasing mobility requires high performance transit systems. Strategies to manage travel demand are now more critical to better transportation operations and system
performance than strategies to increase capacity (supply) of infrastructure facilities.

Promoting mobility through increasing vehicular traffic limits both the freedom of mobility and the quality of life. Movement of people is not an end in itself. We move in order to gain access to people and goods. For mobility to be sustainable, transport should be understood as a mechanism to maximise access and not as a mechanism to just move vehicles themselves. Public transport is the only form of transport available to all persons.

1.6.5. Pedestrian Consideration

The main objective of securing priority measures for pedestrians is to improve their safety in the road and vehicle environment. All road users are pedestrians at some part of every journey even if it just a short walk from office to car park. Pedestrians are the most vulnerable road users. Because they are unprotected from vehicles it is essential to consider their needs within the transport system and to give them greater consideration than other road users. In a road accident, pedestrians are much more likely to be injured or killed. Attention needs to be paid to minimising pedestrian / vehicle conflicts and providing facilities for pedestrians which are safe, convenient and pleasant to use.

Priority measures for pedestrians range from total banning of vehicles from the streets to the education and management of motorists to maximise safety at pedestrian crossings and footpaths. This includes the provision of accessibility for the young, the elderly and the disabled.

The automobile has isolated the pedestrian. People in cars are not part of the landscape through which they pass, and while they gaze out
upon the scene, they have a reduced sense of responsibility to what is happening. People on foot are not so insulated, and cannot so easily deny or ignore the conditions around them. They have to cope with the noise, danger, and air pollution from vehicles.

Footpaths and sidewalks are often obstructed by vending, commercial activities and parked vehicles. This forces the pedestrian onto the roadway, creating safety problems. They may also be forced onto the roadway due to the poor condition of the sidewalk. Motorists consider sidewalks to be car-parking refuges, a practice that seems to have escaped the attention of the relevant law enforcement authorities even in no-parking zones.

All pedestrian crossings should be located so that they are clearly visible to motorists and their use is maximised. Most times drivers do not give way to pedestrians at unsignalised crossings.

Pedestrian overpasses and underpasses are costly and installation should always be subject to rigorous assessment of the cost of construction and maintenance versus the cost of the likely savings from traffic accidents and in delays to pedestrians and motorists. Pedestrians will avoid using them if much climbing is required. For this reason underpasses may be preferred, as it may be more convenient to the pedestrian if the roadways are elevated thus keeping the pedestrian at grade.

Then, there is the third world phenomenon of bypass traffic through residential areas. In these areas, non-access or through-traffic should find it impossible, or highly inconvenient, to use neighbourhood roads as a short cut. Pedestrians must be given priority, especially close to buildings and in play areas. Traffic calming measures are self-enforcing strategies employed by the developed world to reduce the speed and
number of cars on the street in order to enhance the livability of neighbourhoods. Traffic calming tends to provide the greatest benefits to pedestrians, bicyclists, joggers and local residents.

1.6.6. **Establishment of an Appropriate Road Functional System**

Arterial roads are the main transport routes within the road hierarchy. Their function is for movement, and they operate under the following conditions: there is no direct access to premises; any development is set well back from the highway; all access to premises are provided via collector roads; the number of intersections is minimised; pedestrians are not permitted; and there is no stopping or parking on the carriageways.

On some arterial roads there may be a relaxation of the direct access and pedestrian constraints, and in exceptional circumstances large individual developments may have direct access, and these are known as secondary or minor arterial roads, to differentiate them from primary or major arterial roads.

Collector roads are immediately below arterial roads in the hierarchy. The needs of moving traffic still predominate but they also contribute to access requirements. They serve to feed traffic onto and off the arterial roads. They operate under the following conditions: direct access to premises should only be permitted where large traffic generators exist; motorists need to be aware of pedestrians as these roads will be within or close to residential areas; the road is only for local traffic and through-movements should be made awkward and inconvenient to discourage them; vehicle speeds should be kept low, so long straight roads should be avoided; parking may be allowed, but alternative off-road provision is preferable; and public transportation (commonly called transit) stops may be located on the carriageway but should be near well-defined crossings.
Local roads are for access only. They function under the following conditions: vehicle flows must be kept to a minimum; all unnecessary traffic should be eliminated; vehicle should be kept low by careful and deliberate inclusion of obstructions to create meandering alignments; roads should be kept short where possible; cul-de-sac and loop roads should be used wherever possible to deter through-traffic; intersections should be three-legged (where three roads meet) rather that four-legged and kept compact to aid pedestrian movement; and, parking and stopping within the street is permitted, although adequate provision should be provided within individual properties.

1.6.6.1. Industrial Areas

Land intended for industrial use must be physically separated from residential or similar land uses where the presence of high traffic levels or heavy vehicles will not be tolerated. In locations where industries already exist amidst residential areas and such segregation is not possible, serious consideration needs to be given to relocation as a long-term aim. Land zoned for industrial purposes should have access directly from the collector road network whenever possible. Each industrial site should have sufficient off-road parking and loading areas to accommodate all its operational, staff and visitor requirements within the site boundary. Roads and footpaths should provide a safe and efficient means of access for workers, visitors and the range of vehicles which can be anticipated when a number of different industries are grouped together. Networks of safe footpaths should be created between the industrial area and the main areas where employees live.
1.6.6.2. Residential Areas
In residential areas, pedestrians must be given the priority, especially close to buildings and in play areas. Non-access traffic should find it impossible, or highly inconvenient, to use residential roads as a short cut. Pedestrian crossings of traffic routes should be convenient and safe. Overnight parking of goods vehicles and storage of materials on the road should be actively discouraged.

1.6.6.3. Commercial and Retail Areas
All commercial and retail areas should be away from the through-traffic network. If located alongside, then service roads should be provided to service the development. Adequate parking and loading facilities for operational use should be provided within the site of individual premises if possible. Visitor and customer parking should be provided off the road, possibly on a communal basis. On-street parking should be discouraged and only permitted where it does not obstruct general traffic movements or conflict with pedestrians.

1.6.6.4. Accessibility for the Elderly and Disabled
The elderly and disabled must be made to feel part of society and should be integrated as far as possible. In the pedestrian mode, the following should be considered when providing for their accommodation: sidewalks; traffic control devices with communication aids; and, terminals and stops with well planned ramps, escalators, communication aids, special service persons, seats, toilets, and parking stalls. In the vehicle mode, they are as follows: vehicle specification with appropriate seating availability, door width, and height of steps; licensing of a particular style or design of vehicle; call buttons conveniently located; bus stop signs; and, storage for wheel-chairs or space for wheel-chaired person. The funding of any facilities for the elderly and disabled should be considered as part of
Government’s social obligation. Facility design codes should include minimum standards of accessibility for the elderly and the disabled.

1.6.6.5. Pedestrianised Areas

These are areas from which all vehicles are excluded. Pedestrian routes or areas should not be planned in isolation because vehicular traffic still has to be accommodated somewhere. Residential, industrial and commercial areas should be linked by footpaths providing the most direct and pleasant route between destinations. The use of trees to provide shade can encourage use. Where vehicles are displaced, adequate capacity needs to be provided elsewhere on surrounding roads for loading, parking and movement, but such facilities should always be within easy walking distance. If no alternative provision can be made for vehicular traffic, consideration may be given to pedestrianisation by time of day, that is, vehicle access allowed only when pedestrian flows are light, for example very early in the morning or late at night. Connections to transit stops, parking areas and terminals are vital and should be convenient. All pedestrianised areas must have provision for access of emergency and refuse collecting vehicles.
1.7. Engineering Infrastructure
1.7.1. Water Supply

DOWASCO, a public corporation, is the authority responsible for supplying pipe-borne water to the City of Roseau. The City’s water supply distribution system was upgraded less than three (3) years ago and it is adequate to meet the needs (domestic, commercial, fire protection, etc.) of the City over the plan period.

The company however sees the need to continuously upgrade the system in order to ensure provision of sustainable water supply services to residents and business establishments as well as to support the new thrust towards tourism development. Among the interventions DOWASCO is seeking to pursue over the plan period are the following:

- Increase storage capacity at Bath Estate
- Improve water quality by eliminating turbidity through the introduction of filtration system(s)
- Improve the water supply system serving cruise ships
- Streamline the use of fire hydrants for street cleaning operations
- Secure better protection for water catchments in Water Area 1 which serves the City of Roseau and other west coast settlements.

However, the company is still undecided about the future of the proposed Infill Properties Sub-Project designed to alleviate problems of lack of water and sewerage in low income housing areas of Central Roseau and New Town.
Given the importance of this project to improving the quality of life of many residents and environmental condition in Central Roseau, its implementation should be pursued.

1.7.2. Sewerage

Approximately 60% of the City’s built-up area – Goodwill/Pottersville, Central Roseau, Bath Estate and New Town/Citronier - is served by a newly establish sewage collection system maintained by DOWASCO. The system discharges raw sewage (after processing to remove grit and solids) at a sea outfall located about 200 feet off the Pottersville shoreline.

A large number of properties within the system’s catchment area – including those with in-house flush toilet facilities - are not hooked to the system. This fact coupled with a tariff structure, which the company considers to be in need of urgent review, have kept revenue collection well below expectations and as a consequence, maintenance cost of the system is said to be approaching strangling proportions to DOWASCO. See Appendix 1- U1

A Sewer Connection Fund sub-project designed to provide financial assistance to property owners connecting the system has been unsuccessful in that many of the targeted households did not come forward to accept the financing.

Other concerns deserving attention over the plan period are:

- discontinuation of the dumping of raw sewage into the sea
- identification/provision of a site to establish a sewage treatment plant
- reducing overloading of the system due to storm/roof water drainage from properties connected to the system.
An efficiently managed sewerage system is vital to future growth and development of the City. Therefore, issues that are likely to negatively impact sustainable maintenance and upgrading of the existing system should be given attention.

In this regard, consideration should be given to mandatory phasing out use of septic tanks within the catchment area of the existing system, review of the current tariff structure for consideration/application and commissioning of a study to provide treatment facilities as part of the City’s sewerage system over the longer term.

1.7.3. **Electricity**

Electricity supply and distribution for the City of Roseau and Dominica are provided by the Dominica Electricity Services Ltd. (Domlec), a privately owned public corporation. The company presently has total generating capacity of 21 MW from a network of diesel and hydropower generators, the largest of which - Fond Colet Power Station – is situated in the City.

In 2004, the City consumed about 40% of the 66.4 million kw hours of electricity sold by Domlec. About 49% of this consumption was for residential purpose. See Appendix 1-U2

Presently 100% of the primary and secondary distribution lines in the City run overhead fixed to poles. The company has ducts in place in Central Roseau to transfer all existing primary lines in Central Roseau underground, which it hopes to achieve within a timeframe of about four (4) years.

Planned interventions under the Roseau Road Reinstatement Project are likely to require removal of both primary and secondary lines from overhead to underground within a shorter timeframe. Such likelihood
will have serious capital cost implications and possibly impact electricity tariff rates over time.

The existing proliferation of utility lines and poles in Central Roseau are aesthetically unpleasing and should be improved. Also visual appearance in the proposed Historic District would be greatly enhanced with the removal of existing utility poles and overhead lines. However, given the escalating cost of electricity and its necessity to advancement of economic growth and development, interventions which could increase production and consumption of this utility services must be carefully considered and managed.

Other concerns pertaining to electricity impacting development of the City include:

- Provision and maintenance of adequate street lighting
- Provision of utility corridors to facilitate distribution and reduce conflicts surrounding the rights of property owners and obligations of utility provides; resolution of which are sometimes costly and time consuming
- More timely consultation among regulators, utility service providers and developers of large scale projects so as to facilitate completion and commissioning of such projects
- Exploitation of alternative sources of renewable energy to reduce reliance on fossil fuel and thus reduce current tariffs.

Interventions that would result in improvements/advancements in these areas over the plan period are to be encouraged.

**1.7.4. Telecommunications**

There are five (5) providers of this service operating in the City of Roseau presently, namely:
Cable and Wireless is the dominant provider of Voice, Mobile, Data and Internet Services.

Thirty five percent (35%) of the company’s total fixed lines (6,766) are in the City. Seventy-six percent (76%) of the equipped fixed lines capacity in the City are already wired. See Appendix 1-U3

The first three service providers above also have overhead lines and share utility poles with Domlec in the City.

Like the electricity company, the distribution system of some telecommunications providers will also be impacted by planned interventions under the Roseau Road Reinstatement Project, but on a smaller scale. All of Cable and Wireless main cables and 25% of its distribution lines in the City are already underground and the company intends to continue with this programme. The financial implications for the other two smaller locally owned companies (of which Marpin is already in receivership) would be much greater. Consultations aimed at cushioning the impact of that project on the utility companies in general should be pursued.

Services provided in support of the tourism sector include Internet (wireless and data); mobile (incoming roaming and SIM Card) and Voice. Discussions with officials of the dominant provider of telecommunication services revealed that the needs of the City in this
sector, seems achievable, given present indicative trends in the industry.

1.7.5. Ports
Under existing port legislation, the whole of the waterfront of the City of Roseau falls under the control of the Dominica Port Authority (DPA). Any interventions that might hinder the operations of vessels on this section of coastline must be referred to and approved by the DPA. There are three existing established points of entry along the City’s waterfront:

- Woodbridge Bay Deep Water Harbour
- Roseau Ferry Terminal
- Roseau Cruise ship Berth

The Woodbridge Bay Port located at Fond Colet is the only deepwater commercial port on the island and has space for expansion, if deemed necessary, northwards or southwards.

The Roseau Ferry Terminal situated along the Bayfront in Central Roseau caters for inter-island passenger ferries. Accommodations at this facility are considered inadequate and proposals for upgrading are at the design stage.

The Roseau Cruise ship Berth is located immediately south of the Ferry Terminal. The facility can accommodate one cruise ship (up to 900 feet long) of the type which regularly calls at Eastern Caribbean islands ports. The DPA intends to upgrade this facility within the next year to accommodate larger cruiseships (1,500-2,000ft long). The DPA has also conducted a pre-feasibility study with a view to construct a new cruise ship berth that could accommodate two mega-ships as
well as a cruise ship passengers shopping village, at Woodbridge Bay immediately south of the existing commercial port.

The only other cruise ship berthing facility operated by the DPA is situated at the Cabrits in Portsmouth. Presently, this facility is under utilized. Preliminary studies aimed at upgrading this facility to accommodate one mega-ship have also been conducted with very promising results in respect of technical feasibility.

The existing ports in Roseau hold tremendous implications for economic development and urban vitality in the city, particularly the ones directly related to tourism development. Based on discussions with the General Manager of the DPA preliminary studies undertaken to explore expansion of cruise ship berthing facilities within the port boundaries of the City did not explore all possibilities within this zone, such as the Newtown/Citronier area. Also, the economic feasibility of such an expansion has not been studied.

Given the importance of such major infrastructure developments to economic advancement at both the national and local (City’s) levels, its advisable that all viable alternatives be explored before major capital investments are made in this area.
1.8. **CityScape**

The Roseau Development Plan, Strategy and Action Plan is expected to be an approved framework and tool for the management of physical and development within the city.

“The language of cities deals with relationships rather than free standing objects”\(^1\)

“Districts are structured with nodes, defined by edges, penetrated by paths, and sprinkled with landmarks”\(^2\)

Roseau continues to be the premier administrative and service center of the island. It has slowly been losing its architectural traits of the past and its attraction as a residential area for the professional and commercial middle class.

Instead, development in the urban fringes and surrounding hillsides continue to absorb residents who migrated both from the city and rural areas.

The core of Roseau is organized as a grid of about thirty large blocks, some of them subdivided into three or four small blocks by narrow lanes and alleys.

There are five distinct areas within the City of Roseau.

a). The Central Business District (CBD) bounded to the north by the Roseau River, to the west by the Sea, the Windsor Park and Botanical Gardens (BG) to the East, and an extended institutional area south of Turkey Lane and southern section of Constitutional Hill.

b). Residential neighbourhoods including Goodwill, Stock Farm, Bath Estate, Elmshall and Kingshill
c). An institutional area comprising the NDC, Alliance Francaise, New Grammar School, Teachers Training college, Roseau primary, BG, cemeteries, Government’s House, High Court, Dominica Broadcasting Corporation (DBC), Carnegie Library and Fort Young Hotel.

d). Commercial/residential enclaves of Pottersville to the north and Newtown to the south.

e). Semi industrial zone close to Woodbridge Bay

1.8.1. Paths
There are seven miles of vehicular road network. Four miles of these are considered main streets and three miles being secondary streets.

In addition there are numerous paths used as shorter vehicular traffic free routes to various destinations. The main ones being:

**Thru Gardens and Jacks Walk to Kings Hill.**
- This is a short and popular track used to travel to Kingshill. This path is characterized by the well known 35 step Jacks walk.

**Roseau/Elmshall**
- Persons traveling to Elmshall usually use this path that is accessed via the South side of the BG either from Valley or Bath road entrances.

**Turkey Lane through the Catholic cemetery to High Street.**
- This path through the Catholic cemetery is usually taken as a short pleasant link between High Street and Turkey Lane.

Persons travelling between Newtown and Kingshill to the south and Roseau usually use this path.
Along Riverbank north to Goodwill via Murphy’s Lane
  o Persons using this walk travel either a concrete step walk east of the Riverside apartments or along the Riverbank north to Bath Estate

1.8.2. Edges
Roseau River
This River has long been used for recreating, bathing and for laundry purposes.

Mountain ridges inland of the Morne, St. Aromant, Fond Cole’ and Stock Farm.

Sea
Local fishermen use the beach areas to the north and south of the CBD for launching and landing their boats

1.8.3. Nodes
  o New and Old Markets
  o Bus Terminal along river and other bus terminals
  o Ferry Terminal
  o Cruise Ship Berth
  o Old Market
  o Windsor Park
  o Newtown, Pottersville and Lindo Park playing fields
  o Churches
  o Hospital

1.8.4. Districts
  o Government HQ and administrative center
  o Commercial District; Old Street to Bay Front
- Residential enclaves, Pound, River Street East, Baghdad,
- Old French Quarter
- Colonial Administrative Center
- Institutional/recreational: Botanical Gardens, Schools, NDC, Alliance Francaise

1.8.5. Landmarks
- Cathedral
- Bishops House
- Old Post Office
- Barracoon Building
- Colonial Administrative center
  - War Memorial
  - Anglican Church
  - Fort Young Hotel
  - Carnegie Library
  - House of Parliament
  - Governor’s House
- Historic buildings along King George V and Old Street etc.

1.8.6. Issues
Some of the more important issues associated with these features are:

- Deteriorating quality and decrease quantity of housing stock
- Poorly maintained properties
- Lack of urban green space
- Diminished recreational space
- Lack of harmony between old and new architectural forms
- Poor signage
- Inadequate street lighting
- Poorly maintained and unlit Footpaths
- Unsightly penetration of utility line/poles
- Vehicular/pedestrian traffic conflicts
o Low level of pedestrian comfort
o Expansion constrained by strong physical boundaries/edges

Interventions to upgrade and interlink the various components of the cityscape, especially pedestrian areas and routes be pursued.

1.5.5 Landscape Framework

Existing Open Spaces:
Urban open space is considered as all open areas, publicly or privately owned, that are physically or visually accessible for recreational or educational purposes or can be considered as being of aesthetic or conservation value. Within the City of Roseau existing open space comprises areas specifically designated and developed for recreation purposes; certain institutional grounds which can be used for recreational, inspirational or meditative purposes; and other open areas with potential for incorporation in the recreational open space system or for use for conservation purposes.

Specific open space elements in the City include:
Main Recreational Facilities
- Newtown Savannah
- Pottersville savannah
- Windsor Park Stadium – currently under construction
- Dominica Botanic Gardens
- Lindo park
- Bath Estate Playing Field
- Emsall Playing Field
- Peebles Park

Institutional Grounds
- Government House Grounds
- Public Library Grounds
Roman Catholic Cemetery
Anglican Cemetery
Government Cemetery

Other Open Spaces
Roseau River Corridor
Surrounding Hillsides
Vacant Downtown Sites
The Street Environment
Downtown Waterfront

Key Issues
There is an absence of an organised system of open spaces in Roseau and a critical shortage of useable and well-managed open space elements. The scarcity of open space facilities is particularly evident in the Central Area of the City, where there is a high concentration of population during the daytime. The City however has potential for incorporating opportunity sites and features into the existing system of green infrastructure.

Key issues regarding individual open space facilities in the City may be summarised as follows:

a. The Downtown Waterfront is an important activity zone in the City but constrained by insufficient amenities and security facilities. The area however has very high potential for further development as an entertainment and tourism oriented zone.

b. The Roseau River Corridor represents a unique landscape feature in the City. Certain sections of the riverbank are however being subjected to environmental degradation.
through destruction of vegetative cover and squatting. Nevertheless, the River Corridor presents high potential for environmental conservation and nature based recreational activities.

c. The Botanic Gardens is a primary open space facility in Roseau. Over the years however, it has been subjected to misuse and ad-hoc development and now requires a comprehensive restoration programme.

d. The hillsides surrounding Roseau represent an important ecological zone and provide a strong visual backdrop to the City. There is need however to control development on the hillsides in order to avoid problems of soil erosion, loss of vegetative cover, pollution of the Roseau River, and erosion of aesthetic values.

e. The intensity of street life and commercial activity in the Central Area of the City has resulted in the deterioration of the street environment, which is now characterised by traffic congestion, pedestrian and vehicular conflicts, narrow and congested sidewalks, street vending, and a cluttering of signs and advertisements.

f. The grounds of certain institutional buildings, particularly the Public Library and the Government House Grounds, as well as other institutional grounds such as the Roman Catholic, Anglican and Government Cemeteries offer opportunities for informal recreational, inspiration, meditation, and historical research. There is need however to enhance the recreational capability of these
features by providing basic supporting facilities such as park furniture.

**GUIDING PRINCIPLES**
Within the context of the current problems, constraints, and opportunities in the open space sector in Roseau, guiding principles have been defined to provide for a process of sustainable open space development and an improved quality of life in the City. These guiding principles are stated as tangible development and environmental conditions to be attained over the plan period.

The guiding principles as defined are as follows:

- Provision of a healthful environment with diverse opportunities for outdoor recreation, environmental education, and contact with nature

- Conservation of essential ecological functions and protection of the biodiversity of local plants and animals

- Enhancement of the functionality, vitality, and aesthetic qualities of the City in order to provide it with a distinctive and memorable urban image.

- Establishment of ecologically self-sustaining landscapes and generation of landscape related economic activities and “green” jobs

- Promotion of community participation and collaboration in the landscape development process and in the pursuit of sustainable development.
DEVELOPMENT CONCEPT
The population of Roseau has declined steadily over the last three decades. The decline in the population of the Central Area has been quite substantial. It has been projected however that based on assumptions of an improved economy, decreased out-migration, and improvements in the housing stock in the Central Area, the population of the City would increase over the plan period at an average rate of 1.0% to a total of 17,400 persons by the year 2020. The population of the Central Area is also expected to increase by as much as 120% from the 2001 total of 1,995 persons to 4,400 persons by 2020.

Visitors arrivals in the City are also expected to increase significantly during the plan period. There has in fact been a steady increase in visitors arrival from 2002 and in particular, cruise passenger arrivals have been the highest experienced in 2004. It has been projected that 2005 and beyond would signal the highest increase in cruise ship arrivals in Dominica. Roseau will continue to play a most significant role in supporting the tourism industry since the two cruise ship ports and 24% of the country’s hotel plant are located in the City.

Based on the population and tourism projections, the demand for open space in the City would increase significantly, both in terms of the amount and types of facilities.

With a view to meeting new open space demands in a sustainable manner, a comprehensive programme of open space features and facilities is proposed for the City. The programme comprises a diverse range of conservation and amenity features offering opportunities for effective environmental management and for a wide variety of active and passive recreational activities. The programme includes such features as downtown and residential parks, playfields, playgrounds, waterfront and riverside parks, greenway linkages,
forested areas, ecology parks and interpretation areas, buffer zones, and hiking trails and bicycle paths.

Spatially, the open space programme is conceived as an integrated landscape framework which, as far as possible, links all existing and proposed open space elements into a unified system. The landscape framework therefore represents a diverse network of nodal and linear open space components. The key interconnecting components of the network are the Downtown Waterfront, Roseau River Corridor, the Botanic Gardens, and the hillsides surrounding the City. Together these features establish a framework for conservation and development by giving shape and structure to the City and allowing it to interface with the surrounding marine and hillside environments in a harmonious manner.

Essentially, the configuration and basic elements of the landscape framework seek to achieve a high quality environment that would facilitate the convenience, comfort and safety of residents and visitors. In particular, the landscape framework is expected to provide the following social, economic, ecological, and physical benefits to the City.

a. provision of physical and visual access to valued natural features and environments and provision of facilities for healthy recreational, social interaction, and nature-based educational activities.

b. Protection and restoration of sensitive wildlife habitats, corridors, and species and integration of the City into the surrounding ecosystems.
c. Protection of the hydrologic regime of Roseau River, thus securing conservation of water resources and water quality and effective storm water management and flood control.

d. Provision of a diverse range of amenities and activity areas to enrich the visual and landscape experience of residents and visitors, thus helping to:

- Instil a sense of pride among residents.
- Boost tourist arrivals and attract tourism-based businesses (accommodation facilities, restaurants, art galleries, craft shops, etc.)
- Attract other investment projects and business enterprises that would generate meaningful and secure jobs in the City

e. Generation of economic activities and jobs in the landscape sector through such activities as park management, landscaping, and sustainable urban forestry.

f. Integration of the urban green space system with the land use and circulation systems, thus helping to:

- Shape urban form and buffer incompatible uses.
- Provide visual relief and enhance urban aesthetics.
- Reduce air and noise pollution and control microclimatic condition.
- Complement the built environment.
- Increase property values
g. Provision of opportunities for collaboration and corporation among the public, private, volunteer and community sectors in the development and management of landscapes areas.

**KEY COMPONENTS OF THE LANDSCAPE FRAMEWORK**
The landscape framework is proposed as an integrated open space system comprising a network of diverse and linked elements. The key components of the system are as follows:

**Downtown Waterfront**
The waterfront forms a well-defined edge on the western side of the City of Roseau and represents an important interface between the marine and terrestrial environments. It is an important staging area and transportation node for both land based and marine oriented activities such as cargo handling, cruise passenger arrivals and tours, commercial fishing, and marine recreational activities (sailing, sport fishing, whale watching, etc.)

The Downtown Waterfront comprises that section of the coastline that borders the western edge of the Central Area of the City. It stretches from Roseau River in the north to Fort Young Hotel in the south. Over the years this area had been subjected to intense wave action and erosion, especially during periods of storms. Today, it is protected by a seawall which is in itself a powerful landscape feature that incorporates certain park features such as sitting and viewing areas. Spectacular views to the Caribbean Sea are obtained from these areas. The cruise ship terminal and the ferry terminal also form parts of the waterfront park environment.

Bay Street, a relatively wide boulevard-type arterial, runs along the Downtown Waterfront and a number of key activity areas are also located along the landward side of Bay Street, including Fort Young
Hotel, Garraway Hotel, the New Market, the Dominica Museum, and the Old Market Plaza. Several east-west streets in the Central Area terminate at the waterfront and provide convenient links from the waterfront to the commercial core of the City and to the institutional zone in the eastern section of the Central Area.

While the Downtown Waterfront is currently constrained by insufficient amenities and security facilities, it is however an important activity zone in the City and has very high potential for further development as an entertainment and tourism oriented zone. The vitality and security of the area could be enhanced by encouraging the establishment of additional tourism and entertainment facilities such as restaurants, outdoor cafes, hotels, nightclubs, shopping, arts and craft shops, and cultural exhibits and performance areas. There is also need to introduce certain supporting amenity features as observation decks, widened sidewalks, improved street lighting and street trees.

**Roseau River Corridor**

Roseau River Corridor represents a unique landscape feature running through the middle of the City. The River itself is noted for its crystal clear flowing waters which is typical of the general quality of river environments in Dominica. Also, the forested banks buffer the hydrologic regime of the river and represent features of high ecological significance and scenic value. Certain sections of the riverbanks are however being subjected to environmental degradation through destruction of vegetative cover and squatting.

The River Corridor however still presents high potential for environmental conservation and nature based recreation activities, and it is recommended that a management plan be formulated for the Corridor which incorporates these activities as the primary development themes.
The key conservation activities should involve maintenance and enhancement of the vegetative cover and stabilization of the riverbanks, utilising bioengineering methods rather than structural measures, in the areas where erosion is occurring. These measures would ensure that the integrity of the drainage regime is maintained in terms of water resource conservation, pollution prevention and maintenance of water quality, and storm water management and flood control. Maintenance of the vegetative cover would also result in the protection of important wildlife habitats and corridors.

Nature based recreation should be facilitated and promoted in the River Corridor through careful placement of such facilities as hiking trails, bicycle paths, ecology parks and nature interpretation areas, wildlife viewing stations, picnic shelters, bathing pools, and footbridges across the River. When complemented by well organized and managed educational and recreational programmes, these facilities would provide opportunities for unique nature based experiences in an urban setting.

**The Botanic Gardens**

The Dominica Botanic Gardens is a primary open space facility in Roseau. It comprises forty (40) acres of land located to the northeast of the Roseau Central Area. The Division of Agriculture is responsible for about half the acreage of the Gardens which is devoted to the growing of ornamental plants. The Division of Forestry is responsible for the remainder of the facility which is essentially devoted to recreation. About five to seven acres of this allocation comprise a cricket field. The Division of Agriculture and the Division of Forestry have a number of service buildings in the Gardens.

The main visitor attractions in the Gardens are the grounds itself – the lawn, the plants, an aviary, and a trail. Visitor patterns comprise
cruise ship passengers from October to May, visitors from the French Islands during the rest of the year, and local visitors throughout the year. During the period June 2004 to May 2005 approximately 350,000 cruise ship passengers visited the Gardens\(^2\). No records are kept on local visitors.

Over the years the Gardens has been subjected to tremendous pressure from misuse and adhoc development. Key problems currently being experienced include\(^3\):

- A lack of adequate human resource for proper management of the facility.
- Lack of coordination of the activities of the Division of Forestry and the Division of Agriculture.
- An adhoc building programme.
- The need to enhance the design of the facility.
- Use of the Gardens as a vehicular through route, especially at the dismissal of the nearby schools.
- Lack of washroom facilities – only the single staff toilet is available for visitor use.
- Limited budget allocation for recurrent expenditure.
- No user fees are applied for use of the Gardens.

In 1994 Dr. James Affolter noted that, in spite of the challenges that were facing the Botanic Gardens at the time, several factors underscored the relevance of the Gardens as the country approached the twenty-first century, including the growth of tourism on the island, the need to maintain and enhance the remaining green space in Roseau, and the ever-present challenge of improving educational opportunities for all citizens of Dominica. It was recommended that in

\(^2\) Interview with the Director of Forestry in June 2005.
\(^3\) Interview with the Director of Forestry in June 2005.
order to fulfill its potential, the Gardens was in need of a strategic plan to guide its development over the next five years. Some of the primary issues that needed to be addressed in that plan were identified as follows:

- Develop a mission statement for the Gardens.
- Define the primary educational themes.
- Develop a physical master plan to address such issues as circulation patterns for pedestrians and vehicles, placement of buildings and other facilities, landscaping needs, location of current and future plant collections, separation of recreational areas from more sensitive horticultural collections, etc.
- Develop a plants collections policy.
- Diversify the sources of income to the Gardens.
- Expand the professional staff.
- Expand the propagation facilities.
- Provide more interpretive material.
- Develop partnerships with other botanic gardens and related institutions.

Some of the possibilities that the Division of Forestry would currently like to see implemented in the Gardens include:

- Establishment of a captive mountain chicken area.
- Removal of sport from the Gardens.
- Use of a single building for the Division of Forestry and the Division of Agriculture rather than the development of a proliferation of buildings.
- Exclusion of cars from Gardens.
- Labeling of trees.

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The Division of Forestry is at present considering the formulation of a Management and Development Plan for the Gardens with the objective of achieving sustainable development of the facility over a five-year period. Recreation and interpretation are seen by the Division as the primary functions of the Gardens.

**Surrounding Hillsides**

The hillsides surrounding Roseau represent an important ecological zone and provide a strong visual backdrop to the City. Essentially, the hillsides comprise a complex and diversified landform system which presents opportunities for exploration, adventure, or more passive recreation. It is also possible to obtain panoramic views of the City from various points on the hillsides.

The hillsides together with the sea have shaped the outer form of Roseau. The edge between the City and the hillsides is however not as well defined as the waterfront’s edge because of the encroachment of development onto the hillsides over years. With a view to avoiding problems of soil erosion, loss of vegetative cover, pollution of the Roseau River, and erosion of aesthetic qualities, it is recommended that development on the hillsides surrounding the City be controlled and a hillside management programme instituted.

The primary management objectives for the hillsides should involve institution of a sustainable forestry programme, conservation of wildlife habitats and paths, and establishment of nature based recreational and educational facilities at appropriate locations. Recreational and educational facilities should be geared to support activities such as nature interpretation, landscape and wildlife viewing, picnicking, and hiking.
Street Environment

Roseau has a well-defined street system, which basically comprises a grid pattern in the Central Area. Street orientations in the Central Area are generally northeast to southwest and northwest to southeast. Some of the northeast to southwest streets act as key visual axes providing vistas to the hills in the northeast and the sea in the southwest. The orientation of the Central Area streets has generally influenced the rectangular block and plot patterns existing in the area and the form and orientations of buildings.

Commercial activity generates intensive pedestrian and vehicular traffic in the Central Area and in turn, the intensity of street life and land use activity has resulted in the deterioration of the street environment. The street environment is characterised by traffic congestion, pedestrian and vehicular conflicts, narrow and congested sidewalks, street vending and a cluttering of signs and advertisements.

Improvement of the quality of the street environment in the Central Area would require measures for better traffic circulation, enhancement of streets aesthetics, and improving pedestrian safety and comfort. Such measures should include:

- Appropriate traffic management measures, including consideration of pedestrianisation of sections of main shopping streets
- Consistency in the placement and form of business and directional signs
- Establishment of small vest pocket parks on selected vacant plots in the Central Area.
• Widened sidewalks with safe and interesting paving material.

• Clear definition of sidewalks, crossing, and other pedestrians zones

• Provision of weather protection (shade, shelter) for pedestrian by maintaining existing overhead cantilevered balconies and planting of street trees at appropriate locations

• Barrier free access for the elderly and handicapped

• Street lighting of adequate illumination.

**Institutional Grounds**

The grounds of certain institutional buildings, particularly the Public Library and the Government House Grounds, as well as other institutional facilities such as the Roman Catholic, Anglican and Government Cemeteries offer opportunities for informal recreational, inspiration, meditation, and historical research.

Strategies for enhancing the recreational capability of these features should involve the provision of certain basic supporting facilities such as benches, tables, bins, and lighting.
1.9. Environmental Conditions

1.9.1. Natural Environment

The purpose of this section is to establish the principal physical and biological conditions of the natural environment of Roseau. Characteristics related to climate, topography, soils surface water, plants and animals might be relevant in determining the extent to which the project objectives can be achieved. Air and water quality, and noise are other features of relevance in the context of the urban environment.

1.9.2. Climate

Dominica’s climate is described as humid tropical marine, with little seasonal or diurnal variations influenced by steady trade winds. The prevailing climatic conditions are of tremendous influence on the activities of the City. Local climatic conditions aberrate from the national system and influence the climate of particular locations like Roseau. Where records are not available for the Roseau area, substitutions are made with those from other, close, areas that may display similar characteristics. The main features of the climate are rainfall and winds resulting in associated tropical storms and other potentially hazardous situations. These features are of significance because of the coastal orientation of the city.

The primary natural hazards affecting the island of Dominica are hurricanes, other storms and their related impacts such as landslides and coastal erosion (CCA, 1991). The limited areas of flat land along the coast have been the focus of most of the island’s urban development. These settlements are vulnerable to coastal hazards. A number of instances of severe road damage, as a result of recent storms, can be seen along the coast. The city of Roseau is especially vulnerable.
1.9.3. Rainfall
A high level of precipitation characterises the island. It ranges in intensity from one part of the island to another. A dry season has been observed to occur from February to May, while a wet season has been observed to occur from June to December. The city of Roseau is located on the leeward side of the island and is considered to be in the drier region, characterised by lower rainfall. Rainfall records are not available for the Roseau area and the records of the closest location, Canefield Airport, are substituted for reference. Records from the Canefield Airport for the ten-year period 1995 to 2004 indicate that precipitation is lower for the earlier months of the year than for the later ones. See table Appendix 1...

1.9.4. Wind
The predominant wind regime in Dominica is the Northeast Trades. Topographical influences interfere with these systems resulting in modifications that occur locally. Information on wind speed and direction is not available for the Roseau area and the records of the closest location are substituted for reference. Records from the Canefield Airport indicate that winds are mainly from the southeast, at speeds between 2 and 8 knots. These can be taken as representative of the Roseau area. See Appendix 1...

1.9.5. Tropical Storms
The primary tropical storm pattern affecting the island of Dominica is hurricanes. Hurricane activity is of major concern to Dominica and by extension the city of Roseau. Many of these storms have a direct effect on the island. Records exist of all the hurricanes that have affected Dominica since 1623. Hurricanes in the Eastern Caribbean and especially at latitudes south of 18°N tend to be more intense in terms of their maximum wind speed for a given central pressure than their counterpart both in the North Atlantic and in the Pacific. It may be
assumed that a hurricane passing more than 120 nautical miles from a
given island in the region will produce only minor damage to that island. Tropical cyclones are classified in five categories based on the
Saffir-Simpson scale.

Storm categories I and II are defined as tropical depressions and
tropical storms, respectively, with categories III to V defined as hurricanes.

Records show that some 103 tropical storms affected Dominica between 1891 and 1990. The data have been analysed in relation to
air pressure and maximum wind speed to determine the probability of exceedance of a given wind speed in any year. From this information various return periods have been assessed. Based on the analysis a hurricane having a wind speed of 65 knots over Dominica would be expected to have a return period of 10 years, while a tropical storm having a wind speed of 50 knots would be expected to have a return period of approximately 5 years. The return period for category III hurricanes has been assessed as having a return period of approximately 5 years. (Mouchel, 1997)

Dominica is a mountainous island. The main mountain ridge has a height of some 1200 metres and land levels plunge steeply to the coast where there is little flat land.

The Admiralty chart 697 shows rapid increase in water depth with distance offshore for most of the coastline. Slopes range from 1:5 off Canefield airport to 1:44 for the East and North-East coast. (Mouchel, 1997).
Astronomically predicted tide levels for Woodbridge Bay, which are typical for the island, are provided by the hydrographic Survey Department of the Admiralty as shown below:

<table>
<thead>
<tr>
<th></th>
<th>Height relative to chart Datum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Astronomical Tide (HAT)</td>
<td>+0.08m</td>
</tr>
<tr>
<td>Mean Higher High Water (MHHW)</td>
<td>+0.63m</td>
</tr>
<tr>
<td>Mean Lower High Water (MLHW)</td>
<td>+0.53m</td>
</tr>
<tr>
<td>Mean Water Level (MWL)</td>
<td>+0.45m</td>
</tr>
<tr>
<td>Mean Higher Low Water (MHLW)</td>
<td>+0.42m</td>
</tr>
<tr>
<td>Mean Lower Low Water (MLLW)</td>
<td>+0.23m</td>
</tr>
<tr>
<td>Lowest Astronomical Tide (LAT)</td>
<td>0.0m</td>
</tr>
</tbody>
</table>

**Surges** are changes to still water level, which are additional to those caused by astronomical influences. Positive surges are induced by low atmospheric pressure acting over the surface of the sea, resulting in a raising of the water level. The primary reason for the cause of the increase in water level in Dominica is a decrease in atmospheric pressure. Negative surges caused by high atmospheric pressure can also occur. (Mouchel, 1997).

There is no monitoring programme for still water levels in Dominica. Estimated average surge heights for various categories of storms have been derived by Compton Deane as follows:

<table>
<thead>
<tr>
<th>Storm Category</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Surge Height (metres)</td>
<td>0.06</td>
<td>0.09</td>
<td>0.33</td>
<td>0.64</td>
</tr>
</tbody>
</table>
Movement of both sea level and the land surface datum may cause long term changes in mean sea level. No data are available for Dominica on land level changes.

Sea levels are expected to rise associated with global warming. (Mouchel, 1997)

**Wind waves** are generated by the passage of wind over the water surface. Non-hurricane wave activity is influenced by the Trade Winds crossing the Atlantic Ocean therefore wave activity is greater along the east coast of Dominica.

No observed records of waves exist for Dominica. (Mouchel, 1997).

**Tsunamis** are long period waves generally caused by submarine earthquakes and/or volcanic activity. The Caribbean is an area of both seismic and volcanic activity and therefore tsunamis would be expected to have a significant influence on coastal sections of the City of Roseau.

Very long wavelengths and small wave heights characterize tsunamis, in deep water. Typically, 160km wavelengths with a wave height of 0.6meters. Compton Deane has collated data available for tsunamis in this region for the period 1530 to 1969. (Mouchel, 1997)

1.9.6. Topography

The landscape of Dominica is characterized by mountains of volcanic origin. The islands is geologically young, having begun to form more than 10,000 years ago. Seismic activity on the island has been recorded since 1953 and has revealed that a number of earthquakes may be volcanically related, associated with shallow processes taking place beneath Dominican volcanoes (CCA,1991). The island still shows
signs of volcanic activity with a number of fumaroles, geysers and frequent earth tremors attributed to volcanic activity.

The city of Roseau consists of a series of ridges and valleys radiating towards the coastline. The bottom of the valleys and to a lesser extent the ridge tops, constitute relatively flat lands. The slopes from ridges to valleys are quite steep. The valleys constitute the natural drainage system that radiate towards the sea. The variable gradient assists in carrying storm waters relatively quickly to the sea thus minimizing the impact of floodwaters.

1.9.7.  Soils
The rock of Dominica consists of older volcanics, marine deposits, later lava flows and recent deposits. The older volcanics are mainly basalts and andesites believed to be of Eocene age. The marine deposits consist of current bedded tuffs, gravels and limestone and are found exclusively on the leeward side of the island. Later deposits comprise abundant andesitic-dacitic pyroclastics thrown out by the chain of younger volcanoes which follow the backbone of the island (Lang, 1967).

The soils of Dominica are readily eroded, as they tend to be unconsolidated and friable. There is only incipient cementation of the subsoil; the cemented layers readily decompose when exposed to the surface elements. The relief of the island is abrupt and precipitation is very high so that any loss of forest cover would result in accelerated soil erosion.

The ridge tops and slopes surrounding Roseau may be considered to be rock with a very thin layer of soil created by the normal process of weathering. Due to steepness, the soil does not build up to any significant extent on the slopes. The layers of soil are much more
substantial in the valleys, having been brought down by the rivers and streams. Much of the central business district in Roseau is constructed on such deposits brought down by the Roseau River. The soil consists of sand and gravel. Ground water is found relatively close to the surface.

A submarine “fan” which rests on steeply sloping bedrock has developed, from deposition by the Roseau River, at the mouth of the river. This appears to be highly unstable, with significant movement recorded during the Water and Sanitation Project- Stage III sponsored by Oceanographic Study (AXYS, 1993).

1.9.8. Surface Water
A number of natural drainage systems fan out through the study area. The Roseau River, the largest, is the main river within the study area. It is centrally located near the city center. Other systems include ravine Cocque (the northern boundary), Lolot river (draining the Fond Colé industrial area), Gutter ravine (running through Gutter/Tarish Pit communities), Ravine Battery (through King’s Hill/Newtown), Ravine Edwin (Near valley Engineering/ Newtown Fisheries Cooperative), Ravine Beau (through Fortune) and the River Cannarie (the Southern Boundary). They are all torrential and are heavily sedimented. The most heavily sedimented areas are vegetated. In the case of the Roseau river, the dominant vegetation is Roseau reed (*gynerium Sagittata*), also known as wild cane that occurs in the lower section of the river as it runs through the city. The vegetation of the other streams/rivers was not identified.

1.9.9. Plants and Animals
Flora- The vegetation in the city of Roseau is typical of the west coast of Dominica. This consists of dry scrub vegetation or dry zone floras. Most of these occur beyond the developed areas of the city.
Fauna- The known wildlife in the city is mainly found in the botanic gardens and other wooded areas. It includes several species of birds and snakes along with opossum, iguana, and black crabs. A rare species of lizard (1 ½” in length) has been known to inhabit the cliff face North of Bath road.

A comprehensive study of the vegetation and wildlife in the city is beyond the scope of this study.

1.9.10. Human Environment
The purpose of this section is to establish the principal human conditions of the built environment of Roseau. Characteristics related to Public Health, Housing, Education Green Spaces, Recreational Open Spaces and Visual considerations might be relevant in determining the extent to which the project objectives can be achieved.

1.9.10.1. Public Health
Public health for the study area is monitored by a number of health centres in collaboration with the Environmental Health department. Through the primary health care programme, conditions are monitored. Foods are monitored and sometimes tested in order to ensure fitness for consumption. Ongoing public education and the licensing of food Handlers are some of the preventive measures used in the primary health care programme.

1.9.10.2. Green Spaces
Green spaces are few in number and constantly disappearing by attrition. Pressure is exerted from adjacent property owners and by potential developers. The situation is encouraged by the reluctance of property owners to control encroachment. In the case of government lands the tendency is to regularize those who squat.
1.9.11. Recreational Open Space
This feature is becoming increasingly inadequate, are usually poorly maintained and overused. Inadequate maintenance and the lack of management in general are some of the reasons for the decline.

1.9.12. Cemeteries
The City is faced with a very serious challenge of finding space to bury the dead. The shortage of burial spaces is approaching breaking point. On a number of occasions there have been reports of the unearthing of partially decomposed bodies. First in the Massacre Roman Catholic cemetery and, more recently, in the Roseau Roman Catholic cemetery. This problem is not merely a social one, but can escalate to one that threatened the health of the entire City. A solution is compounded by a shortage of land in the City.

1.9.13. Visual Challenges
Dilapidated buildings, derelict vehicles; misplaced structures and general lack of landscaping blight the City. Unsightly utility poles are also a source of visual blighting.

1.9.14. Levels of Pollution
This section identifies the principal interventions in environmental quality. Because of the nature of activities on the island, pollution is generally limited to Air, Water and Noise impairments.

1.9.14.1. Air Quality
Smoke from home burning of garbage, though irregular, is sufficiently significant as it is drifted into nearby homes in amounts that can be of serious health consequence. Dust from regular traffic and other activities can be significantly annoying besides being a health threat. Some of this dust originates from vehicles carrying building material. The occasional offensive odor is an indication of some unhealthy
situation or of some unsanitary practice occurring in the area. Exhaust from poorly maintained vehicles or diesel-engined vehicles left running and sometimes unattended in areas where people congregate like bus stands are not an unusual occurrence. The wind system, fortunately, assists in flushing the pollutants from the air (by displacing ambient air) so that the air is unclean for relatively short periods of time. The lack of testing of the air denies the opportunity to know what the composition is of the air at any time. This unknown factor is serious enough to require investigation.

1.9.14.2. Water Quality

Garbage in the Roseau River and ravines throughout the City, impact on the water in these channels. An undisclosed amount of human waste is known to be deposited in the Roseau River and ravines throughout the City. Poor drainage in some areas, result in stagnant water in some cases. The situation is particularly significant in the rainy season. An increasing number of houses are constructed in close proximity to watercourses. The liquid waste form these houses are drained into these watercourses.

The drainage of the land is facilitated by the channelling of the valleys, resulting in The River and ravines, of the city. The sea is the final destination of most liquid and solid waste carried by the watercourses. The discharge of the sewerage treatment plant is channelled into the sea. Liquid waste from the princess Margaret hospital is channelled through the sewage treatment plant. This practice is of grave significance considering that the waste from the treatment plant is processed and not treated. Garbage carried by the Roseau River collects in the region of the estuary. Because of the build up of material at the mouth of the river material is trapped in the pool that is created by the slowing down of the water at the estuary. The water
flowing over the embankment to the sea is insufficient at most times to flush of the garbage, which accumulates.

The water supply of the City originates from a source outside the City boundaries. It is treated and therefore of fairly good quality. The water in the pipes is usually muddy for varying periods during and following heavy rainfall. It is generally, however, fairly safe for consumption. Increasing the storage capacity of the reservoir for at least one day’s supply can solve the problem of muddy water.

1.9.14.3. Noise
The main source of noise is from entertainment. Blaring music is a constant feature of any function. Noise abatement legislation is in place, but the enforcement leaves much to be desired. Noisy engines from poorly maintained vehicles; sometimes left running and unattended is another source of the problem. Roadside mechanics, from time to time, engage in the practice of revving up engines. Stereo systems in vehicles and homes are of particular concern as they, are used indiscriminately, and are a nuisance to many and hazardous to the sick, and elderly. A novelty problem involves the use of alarm systems in vehicles. Some of these are so highly sensitive that they can be triggered off by pedestrians, the vibration of moving vehicles especially motorbikes and stereo systems from moving vehicles. When this occurs in residential neighbourhoods it can be a real nuisance (sometimes a health hazard) for some.

1.9.15. Solid Waste
Disposal of solid waste is fairly well managed in the City. Estimates of waste generation rates provided from the results of data review collected by the Dominica Solid Waste Management Corporation indicate a reduction in the projected tonnage of waste generated in the City through to the year 2021 (see table 9). Hospital waste is
incinerated and the ashes carried to the landfill site. It is felt that the scheduling of the collection of garbage need improvement. Material falling off overloaded vehicles is regularly seen on the streets of the City. Littering is still taking place on a regular basis throughout the city despite existing legislation. The situation is compounded by the absence of litterbins throughout the city. Shattered bottles on the road surfaces are a regular feature of the end of festivals.

**TABLE 9**

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>15,167</td>
<td>3,764</td>
</tr>
<tr>
<td>2006</td>
<td>14,836</td>
<td>3,682</td>
</tr>
<tr>
<td>2011</td>
<td>14,512</td>
<td>3,602</td>
</tr>
<tr>
<td>2016</td>
<td>14,196</td>
<td>3,523</td>
</tr>
<tr>
<td>2021</td>
<td>13,886</td>
<td>3,447</td>
</tr>
</tbody>
</table>

It should also be noted that the projection are based on the assumption that the City’s population will continue its declining trends.

**1.9.16. Liquid Waste**

Spent oil from roadside garages discolour many drains, sidewalks and some roads. These originate from roadside mechanics in many instances. Household chemicals, usually cleaning agents, are the main sources of these wastes. Industrial chemicals, cleaning agents and pest and weed control agents, are another source of liquid waste. Existing legislation in the form of the Pesticides Control Act of 1976 regulate the import and use of Pesticides but does not control other chemicals. While efforts have been made to channel household liquid waste to the sewer pipes, hence into the treatment plant, there are still a number of sources unconnected to the system resulting in the

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5 Source, Dominica Solid Waste Management Corporation
continued use of the street drains. The effect of this practice is the continued incidence of foul odors in some sections of the City.

1.9.17. Roseau River Degradation
The Roseau River as a very large natural system is dominant in the landscape of the city. From time to time this system undergoes changes from natural and human intervention. The system is impacted by floods originating from natural processes resulting from existing or prevailing physical and environmental conditions. It is also impacted by human and solid waste. In the case of human waste there are hidden threats to the health of residents and visitors to the city. In the case of solid wastes, there is the immediate visual impairment of the landscape in addition to a reduction in air quality as a result of unpleasant odors.

This river is torrential and, as a result, it is heavily sedimented. Water levels appear to be low for two reasons 1). Reduction in the volume of water, and 2). Heavy sedimentation resulting in the elevation of the bed of the river. There is no comprehensive management programme for the maintenance of the quality of the system. There is an accumulation of garbage in the deeper waters at the mouth of the river. This material is hardly removed by the occasional flooding of the river since the accumulation of material at the mouth of the river causes the water to exit at a point above sea level and therefore at a point above the accumulated material.

1.9.18. Vulnerability to Natural Hazards
Natural weather conditions create threats of hazardous occurrences in the City. The potential for flooding from unusually heavy rainfall is historically potent. The presence of protective walls on the riverbanks is a reminder of past problems with the river. The area around the mouth of the river (which includes the new market and some parts
around the sewerage treatment plant), due to its lower elevation, is vulnerable to flooding from both the sea and the river. A sea defence wall protects the bayfront. Despite this defense, the area is vulnerable to flooding from water overtopping the wall. Here the surging water is trapped by the projection of the Ferry terminal, between the terminal and the wall. It is forced upwards providing an elevated cushion for the waves. Hurricanes have been known to be very destructive on many occasions. Recent storms have exposed the limitations of the sea defense walls in the face of storm surges that resulted in damage to property.

The open shoreline renders vulnerability to incidents like oil spills even from some distance away.

In recent times there has been the impending threats of volcanic eruptions as indicated by the numerous tremors of volcanic origin that occur on a daily basis. A chain of volcanoes that can be seriously threatening surrounds the City. Recent seismic activity, although originating from several miles away, have been experienced in the City, evidenced by some structural damage to some buildings. Given the physical composition and location of Dominica, it is only a matter of time before the threat becomes a reality.

However, it is impossible to predict when an eruption might occur, hence the country must remain in a state of readiness for such eventuality. With respect to locating of future large-scale development projects in Roseau, it is imperative that consideration to given to alternative site outside of the region most likely to be affected by a volcanic eruption during such decision making.
Map:9
1.10. **Institutional Considerations**

1.10.1. **Planning and Development Control**

The Physical Planning Act (PPA) #5 of 2002 makes “provision for the orderly and progressive development of land in both urban and rural areas and to preserve and improve the amenities thereof; for the granting of permission to develop land and/or other powers of control over the use of land; for the regulation of the construction of buildings and related matters, to confer additional powers in respect of the acquisition and development of land for planning purposes and for other matters connected therewith”. Day to day responsibilities for administration of the Act rests with the PPD.

The PPA provides the basic legal framework for the administration of efficient and effective land use management. However, the supporting planning tools required for sound decision making are lacking.

Many of the standards the authority seeks to enforce have not been formally adopted. Resource constraints coupled with the lack of will to enforce the compliance provisions of the Act aggravate the problem. ‘Change of use’, development which deserves effective and efficient management and control in built-up areas such as Central Roseau is hardly ever controlled.

Staffing of the PPD is also low and weak in the area of engineering to support building and civil works monitoring responsibilities.

Over the plan period, attention should therefore be given to:

- Preparation/review and formal adoption of land use, subdivision and building regulations.
- Complimenting the current system of discretionary development control with prescriptive zoning, particularly in respect of
residential neighbourhoods and preservation areas such as the proposed Historic District

- Pooling of resources to update and expand the information base (maps for example) for decision making
- Broadening consultation with respect to development application reviews.

In addition to making the planning and development control process more effective and efficient, such interventions will provide greater certainty to property owners and prospective developers as to the likely outcome of development applications.

1.10.2. City Management

The Roseau City Council established by Act 17 of 1982 is responsible for administrative/maintenance/management of the City of Roseau. Council is headed by a Mayor with a City Clerk as Chief Executive Officer. For administrative purposes the City is divided into four Wards.

Responsibilities of Council include establishment of pounds, cleaning of streets and drains, suppression and abatement of nuisances, establishment of public convenience, sanitation of unoccupied lands, maintenance of cemeteries and graves, removal and disposal of derelict vehicles and other abandoned objects, among others.

Council’s main sources of revenue are proceeds from house and land rates, other rates, taxes and fees, fines for breaches of by-laws, rental, sale or mortgage of properties vested in council and central government subventions.
In a few instances, council also partnered with the local private sector and external agencies in order to meet its obligations to residents and users of the City.

Historically, Council has experienced severe financial limitations in meeting its obligations, a situation which still persists. Interventions over the plan period to improve the physical image of the City, particularly Central Roseau, will undoubtedly demand increased levels of maintenance on the part of Council. In the absence of alternative sources of revenue, Council will be expected to increase revenue from conventional sources to meet its obligations. The current Land and House Rate Valuation regime administered by Council contains great disparity between the leviable values and market values of properties within the City and is therefore not a disincentive to land speculation, and unsatisfactory maintenance of private property. The high incidence of vacant lots, derelict buildings and general urban decay currently observed in the Central Roseau, Lower Pottersville and along Victoria Street in New Town could be the direct result of weaknesses in the current land and house rate regime administered by Council.

A revisiting of legislated provisions in respect of Land and House Rates in the City of Roseau is necessary in order to arrest such problems and improve Council's ability to realize sustainable maintenance of an improved City environment.
1.11. Policies, Programmes and Projects

The ToR for this Study required that the consultant “report on existing policies, programmes and projects….. indicating how each may affect the Plan”. Some projects have already been alluded to and discussed in previous sections of this report. Some other pertinent issues will be dealt with below.

1.11.1. Sectoral Policies

Based on documentation reviews and interviews conducted for the study, sectoral policies were revealed which would have direct impact on the development of Roseau.

1.11.1.1. Housing:

Government’s housing policies are geared towards:

- Introducing cross subsidy in public sector housing schemes in order to reduce the cost of housing for income beneficiaries
- Promoting self-help and retrofitting as a means of delivering new housing and improving existing ones for the economically deprived
- Reintroduction of duty free in respect of selected building materials to increase construction activity, job creation and the housing stock
- Introduction of new construction technologies as a means of reducing construction cost of new housing
- Exploring non-traditional areas for sourcing building materials as a cost reduction measure
- Merger of the Housing Division and Development and Planning Corporation as a new entity for the implementation of public sector housing projects
- Facilitating purchase of public sector housing through private sector financial institutions
- Redvelopment of state owned lands at Morne Bruce for high quality state owned housing

These policy pronouncements for the housing sector will facilitate necessary upgrading in the dilapidated residential districts of Central Roseau and help alleviate the housing condition of the low-income households in these areas. However, if significant improvements are to be made in the redevelopment of these housing areas thereby encouraging persons to consider returning to live in Central Roseau, then policies, programmes and projects should be designed and implemented to address constraints of land fragmentation and assembly, urban decay and attract private sector investments in urban housing, particularly rental housing.

1.11.1.2. Tourism

Over the last seven years there has been unprecedented donor funding and technical assistance for strengthening and development of tourism in Dominica. Major areas of assistance are as follows:

Product development – site development and upgrading, development of standards, development of environmental management systems for sites, hotels and the destination as a whole.

Marketing
- Human resource development
- Enterprise development

The eco-tourism development programme funded by the European Union is the largest financial aid package to the tourism sector. The following projects undertaken and in process will augur well for the proposed upgrading of the tourism assets of Roseau:
• EU – Eco-tourism Development Programme, co-funded by GOCD of Dominica;
• CIDA-funded Nature Island Standards of Excellence Phase II (CPEC project);
• Investment Opportunity Program funded by USAID and delivered by Carana Corporation;
• CIDA-funded Financial Services Project – CPEC;
• Upgrading of Eco-tourism Sites funded by CDB;
• Republic of China – Tourism Marketing and Promotion Program, co-funded by GOCD
• Caribbean Regional Environmental Program (CREP), funded by EU;
• Small Tourism Enterprises (STEP) Project, funded by OAS and USAID;
• USAID-funded Green Globe 21 Destination Program;
• Waitukubli National Trail Program, funded by EU;
• USAID-funded Caribbean Hotel Environmental Management Initiative; and
• EU Enterprise Development Fund.

**National Cruise Ship Policy**

Within the context of an expanding cruise sector, a national cruise ship policy was developed in 1994 but was never ratified by government. The policy, in its broadest sense gives due cognizance to the balance between development of tourism and protection of the environment. The overall guiding principle outlined for the development of the cruise industry are as follows:

The growth rate, seasonal and weekly distribution will have to respect the integrity of Dominica as an eco-tourism destination. This means
that the carrying capacity of the destination as a whole as well as the individual sites shall not be exceeded.

Targeted growth and development of cruise tourism should be correlated with the concurrent growth and development of the stay-over sub-sector.

The recently developed National Strategy and Action Plan to develop entertainment and cultural tourism in Dominica (Anita Bully, May 2005).

This will serve to develop these important linkages with tourism and to enhance and build this sector that constitutes an important component of Dominica’s eco-tourism product.

In 1988, Dominica developed and ratified a tourism policy that clearly states that the development of the tourism sector is intended to effect the following:

- The enhancement and preservation of the nation’s cultural heritage
- Earning of finance for the conservation and development of Dominica’s renewable natural resources—plant and wildlife and the protection of the environment.
- The contribution to the revival of arts and crafts and the
- Raising of the consciousness of Dominica in this regard

The NDC has recently developed a more expansive tourism policy (2004) that includes the repositioning of Dominica, the role of the community, product development priorities and expanding on the role of government in tourism. In defining the product development policy
for Dominica the policies outlines the preferred development priorities for Roseau as follows:

“Dominica will place a priority on fostering the development of Roseau as a significant tourism experience combining heritage, culture and city experiences. In so doing, consideration will be given to enhancing an understanding of, and appreciation for, the Roseau Historic District, introducing themed signage, developing walking tours, ensuring that the road re-instatement project does not compromise the historic "feel" of the community, and upgrading the waterfront to a more user friendly environment with a world-class waterfront walkway area.

A visitor-friendly Roseau should also include provision for access to the river system (e.g. riverside walkways and bicycle trails) and provision for a safer nighttime experience for dining and entertainment activities. For example, improved nighttime lighting should be considered in Roseau and its outskirts. Doing so will not only improve the visitor experience but the quality of life for residents in these areas”.

Green Globe Programme
Dominica embarked on a Green Globe destination programme in 2002 and has been benchmarked in 2004. This is an important marketing tool and a fulfillment of Dominica’s stated policy for sustainable development and it‟s positioning as an eco-tourism destination. Future development programmes should not compromise Dominica’s potential status as a certified Green Globe destination.

1.11.1.3. Health/Education
Health
The primary health care system, administered from a health clinic, has been in the forefront in assuring that health services are more accessible to all. The system has undergone recent challenges due to
budgetary constrains which have affected building maintenance. This has resulted in the closure of some facilities, including the Roseau Health Centre which included health related issues. However, government’s stated policy is to re-build the Roseau Health Centre.

Removal of derelict sites and buildings in the city should will greatly improve environmental health conditions for both visitors and residents.

**Education**

Education continues to be an important component of respective Government’s policy. Education programs which were targeted at utilizing an improved resource base have been implemented from 1995. They are now beginning to influence school goers and employed young person alike. Some of these programs involved improved educational facilities, changes to curriculum, upgrading teachers’ qualifications and improve management and monitoring.

The Government of Dominica implemented the Basic Education Reform Project (BERP) in 1995. The program sought to address equal access to education and the need to improve the efficiency, quality and effectiveness of the education system. At the core of this program is the goal of universal access to secondary education. This will also see the end of the Common Entrance Examination.

The Secondary Education Development Project, known as BERP 2 is in preparation. Its main aim is to “… help reduce poverty and unemployment by increasing the supply of secondary school graduates with flexible academic and technical skills and knowledge” (Budget Address 2002/03)
The City is already benefiting from these policies with the replacement of the DGS, among other initiatives.

1.11.1.4. Energy
Policies in the energy sector seeks to accelerate investigations into alternative renewable energy sources – particularly geothermal and wind – in order to exploit existing potentials as a means of foreign exchange earning and reducing present energy costs.

Success in this sector could, among other benefits, improve balance of payment standings, increase government revenues for capital project investments, create high paying job opportunities, lower operating cost of service providers such as hotels and restaurants, as well as increase households disposal income, which in turn would positively impact private sector earnings to the direct benefit of businesses in the City. Pursuance of government’s current energy sector policies is therefore encouraged.

1.11.1.5. Environment
The Government of the Commonwealth of Dominica approved and signed “The St. George’s Declaration of Principles for the Environmental Sustainability in the OECS”. This document constitutes a regional policy for achieving enhanced management of the environment in pursuit of sustainable development objectives in the OECS region, and has been signed by all member states.

In signing The St. Georges Declaration, Dominica has committed to, among other things, “develop a national environmental management strategy within two years of the date of this deceleration (i.e., The ST. Georges Declaration), comes into force” (Principle 19(g) of The St. Georges Declaration).
A National Environmental Management Strategy (NEMS) is the mechanism by which the regional policy and implementation framework that has been developed for management of the environment at the OECS regional level will be given effect at the national level. The NEMS will serve as an umbrella environmental management policy document for the Commonwealth of Dominica which will incorporate the strategic directives, programs, projects and initiatives outlined in the National Development Plans.

Dominica began the NEMS development process with the holding of an initial stakeholders meeting in August 2001. The process is ongoing. Programmes and projects to upgrade the City’s environment could be considered for financing under the NEMS. The GOCD has also entered into a number of international conventions/agreements in addition to enhancing a number of laws, which indicate the likely position of Governmental Environmental Policy.

1.11.2. Programmes and Projects
Some of the ongoing and planned projects with implications for planning and development of the City have already been touched on. Following are further implications and considerations arising from these and other projects.

1.11.2.1. The Eco-Tourism Development Programme: The broad objective of this programme is to strengthen the GOCD tourism development thrust for sustainable employment. This study is an output of this programme. Under the ETDP, a number of projects designed to enhance and exploit the tourism development potential of Roseau are to be implemented. These include Development of the Botanical Garden (BG), Renovation of the Old Market (OM), upgrading of Roseau Ferry Terminal (RFT) and Consolidation of the Roseau Historic District (RHD).
The BG renovation projects are mainly concerned with upgrading facilities for special interest users such as the playing field for sports enthusiasts. Implementation of this project in the absence of an overall rehabilitation/development plan for the whole of the BG could encourage demands from competing interest groups for use of this space and ultimately diminish its contribution to tourism development. Ongoing and planned projects for the BG should therefore be implemented in the context of a detailed BG development plan providing for sustainable maintenance of this major asset.

Plans to utilize the OM should be examined in the context of the future importance of the Roseau Cruiseship Terminal. Should this facility remain as the premier port for cruiseship passengers in Roseau over the short and medium term, the existing information centre at the OM will have to be upgraded/extended.

The Plan makes provisions for the relocation of vendors as well as the Museum in the OM. The OM could be utilised for the extension of the cruiseship passenger reception area, amphitheatre, information centre etc. This will call for the development of a detail plan integrating the OM with the existing cruise ship passenger terminal located opposite the OM.

The Ferry Terminal (FT) site is a point of congestion and functional disorder, especially during periods of major events - Dominica World Creole Music Festival, for example. Proposals to upgrade this facility are therefore necessary.

The proposed upgrading seeks to focus mainly on improving passenger thru-put, security, customs accommodation and vehicular traffic ingress/egress.
The Plan has however identified some issues/considerations that could be adequately addressed through upgrading of the FT. These include:

- Passenger cruiseship tendering
- Small sea vessel tour operations – whale watching vessels accommodation, for example
- Inter community ferry service – particularly for West Coast settlements and in the event of major road blockage caused by disaster
- Surge control at the Bayfront

Consideration should be given to reviewing the scope of work – design/construction – of this project to accommodate the above needs in the short or medium term.

1.11.2.2. Roseau Vendors Market: This project is designed to relocate the majority of vendors at the Roseau Bayfront and OM through more intense utilization of the Roseau New Market (RNM).

The proposed project should be pursued but it will not adequately alleviate problems of vending in Central Roseau due mainly to limitations of the area earmarked for relocation and potential functional conflicts between vendors of agricultural produce and those servicing the tourist industry.

Proposals to provide accommodation for vendors should facilitate maintenance of the economic viability of these small operators, reinforce sustainability of City vitality and enhance functional distinction.

The plan therefore advocates a more comprehensive approach to resolving problems of vending in Central Roseau including:
• Development of a vendors plaza/arcade with provisions for all categories of vendors, including food service providers
• Relocation of DEXIA’s warehouse and utilization of the vacated space to resettle vendors
• Acquisition of strategically located but under developed/utilized properties in the immediate vicinity of the RNM
• Land reclamation along the Roseau River between the East Bridge and RNM
• Incentives to attract private sector investments in the provision of rental space for micro and small business

1.11.2.3. Roseau BG Link Road: This project envisaged a ring road, of similar design as the Mary Eugenia Charles Boulevard, along the south bank of the Roseau River (RV) linking the BG, Bayfront and southern section of the Historic District.

The eastern and southern component of this project will be realised through interventions under the RRRP but with a reduced emphasis on greenery and pedestrian comfort.

The Roseau Link Road Project should be revised with a view to maintaining the River Bank Road (with provisions for extension to Bath Road) and the proposed Windsor Park ring road section as motorable access and utilizing existing/reclaimed land between these roadways and the Roseau River for recreational/pedestrian/cyclist use only. The NM and BG would be nodes on this route – Bayfront to High Street via the Roseau Ring Road.

1.11.2.4. RRRP: This project is at the advanced final design stage. It focuses mainly on alleviating traffic congestion and parking issues in Central Roseau through road upgrading. Accordingly, the project calls for changes in the traffic pattern, road hierarchy, road surface,
sidewalks, storm water drainage improvements and expansion of the existing road network to include one new bridge.

Interventions proposed under this project will impact positively on many of the vehicular and pedestrian traffic issues currently facing Central Roseau, including visual improvements.

The proposal also holds considerable capital cost implications for some utility service providers particularly DOMLEC, necessitates encroachment on private properties and could lead to an increase of thru-traffic volumes in the school district. The project also does not address critically important current transportation issues such as:

- Bus stands/terminals
- Quality of public transport
- Off-street parking

The Plan must therefore give consideration to these issues and concerns because they have and will continue to impact efficient functioning and development in Central Roseau.

1.11.2.5. **Historic District:** Formal establishment of a historic district to preserve cultural and architectural heritage in Central Roseau is actively being pursued by the PPD with the assistance of SHAPE. This programme is also a beneficiary of the ETDP.

The boundaries of the proposed district encompass approximately 38.0% of land in Central Roseau. Draft building control guidelines and incentive package for property owners and developers of land in the district have been submitted for consideration of Government.
The proposed District holds tremendous opportunities for tourism development, up market housing, expansion of duty free shopping, cultural and historic preservation in Central Roseau and should be pursued.

As intimated in other sections of this report, however, the proposal also have implications for commercial floor space expansion, especially for large and medium size establishments in Central Roseau. For example, height and bulk controls that are necessary to maintain architectural harmony within and on the edges of the district are constraints to the development of large commercial floor space in a locality where land is already too fragmented. The development control measures proposed also do not address issues of land use such as permissible and non-permissible uses within the District. The absence of such control instruments creates uncertainty and could erode support for the measure.

The boundaries of the District also extends into sections of the City where encroachment on the architectural and cultural heritage is near irreversible, except for the existence of a few spaced important properties – Upper Cork Street/Independence Street section for example. In light of the significant land use implications of the proposal and the fact that the PPA makes provisions for preservation of individual buildings or properties, consideration should be given to reducing the size of the District to a more acceptable and manageable scale.

Details of the proposed incentives package have not been released. It is a known fact however, that a few property owners who wish to dispose of their properties in the District are already encountering difficulties in attracting prospective buyers, due to fears on the past of the latter that they will not be able to realise reasonable returns on
development investments in these properties because of the building controls proposed for the district.

The PPA makes provisions for property owners aggrieved by such land use/development control measures to seek compensation from Government in the form of outright purchase.

Development control measures and incentives proposed should sufficiently attractive to shield the public sector from such demands and at the same time, induce property owners and prospective developers support for this important and necessary initiative.

1.11.2.6. Windsor Park Development Project: This is a flagship project of national importance. On completion, it will be the premiere sporting facility in Dominica for competitive international, regional and selected national sporting events in cricket and football. The facility provides for a maximum spectator capacity of 12,000 persons in addition to ancillary/support facilities. The project substantially displaces the DGS as well as Central Roseau playing field and Grotto Home for the Homeless.

Some or all of the following are likely to occur in the absence of a traffic operational plan to manage events at the Windsor Park Sports Stadium:

- Loss of on-street resident parking during stadium events
- Illegal parking by stadium patrons in driveways, at entrances, at bus stops, etc.
- Air and noise pollution increased volumes of slow moving vehicles
- Crowd control problems such as litter, vandalism, and drinking along the routes
Superimposing stadium events on existing peak-hour traffic patterns would exacerbate traffic control problems
Any significant additional parking in the area would merely aggravate community traffic problems
Loss of revenue to area businesses resulting from parking and traffic problems

Work on the project has commenced but without the benefit of traffic operational plan. To this end consideration is being given to the inclusion of many adjoining private properties in the overall development plan. While such proposals may be desirable, their financial implications will be considerable and possibly economically unviable. Land for the relocation/expansion of the DGS seems adequately resolved. Further actions to address the following are still necessary.

- Provision of community recreational facilities for Central Roseau residents
- Relocation of the Home for the Homeless
- Provision of off-street parking for officials and the general public

The following guidelines should guide formulation of a Traffic operational plan for the stadium.

- A flexible innovative system, which permits the clearance of a capacity crowd by all travel modes in under 90 minutes, with 90% exodus within 60 minutes of the end of an event
- A traffic routing system and improved parking facilities with queuing minimised so that the impact on traffic movement not related to the stadium is minimised;
- A desirable maximum walking distance of 1.6 km;
- Preservation of the amenity of local residents whilst guaranteeing access for businesses and residents on event days,
and allowing use of facilities by the local community where practicable;

- Pedestrian movements immediately around the stadium should be entirely segregated from vehicle movements and car-parking;
- To allow vehicular access to the stadium and pitch level on event days, a dedicated route should be provided;
- Driveway locations for car-parks should be carefully analysed to avoid placing the major exits where heavy pedestrian volumes cross. Provisions should be made that will prevent motorists from leaving the car-park from points other than authorised driveways.
- Well-lit walkways of sufficient width and quality should be provided between the stadium, car-parks and public transportation transfer points.
- Pedestrian movements should be planned as an integral part of the control strategy to ensure that there are no bottlenecks, particularly when crowds exit the stadium.
- The route to, and location of, VIP and competitor access routes and parking should be clearly identified;
- A helipad should be appropriately located either in an open area or on a rooftop structure nearby
- A average of 14 on-site car-parking spaces per 100 seats, and 23 total car-parking spaces per 100 seats;
- Entry / exit rates for on-site parking: 400-800 vehicles per lane per hour.

**1.11.2.7. Fond Colee’ Landfill:** This project provides for the disposal of solid waste on the island in an internationally accepted manner. Land use in the vicinity of this facility will therefore be less negatively impacted than is currently the case with the existing landfill at Stockfarm. The project will also allow for discontinued use of the Stockfarm landfill thus releasing the land for recycling/reuse. This site
covers approximately ten (10) acres and could be invaluable in alleviating the critical shortage of land for public sector development projects such as a Carnival City. Recycling of this site should therefore be properly managed and advanced if possible.

**1.11.2.8. DGS Expansion:** This project is at an advance stage of implementation. When fully completed it will provide secondary school accommodation for approximately 1,000 students. The facility is located on the periphery of Central Roseau, immediately east of the new sports stadium. Proposed regional main road sections will circle the site.

Schools in Central Roseau are major generators of vehicular and pedestrian traffic. The proposed increased enrollment at the DGS will further increase these pressures. Proposed interventions along the south bank of the Roseau River to the priority of pedestrians and cyclists will benefit the DGS. However, future planned expansion to this institution and other like institutions in Central Roseau would best be located in closer proximity to the more populated residential neighbourhoods of their catchment areas as a means of reducing traffic congestion in Central Roseau.
1.11.2.9. Cruiseship Berth Expansion (Woodbridge Bay)
The stated objectives of this project are:

• To accommodate the larger cruise ships in keeping with the trends of the industry

• Invest in passenger and cruise ship handling facilities to remain competitive

• Increase expenditure of cruise ship passenger from U.S.$30.00 – one of the lowest in the Caribbean

• Upgrading the Roseau Cruise Ship Berth

• Development of new cruise ship facility at Woodbridge Bay and a cruise ship village

• Development and establishment of a vendor’s Arcade

A pre-feasibility study has been undertaken for the construction of a two-ship berth to accommodate one post panamax and one panamax ship simultaneously. This would entail the construction of a finger pier. The plan also proposes the development of a cruise village “through programme engineering and land reclamation” and the construction of a promenade connecting the proposed cruise facility with the existing Roseau cruise ship berth and downtown Roseau.

A report from Gee & Genson E-A-P Inc. indicates preliminary costs as follows:
Phase 1- construction of finger pier, dredging, relocation of the banana shed and construction of a small cruise ship village have been estimated at U.S $12 million
Phase 2- Extension of breakwater to the south for land reclamation, the expansion of the cruise ship village and the construction of a convention center U.S. $6 million

Issues relating to the proposed construction of the Cruise ship berth at Woodbridge Bay are:

i) Management and Development of the cruise industry - Status of the cruise industry

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<td>231</td>
<td>187</td>
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<td>Total</td>
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These figures indicate that at present cruise arrivals are statistically twenty-five (25) times the population of Roseau. Realistically, only about 17% of cruise visitors go on tour and an indeterminate figure, probably less than 1% walk around. However, the construction of a Woodbridge Bay facility would in fact encourage a maximum of five cruise ships a day in Dominica 3 at the two berths and 2 anchored out. This is inimical to Dominica’s policy of eco--tourism destination and will negatively impact on Dominica’s image as an eco-tourism destination and on the quality of experience for stay-over visitors.

The Area in question has been earmarked for expansion of the commercial port. Information from the Port indicates that port expansion is imminent taking into consideration present capacity and projected demands.
This area is also under for light industry and does not provide a compatible environment for tourism given the existing business enterprises in the area. This proposed development suggests conflicting land use.

Impact on existing services and businesses and the proposed restoration and development of the historic district of Roseau also deserves serious consideration. Establishment of a cruise shopping mall or cruise village at Woodbridge Bay will reduce the economic feasibility of the duty free shops already established in Central Roseau as well as the plans for the sustainable development of the Historic district. The proposed project is therefore considered inadvisable and should not be pursued.

ii) Cruise arrivals and Physical and social carrying capacity issues
Major projects like the expansion of the Dominica Grammar School to accommodate 1000 students, the construction of the Sports Stadium with a capacity of 12,000 spectators, coupled with the fact that approximately 30% of Dominica’s population are employed in the city speak to the fact that massive volume of cruise visitors is not in the interest of sustainable tourism development of Roseau. Massive cruise ship investment for a city already nearing its carrying capacity could lead to social and environmental problems.

iii) Expansion of cruise tourism at Portsmouth
Higher consideration should therefore be given to directing future major investments in cruise tourism to the Portsmouth area through upgrading and utilization of the Cabrits Cruise Ship Berth. This area has the greater potential than Roseau to enhance Dominica’s competitiveness in the cruise industry and calls for a smaller financial investment than what was envisaged for Woodbridge Bay. Also, the
Cabrits area has tremendous potential for resort type development that is more compatible to cruise tourism. Directing more cruise business to Portsmouth would also enhance the economic base for a number of economically depressed communities in that region.

1.11.2.10. Stock Farm Stadium:
This is an existing facility consisting of a series of hard courts, spectator stands and ancillary facilities, designed to host international, regional and national sporting events – netball, basketball and the likes.

The facility is situated in a residential neighbour and has no provisions for off-street parking. The stadium is also in close proximity to the main campus of the Dominica State College and State Prison.

Access road to the facility and the locality in general is underdeveloped and not continuous. Existing and proposed public facilities/institutions in the locality are significant and have the potential of attracting large volumes of vehicular and pedestrian traffic, in addition to the residential area.

Improved and alternative access to and from the locality, especially in the event of emergency/disaster deserve attention.

1.11.2.11. Planning Regulations, Policies and Minimum Property Standards:
It has already been pointed out that the majority of the standards presently enforced by the planning authority have not been formally adopted.

The existing standards, particularly in respect of land use, applicable to Central Roseau and other densely built west coast settlements were intended primarily to facilitate rather than manage growth and
development. The existing standards allow too much room for discretion and risk discriminatory application. They are also lacking in some major areas of land use control such as density, zoning, parking, open space, etc. New and legally enforceable standards, some specific to Central Roseau, will be required if the planning authority is to efficiently and effectively manage land use in the City.
PART 2: DEVELOPMENT STRATEGY

2.1. Strategic Vision

From the concerns raised and recommendations made at public consultations, meetings with stakeholders and analysis of the many development issues confronting the City of Roseau the following are projections of the emerging vision:

- Residential areas with adequate social amenities, protected from incompatible land use
- An increasing resident population in Central Roseau occupying upgraded and new housing designed to meet the needs of all social classes
- An economically vibrant and user friendly protected district of architectural and cultural heritage
- Distinct but cohesive areas of urban activities
- An integrated system of open spaces and other natural features contributing to City recreational and economic needs
- The Roseau River as a dominant, attractive recreational and leisure space
- A more user friendly Waterfront which presents opportunities for social interaction, relaxation and entertainment
- Well lit streets with smooth flowing vehicular and pedestrian traffic
- Cleaner and more visually pleasing streets and cityscape

2.2. Spatial Development: Central Roseau has many development advantages, which if properly exploited could allow the City to take advantage of development opportunities that may surface over the plan period.

The ‘Old’ section of Roseau known as the “French Quarter” together with the streetscapes of King George Vth Street and Fields Lane is a
unique built environment with rich architectural and cultural heritage. Proposals to preserve this general area as a historic district present opportunities to:

- Attract upmarket housing
- Duty free shopping
- Small guest houses, speciality stores and restaurants
- Indoor and outdoor entertainment, etc.

in a unique, user friendly, large historical setting at a cost effective manner in the core of the city.

This asset is further strengthened by its proximity to an unobstructed large expanse of waterfront with existing tourist infrastructure such as the Cruiseship Berth and Ferry Terminal, where day and night time social and entertainment activities can be readily accommodated in an open environment.

Central Roseau is also endowed with a prominent natural feature in the Roseau River, which has not been irreversibly degraded, as well as a large expanse of attractive green space in the Botanical Garden. The two are also in close proximity to each other and the Waterfront on the periphery of the built-up area. These features can also be easily linked to existing open spaces in the historic district.

Upgrading of these features to their maximum development and recreational potential would greatly enhance the overall attraction of the City for the enjoyment and benefits of residents, business and visitors.

Unlike many other OECS downtowns, Central Roseau has a very functional street pattern (grid), which provides flexibility in accessing various areas. Many of the main streets also have wide carriageways, in some cases allowing for parking on both sides without obstructing
vehicular traffic flow. The existing land use pattern also has some strong elements such as a fairly well defined school district, defined pockets of residential and institutional areas, and an expanding government office district. Such inherited desirable land use elements could be strengthened to achieve more efficient City functioning to the convenience of residents, business establishments, visitors and other users.

The regional movement towards establishment of a Caribbean Single Market and Economy (CSME) poses threats to the small manufacturing and trading business establishments of lesser-developed islands such as Dominica. On the other hand, it could present opportunities in new businesses such as manufacturing and shipping to Dominica, given its locational advantage (central) in the chain of islands.

2.2.2. Allocation of State Owned Land: There are many competing uses for the very limited area of state owned lands within the City available for development. On the other hand, the cost of purchasing private lands particularly in Central Roseau can be very high and most times prohibitive for public sector projects. It is important therefore that careful consideration be given before state owned lands in the City are earmarked for development projects.

There is need to consolidate location of some important government offices and services so as to make them more accessible to users. Also, land is required to service some ongoing projects such as the new National Sports Stadium, relocate persons who might be displaced by urban renewal projects/ land acquisitions and to expand existing services and provide for new ones.

Among the sectors most likely to make demands on the public sector for land in or near the City over the plan period are:
- Health: replacement of the Roseau Health Centre
- Education: provision of additional public library space
- Transportation: bus terminals and off-street parking
- Housing: general – new and redevelopment
- Sports: Playing field for Central Roseau and Stock Farm
- Culture and Entertainment: Carnival City
- Administration: general office space

Land allocation decisions could thus negatively impact efficient functioning of the public sector and redevelopment of the City in general, if not carefully considered.

The impact of the proposed Historic District will over the plan period necessitate review of building densities (height in particular) in other sections of the City. The emerging higher density and bulk east of Independence Street should therefore encouraged to compensate for loss of floor space resulting from establishment of that district.

Also, ongoing encroachment of commercial land use into lower Pottersville will likely intensify and should be allowed to continue.

2.2.3. Reclamation Line for Roseau City Expansion

When the existing city core of Roseau near the waterfront is fully built out there would be a need for expansion of the city for further high value residential and commercial development. The highest value land is nearest the waterfront, and consideration may be given to creating more land space and greater waterfront shorelines through reclamation. The concept of reclamation may be facilitated by the by the readily quantity and accessibility of rock and landfill material quarries.
There are two options for reclamation: (a) towards Roseau North, Northwards beyond the Roseau River towards the Port; an area that is under active consideration for future cruise-ship expansion and (b) southwards from the Gas Station on Victoria Street (obliquely opposite the New Town Savannah) towards Loubiere. There is a thin strip of land between Victoria Street and the shoreline, and there is a goal to improve the capacity of Victoria Street to assist in alleviating traffic congestion as well as the need to provide sea defences for the communities of New Town and Citronier.

Any road widening in this area will incur huge property acquisition costs. It is therefore recommended that consideration be given to reclamation up to the 5 metre draft water depth, which has been estimated to be about 60 metres away from the shoreline. Victoria Street would then remain a collector road, and a new secondary arterial may be strategically built together with appropriate land use allocations for high value waterfront tourism, residential and commercial development.

Several environmental, social and legal issues emerge in relation to land reclamation (which are outside the scope of this study), including:

- The undertaking of land reclamation requires landfill, but a growing demand for landfill may need to be satisfied by quarrying the hills. The environmental and economic costs of river sedimentation and consequent flooding are potentially high.

- The determination of the optimal location for a reclamation line must be subjected to rigorous studies of geology, hydrographic, coastal processes to avoid erosion of other coastal areas, as well as water quality to protect the marine environment.

- The approach to land reclamation must be coordinated to avoid creating environmental problems, including siltation of the bay and the trapping of debris within such areas;
- There must be public access to the waterfront of the reclaimed land
- There must be appropriate relocation of fishing communities and other current land uses affected as a result of the reclamation.

Additionally, the city is vulnerable to the threat of volcanic eruption. Thus the strategic advantage of other less vulnerable regions such as Portsmouth should be considered before arriving at decisions to invest in projects demanding huge capital investments in the city.

**2.3 Social Development:** Redevelopment in Central Roseau has the potential of displacing many low-income households living in the dilapidated housing areas of the city. Many of the householders are tenants. Planned redevelopment programmes for the city must therefore consider and allow for the needs of these residents in order to avoid potential social problems of displacement.

Many of the social problems facing the youth in Central Roseau could possible to linked to the loss of recreational facilities for a prolonged period. Resolution of this issue is therefore important for the welfare of residents.

Realisation of interventions in tourism will create new employment opportunities in the city and better order in land use but could also displaced self-employed persons in the informal sector presently providing essential service to residents, users and visitors. Proposals to regularise such activities in the city should ensure that these individuals are not disadvantaged.

Many studies have established a direct correlation between growth in tourism and unlawful activities such as drugs, prostitution and theft. Timely public awareness programmes do help to suppress such
problems. However, attention to the total needs of the community, particularly in areas of employment, housing, health, sports and education together with provisions for rehabilitation must be given equal attention to that given to economic issues.

2.4 Tourism
Overall development strategy
To capitalize on the outstanding and unique attractions and resources of Roseau as a basis for the expansion, development and strengthening of its tourism assets.

In formulating a strategy for tourism development in Roseau the following must be considered:

1. Dominica’s tourism policy for positioning Dominica as an eco-tourism destination and the concept of “experiential Tourism”,
2. Greening of Roseau and upholding the concept of Dominica as a Green Globe destination
3. Upgrading the existing tourism product and services and meeting the demand for other services like conference facilities, Yachting services, upscale accommodation.
4. Meeting the demand for products and services that will arise from projects like the Sports stadium.
5. Converting Roseau into an outstanding city worldwide by capitalizing on its unique characteristics

The new tourism policy in its preamble states “As a nature destination, Dominica faces considerable competition from other global destinations (e.g. the Amazon area, South Africa, New Zealand, Costa Rica, etc.). In order to compete effectively, Dominica must position its destination and its product to meet the needs and expectations of this specialty market and to select those segments within that market that the country can best offer a
comparative advantage. This also includes competitive positioning within the Caribbean, where intra-regional travel is now a growing market segment that generates revenues in traditional off-season and shoulder season time periods”.

This represents the overlying strategy for “strengthening the tourism assets of Roseau so it can contribute to the long-term sustainable development of the island by encouraging visitors and residents to stay longer and spend more”

A NEW IMAGE FOR ROSEAU that is visitor friendly, captures the assets of the city and reflects the unique experience.

This will be a combination of the following based on the activities, products and services

- Hustling bustling- to reflect the commercial center of Dominica
- Quaint / Historic- to highlight the historical assets
- A water theme in keeping with the Dominica environment (a river to a day, island concept)- greening of Roseau and highlighting the natural assets.

Using the Potential of and Expanded Waterfront as a major area for expansion and development of upscale tourism and upgrading of the major existing tourism facilities- hotels, cruise ship berth, development of a vending arcade.

Alternative to construction of a new cruise ship berth at Woodbridge Bay is an improved Roseau Cruise ship Berth can hold up to Two Cruise Ships one docked along side the berth and the other in deep waters, with provisions for upgraded landing stages for dive operators who do business with the cruise line.
Objectives
Upgrading of the waterfront to a World Class Facility for tourism expansion and development in the city of Roseau and to be a major contributor to the social and economic enhancement of the city for locals as well as visitors.

Development of low impact, demand-driven Cruise Industry that is unique, competitive and eco-friendly

Limiting the number of cruise ships berthing at the port to two and expanding cruise development at the Cabrits Cruise Ship Berth that provides a unique setting for cruise ships and can competively differentiate and position Dominica from the other islands, as a unique cruise destination.

Reducing the volume of cruise visitors in the city to create a balance between stay-over and cruise visitors and also to ensure that the physical and social carrying capacity of the city is not exceeded

Less than 15% of cruise ship passenger in the Dominican Port go on organized tours. A very smaller percent less than 1% (that is not monitored) walk around. The idea is not to increase the number of cruise ships visiting but to encourage visitation from cruise ship passengers that are on board through development of unique shopping facilities market and promotion.

To provide facilities and services to meet the demands of the developing cruise ship industry, stimulate economic development for the various sectors and service providers and rationalize proposed development activities in the city of Roseau-historic district development.
Developing and expanding the Roseau Ferry terminal to internationally accepted standards- to improve passenger facilities and to meet the needs of an expanding industry.

Upgrading and developing the unique physical, cultural and historic environment of Roseau and to create a positive social environment for both residents and visitors, enhance the attractiveness and marketability of Roseau to provide a diverse and memorable experience for visitors and to create a sense of national pride in Dominicans and resident

Stimulating private sector investment for the provision of amenities and services that are consistent and of the highest standard in keeping with the competition and the demands of the market in such areas as:

- Accommodation
- Entertainment
- Excursion/Tours
- Shopping
- Sports
- Infrastructure

The longer -term development plan could also include land reclamation in the Newtown-Loubiere area thus creating high value real estate that government could lease, rent, sell or develop.

The area will complement and expand the existing tourism belt of the City and would be developed to provide upscale facilities and services.

The area will be available for redevelopment of existing facilities and development of new tourist-related, waterfront infrastructure. This would facilitate the following:

1. Road construction and realignment,
2. Development of tourism infrastructure-
   - Conference facility
   - Hotels,
   - A possible yacht marina or provision of chandlery services for yachts.
   - Land available for upscale condominiums or town houses-an area of demand given the proposed national tourism development
   - Creating a pedestrian link from Roseau to Castle comfort through a pedestrian walk.

3. Major water access to and from the city to include, pleasure boats, cruises, yachts, fishing, catamarans

4. Providing land space for the development of upscale town houses.
2.5 Transportation

A Transit System for Roseau

No agency of the Government currently monitors, controls or co-ordinates the operations of any privately supplied and operated, public transport services. There is an urgent need for administration, rationalization and control of the public transport industry. This is the role envisaged for the setting up of the Transport Management Unit (TMU) for the City. This would include contracting services, organizing and administering routes and terminals, the collection and analysis of data pertaining to passenger demand and potential suppliers and an ongoing monitoring of the industry, including vehicle standards.

As part of its responsibility, TMU would be interested in securing a well-organised public transport or transit system that delivers high quality passenger transport services in a safe, cost-effective and environmentally sound manner. The transit system should be:

- Privately financed, supplied, operated and managed
- Accessible to all persons in the various communities
- Affordable, representing good value for money
- Caring, treating passengers with dignity and respect
- Comfortable, improving vehicle standards and ride quality
- Effective, serving a wide range of origins and destinations
- Environmentally sound, progressively reducing the environmental impact of transit services
- Responsive to changing travel needs and patterns of activity
- Safe, ensuring high standards of physical safety
- Secure, providing a travel experience that is not blighted by fear of assault, attack or other anti-social behaviour throughout the journey
- Likely to increase the proportion of people who choose to use public transport to meet their travel needs.
TMU would set high operator performance and maintenance standards and would regulate the operator(s) of the transit system to ensure that services are safe, reliable and comfortable. TMU would register all transit vehicles, including any mini-buses, taxis, or any other appropriate forms of public transportation, and regulate the conduct of their drivers.

Public transport would be regulated to ensure that:

- The public's demands in terms of coverage are met;
- Fares remain affordable;
- Service is efficient and of a high quality;
- The public has a range of transport choices.

Fares and routes require the approval of TMU. In addition, transit services would be required to meet standards and specifications set by TMU, which cover route planning and design, service efficiency, operational hours, affordability and service information. Operational audits on the level of compliance with these standards would be carried out periodically.

Transit drivers for the city would be registered with TMU, and must have a good knowledge of routes and places, and meet requirements on safe driving skills and service standards.

The first desired objective of a transit system is to be an efficient mover of people. Emphasis should be placed on utilising vehicles which provide the highest capacity at the lowest unit cost contingent on the level of demand for services. Furthermore, the overall supply of transit should be such that there is enough capacity available for all those who need and desire to use it.
The general public transportation demand in Roseau would vary during the hours of the day, the day of the week, and even from one month to another. This demand would reflect the transportation needs of the city community. Appropriate timetables must be set for each transit route to meet the variation in public demand.

The following are some of the benefits to be received from the provision of effectively operated privately supplied public transport services for the city:

- Savings in person-hours per day due to reduced travel times
- More comfortable and convenient travel for commuters
- Savings in overall travel cost
- Savings in fuel costs per year
- Reduction in accident rates
- Reduction in atmospheric pollution
- Less demand for car parking space
- Improvement in the quality of life

2.5.1 Public Transport Planning Strategy

1.) The First Step

A Main Transit Terminal will be located on the edge of the City and will be the focal point of the transit network routes. There may be categories of transit routes, as follows:

(a) Shuttle services. These are demand-responsive, where no formal routes are designated and the operator responds to requests along their path. Trips are made only between locations in the city and the main transit terminal.

(b) Dial-a-ride services. Transit services are made by telephone to the transit operator for origins / destinations outside the city. The transit operator is also allowed to deviate from the assigned
route for certain passenger groups, such as the elderly and physically handicapped.

(c) Park-and-Ride services. There would be a need for parking lots / garages for this special shuttle service.

There would be use of conventional and digital telecommunication commands, employing latest computer technology.

2.) The Second Step
The second goal would be for the TMU to undertake appropriate planning to determine and assess the regions of residence of the users of the city, with a subsequent goal of providing long haul transit service between home and city locations, as closely related to door-to-door treatment as economically possible. Communities would be stratified into zones of residence to facilitate computation of (a) the numbers of persons desiring transportation to the city from the various origin zones of residence, and (b) the numbers and mix of long-haul transit vehicles required and their assignment to the various routes to the city.

3.) Suggested Zonal System
These zones would be disaggregated to the level of the enumeration or local government districts.

4.) Transit Fares
Public transportation tokens would be used to purchase rides on transit vehicles. The transit operators would redeem these tokens for amounts comparable to the current per trip cost of the Transit System. Social service agencies wanting to provide subsidies for certain categories of public transportation users (like the indigent or elderly) could buy the tokens at the regular price and resell them at a lower price (or give them away) to their clients.
Public transportation tokens could be sold at convenience markets, vending machines or other outlets along or near public transportation routes. The tokens would be redeemable only by bonafide public transportation operators. To qualify as a bonafide public transportation operator, the operator’s company would have to have appropriate vehicles registered with the TMU and keep financial and operating records documenting the number of passengers served. Audits of these records and spot checks of on-the-road operations would need to be conducted to ensure that the redeemed tokens were, indeed, acquired by actually providing transportation.

The amounts charged for tokens and the amounts paid to redeem the tokens could easily be adjusted to accommodate changes in market conditions.

5.) **Transit Attraction**

Transit may be made attractive by

- Providing clean vehicles in good condition;
- Providing convenient and comprehensible routes, easily located stops/stations;
- Providing frequent and easily obtained schedules;
- Providing attractive, clean, well lighted transit stops / stations;
- Permitting transit stops where they make the most sense for transit, not just where transit vehicles are out of the way;
- Facilitating pedestrian flow near transit stops / stations;
- Insisting on sidewalks or footpaths in all areas, not just commercial zones, so people can conveniently walk to and from bus stops;
- Providing transit priority treatments;
- Removing obstructions to transit (kerb parking, and tight-turn radii of curvature at corners); and,
• Making transit friendly. Drivers, information operators, security personnel and others who represent the transit provider(s) should be friendly at all times.

2.5.2 The Waterfront
The Waterfront provides aesthetically pleasant views and outlooks of the Waterfront and a great potential for associated urban activities for pedestrians, including exploring opportunities for high-level accessibility to the Roseau River and riverbanks and other passive open space. The purpose is to promote a healthy and accessible waterfront and central city. The strategic objectives are to:

(a) Improve the Waterfront recognizing its strategic importance as a Place as well as a Corridor in the context of the Greater Roseau Region (GRR) – Loubiere to Canefield;
(b) Improve the relationship and links between the GRR, Central Roseau, and the Waterfront; and,
(c) Within the context of the first two objectives, improve the overall transportation system to and through the Waterfront.

This would be achieved with safe, secure, pedestrian-friendly streets, sidewalks and public spaces, tree- and other types of sheltered streets and walkways where possible, continuity of street-front activity and uses, and a system of parks and green links. There would be convenience of access and mix of uses. In short, the Waterfront should be a place that is habitable, memorable, comfortable, and pleasant, and economically viable.

The Waterfront is served by a network of arterial, collector and local roads reflecting the commercial, institutional, and residential uses which have predominated in the area. There is a need to improve
access to and through the Waterfront and to provide for an integrated transportation system.

2.5.3. **Water Ferry Service Around the Island**

There is need for considering the feasibility of operating a waterborne ferry transit service focussed on the Central Roseau Region with routes to locations around the island. The service is likely to be supported if it is safe, comfortable, reliable and permanent. The study would need to assess the costs and revenues, the availability of suitable craft(s) and supporting infrastructure, and the suitability of various docking and routing options. Within the Roseau, the terminal station would have to be centrally located, and integrated with the highest order public transport services to the waterfront. At this time, a location near the Dame Eugenia Charles Boulevard may be most suitable. It is hypothesised that the waterborne transit may be a significant contributor to commuting capacity on a year round basis.
PART 3: PROPOSED LAND PLAN (See Map:10)

3.1 General
The proposed land use plan sets broad parameters for the direction of future physical growth over a prescribed period in an orderly manner. It could be used as a development control tool, but to be effective the plan must have the support of regulatory tools such as zoning and land use regulations. The plan therefore establishes some broad land use zones and earmarks land for some important public sector projects envisaged over the next fifteen years. This study does not provide for the level of detailed planning required to facilitate implementation of the projects proposed. Furthermore, the information necessary for such detailed planning is not now available and would have to be compiled through the conduct of more specific studies.

In this regard, Government should seek technical and /or financial assistance for the following:
- Cadastral Survey of Central Roseau and New Town
- Review of the Dominica Building Code and Guidelines
- Subdivision Regulations for Dominica
- Zoning Regulations for the City of Roseau
- Minimum development Standards for the City of Roseau
- Review of House and Land Rates for the City of Roseau

3.2. Land Use
The Plan makes provisions for land use in the following categories:
- Residential
- Commercial
- Residential/Commercial
- Historic Preservation
- Institutional
- Industrial/Warehousing
- Recreational
Transportation
Tourism

3.2.1 Residential

- All existing pure residential areas within the City should be retained and zoning regulations developed to control development in these areas. New single-family dwellings should not be permitted in redeveloped and new areas zoned residential.
- New minimum property standards should be developed to control development in the residential areas of Central Roseau. The standards should include minimum lot size, densities, open space, requirements, permitted uses, etc.
- The site of the Livestock Centre at Stock Farm should be allocated to medium and high density housing
- Buildable land at Lolot should be zoned residential
- State owned properties at Morne Bruce, other than the Police Training Centre, should be redeveloped for official upmarket housing – Prime Minister’s Residence; etc.
- Buildable lands at Charlotte Valley in New Town should be allocated for extension of this community and single family housing should not be permitted in the new development
- Middle and upper income rental housing should be encourage in the Historic District

3.2.3 Commercial

- The section of Central Roseau bounded by the east and north boundaries of the Historic District, Independence Street and River Street should be zoned commercial
- Lower Pottersville should be zoned commercial
- Housing should not be permitted on the first floors of new buildings in the commercial zones
- Development standards to include minimum lot size, on-site parking requirements, minimum open space needs, etc. should be established for commercial zones. However, the discretionary method of control including “Development Agreements” should be applied in this zone.

- Properties on River Bank, between Old and Hannovah Streets, together with the area between Ship and Hannovah Street to include the New Market and Fish Vendors Market, should be develop for vending and food court.

- The ruin at the corner of King George Vth Street and Hannovah Street should be acquired and development into a vending acade in order to relocate vendors operating on the Bay Front and Roseau Old Market

- Housing should not be permitted on the first three lower floors of new buildings in a commercial zone

3.2.4. Residential/ Commercial

Properties on Victoria Street in New Town and areas in Central Roseau which are outside the Historic District, Residential, Commercial and Institutional zones, as well as sites not designated for specific projects have been designated Residential/Commercial. Zoning regulations to include minimum lot size, on-site parking requirements and non-permissible uses should be developed to regulate new developments in this zone.

- Developers who are required to provide onsite parking for their development in any land use zone – other than residential – should be given the option of paying a regulated sum into a pool established to provide commercial off-street parking facilities to serve Central Roseau, in lieu of providing the required onsite parking.
3.2.5. Historic District

- The east and north boundaries only of the Historic District should be adjusted to Old Street, to include the streetscapes of Fields Lane and King George Vth Street, up to Independence Street.
- In addition to building control standards, zoning regulations should be developed to control existing and new developments in the District. The new standards should list uses permitted in the District. Existing uses that are not permitted should be classified non-conforming and phased out of the District.
- Developers who propose to provide approved useable public space above minimum requirements in a development or land use zone should be rewarded with prescribed development incentives, such a increased density.

3.2.6. Institutional

- A beautification programme should be instituted to beautify existing institutional zones in the City, Central Roseau in particular, along similar lines to that of Government Headquarters Grounds
- State owned property on Charles Avenue, Goodwill – PPD office, etc - should be refurbished/extended to house the Roseau Health Centre and ancillary services
- The old Roseau Health Centre property in Central Roseau should be developed into a new government office complex, in accordance with standards established for commercial zones
- Site occupied by DOWASCO and Inland Revenue Division on High Street should be earmarked for a new Justice Building – High Court, Registry, etc. – DOWASCO owns property at lower Goodwill on which the company intends to construct a new office building. Inland revenue would relocate in new the proposed new government office building in Central Roseau.
• The Public Library should be allowed to expand on its existing premises.
• The existing High Court Building on Dame Eugenia Charles Boulevard should be reserved for establishment of national Museum/Art Gallery
• Lands between Bath Road, Independence, Hillsborough Street and Great Marlborough Streets should be zoned institutional. Residential land use in the area should be gradually phased out of this district.
• Vacant lands immediately opposite the State College at Stock Farm should be reserved for expansion of this institution
• New Burial Grounds should not be established in the City, new methods of burial utilizing existing grounds should be regulated and adopted. New site (outside of the city) for traditional method of burial should be identified as an interim measure only.

3.2.7. Industrial
• The existing industrial/warehousing zone at Fond Cole’/Woodbridge Bay area should be maintained
• An upgrading programme should be instituted to improve conditions/visual appearance in this area.
• After decommissioning, the Public Works Garage site and adjoining state lands at Woodbridge Bay should be used for light industrial purposes. Suitable components of the proposed Business Incubator Centre should locate in this area as well as the ground floor of the proposed new office complex at the site of the old Roseau Health Centre.
• Site of the Asphalt Processing Plant at Woodbridge Bay when vacated should be used to settle self employed mechanics operating in central Roseau who may be displaced by interventions of the Plan and projects such as the RRRP
3.2.8. Recreational/Open Space

- Part of the site of the Plant Propagation Centre at the Botanical Gardens should be designated/develop as playing field to serve residents of Central Roseau and the Convent High School.
- Land should be reclaimed between the River Bank and the South Bank of the Roseau River from Hannovah Street to Silver Lake, for development of bicycle track, footpaths, green space, toddlers play area, outdoor seating, food kiosks, picnic areas and ancillary facilities.
- The Botanical Gardens should be restored to world class condition
- The Roseau River bed should be rehabilitated and enhanced to function as a source of recreation and social activities
- Exiting public open spaces in the Historic District should be preserved and upgraded with active outdoor facilities provided for children where feasible.
- Part of land occupied by the Live Stock Centre at Stock farm should be allocated for use as playing field for Stock Farm residents temporarily, until recycling of the Stock Farm sanitary landfill site is completed. A permanent playing field should be developed on the recycled land for the community.
- The Roseau Bay-front, from the Fort Young Hotel to the southern bank of the Roseau River, should be upgraded and maintained as Public Recreational Space.

3.2.9. Transportation

- All existing Bus stands in Central Roseau should be phased out.
- The area immediately north of the sewage processing facility at Bay Town, to include private property presently occupied by Dr John Toussaint should develop for a two phased, two level Bus terminal for all north bond passenger buses serving the City of Roseau
The Local Government /Traffic Department building/compound on High Street should be developed into a two phase, two level Bus Terminal for south and east bond passenger buses serving the City of Roseau

Bus stops should be located at strategic points along Regional (arterial) Primary (collector) roads only within the City

A Study should be commissioned to establish a Transit System for the City

Land between the south back of the Roseau River and the base of Goodwill cliff from south of the Riverside Apartments should be developed for commercial parking to serve the Windsor Park Stadium and Central Roseau in general. In this regard, interventions (new road alignment) proposed for this area under the RRRP should be reviewed.

A new section of Regional Main Road should be established at the foothills of Morne Bruce, from Elmsall road to Morne Bruce/Bath Road junction as part of the longer term solution to reduce thru-traffic in Central Roseau

The roadway of Dame Eugenia Charles Boulevard should be classified a Local Access Road and features introduced to calm traffic on that road

A Footpath should be established between Government House Grounds and adjoining Catholic Church properties, linking the proposed High street Bus Terminal with Castle street

Provision should be made for two lane traffic in both directions in future regional road rehabilitation/reconstruction works between the City of Roseau and Canefield

Interventions proposed under the RRRP for Central Roseau should be adopted subject to consultation with the private property owners whose lands are earmarked for acquisition/encroachment under this project.
- Alternative road access should be developed between Stock Farm and Woodbridge Bay and Stock farm and Fond Colet Industrial Area
- A Pedestrian Bridge should be constructed near the mouth of the Roseau River linking the proposed Vendors Plaza/Arcade with the Proposed North Bound Bus Terminal
- Long Lane should be made a pedestrian only street with provisions for allowing service and vehicles at specified times only
- All major Footpaths linking Central Roseau with other neighbourhoods should be upgraded, lit and maintained as part of the city’s road network.

3.2.10 Tourism

- Tourism type business – guest housing, duty free shops, restaurants, nightclubs, bars, etc. – should be encouraged in the Historic District

- The Old Market plaza should be developed for cultural entertainment and cruise passenger reception

- Stock Farm Land Fill Site should be recycled for the following:
  - Development of permanent Carnival City facilities
  - Permanent recreational facilities for residents of Stock Farm
  - Commercial parking for the proposed Carnival City and existing Net Ball stadium.
3.2.11. Expansion of Roseau

- Subject to feasibility studies future expansion of Roseau should take place on reclaimed land south of Central Roseau to facilitate:

- Sea defences for New Town – Citronier
- New By-pass Road
- Fisheries facility for New town
- Hotel/conference centre development
- Yacht Marina
- Up-market housing
- Commercial development.
Part 1V: ACTION PLAN

4.1. Introduction
The ToR calls for the formulation of an Action Plan comprising priority projects with related terms of references for consultants to provide detail design and implementation schedules. Development of the Action Plan also required that consideration be given to work in progress under the ETDP as well as the proposed RRRP.

The following Action Plan consists of a number of project proposals together with design guidelines and schematic layouts for some of the short-term priority projects identified.

4.2. Project Grouping and Timeframe
Projects listed in the Action Plan are categorised by sector as follows:
- Institutional strengthening (IS)
- Housing and Urban Development (HUD)
- Social Development (SD)
- Tourism (T)
- Transportation (Tr)
- Open Space (OS)

The various sectoral projects are further grouped into short, medium and long-term to prioritise implementation scheduling.

Institutional Strengthening (IS) project proposals seek to create a new department of government and develop new planning tools and standards aimed at strengthening the capacity of central government to meet the housing needs of the City in particular and Dominica in general, as well as that of the planning authority and the Roseau City Council in carrying out their respective legislative mandate in a more
efficient and effective manner. Three projects are proposed in this sector namely:

- Land use and Building Regulations Strengthening
- Establishment of an Urban Development Corporation
- Preparation of a Cadastre for the City of Roseau

Housing and Urban Development (HUD) project proposals are designed to remove blight and urban decay presently very visible in Central Roseau, encourage/facilitate utilisation of empty lots, improve housing condition, increase the housing stock and provide land for new facilities and urban expansion in the City of Roseau. Projects falling under this category are as follows:

- Roseau Infill Properties Water and Sanitation Project
- Central Roseau Beautification Project
- Central Roseau Housing Development Strategy
- Stock Farm Landfill Recycling
- City of Roseau Land Reclamation Line

In the area of social development (SD) two projects aimed primarily at improving community social interaction, improved urban night life/socio-economic activities and increasing employment opportunities for the youth have been designed; namely:

- New Town Fish Ball
- Youth Apprenticeship Scheme

A number of projects aimed at strengthening and exploiting the tourism (T) assets of Roseau are included in the Action Plan. These consist of the following:
An integrated group of projects in the Transportation (Tr) sector seeks to pursue recommended approaches to achieve a detailed transportation management strategy for the City of Roseau. Projects of this strategy consist of the following:

- Establishment of an appropriate Road Functional System
- Development of a Transit System
- Road improvements
- Bus Terminals/ Garages
- A Traffic operational plan for Windsor Park
- Water Ferry Service

The last, but by no means least, group of projects are in the open space and environmental upgrading (OS) category. In addition to the aim of enhancing the built and natural environment of the City, projects in this category will also strengthen and exploit the City’s tourism development potential, improve city image and enhance the experience of visitors and users of the City. The following projects are proposed:

- Botanic Gardens Restoration
- Roseau River Corridor Regeneration
- Parks and Playing fields Restoration
- Central Roseau Pedestrian Environment Enhancement
4.3. Timeframe
The projects proposed are listed in three (3) groups with respect to implementation:

- Short-term
- Medium-term
- Long-term

The plan recommends implementation of the short-term projects to commence by the second year of the plan period. This implies that all further studies to be undertaken prior to implementation of those projects should be completed within the first year of the plan period.

Implementation of medium term projects is expected to commence by the start of the third year of the plan period. Thus further studies in respect of medium term projects should be completed by the end of year two of the plan period. Projects requiring extended periods of further study and dependent on successful implementation of the short and medium term projects to further justify their implementation are classified long-term. Studies required in respect of long-term projects should be completed by the fourth year of the plan period. It is likely therefore, that implementation of the long-term projects will coincide with the first review of the plan (five years) thus presenting opportunities to consider such project in the context of the overall development of the City.

4.4. Financing
In small developing economies such as obtained in Dominica, it is extremely challenging to attract financing for public sector capital
investment projects, more so urban regeneration projects. The failure of previous governments in raising capital for redevelopment of dilapidated housing areas identified in the Roseau Master Plan 1972 – 1985 lends testimony to this fact.

Opportunities for private sector participation in urban development project financing in developing countries have improved significantly over the recent past. Popular financing mechanisms such as Build, Own, Operate and Transfer (BOOT) and variations thereto are often adopted by many governments to finance large-scale public facilities. The use of consortia is also common.

However, whichever option government wishes to attract or encourage, the public sector must play the role of facilitator, if only to make the project attractive to potential investors.

Such participation by government could take the form of:
  o Preparation of pre-feasibility and feasibility studies
  o Provision of development incentive
  o Provision of tax incentives
  o Land assembly and acquisition
  o Provision of seed capital such as land in joint venture arrangements.

Implementation of many of the projects proposed in the Action Plan will require the undertaken of further studies for the preparation of detailed plans, feasibility studies, financial plans, etc. These studies will require the engagement of highly qualified and experience professionals in urban design, architecture, transportation planning, engineering, financing and law. Procurement of professional services is often costly and many financiers considering investing in marginal and small economies do not want to undertake feasibility studies in
respect of projects such as those proposed in the Action Plan at their cost.

The Plan has therefore identified some traditional sources from which government could consider accessing funding and or technical assistance to undertake prerequisite studies for implementation of projects aimed at improving socio-economic condition and private sector investments in the City of Roseau.

The following institutions and governments are considered possible sources of funding for the various projects proposed:

- Government of Dominica (GOCD)
- Government of the Peoples Republic of China (PRC)
- Government of France
- Government of Japan
- Kuwait Fund for Arab Economic Development
- United Nations Educational Scientific and Cultural Organisation (UNESCO)
- Commonwealth Fund for Technical Cooperation (CFTC)
- United Nations Development Programme (UNDP)
- World Environment Fund (WEF)
- Organisation of Eastern Caribbean State (OECS)
- Caribbean Common Market Caribbean
- European Union
- Caribbean Development Bank (CDB)
- World Bank (WB)
- Canadian International Development Agency (CIDA)
- British Development Division (BDD)
- Organisation of American States (OAS)
- KEW Gardens
The short-term (phase 1) projects are estimated cost in the regions of approximately Five Million Six Hundred Thousand Dollars (E.C$5,600K), a large part of which will go towards further studies for the preparation of feasibility studies and detail designs to secure financing for commencement of physical works.

Additionally, the Plan recommends that the various executing agencies seek to encourage private sector, community and non-governmental organisations participation in the formulation, implementation and management of recommended projects in order to ensure their successful completion and operation.

Appendix 1V-T1 details some further approaches to financing infrastructure improvement projects.

4.5. Project Execution

Project execution is as challenging as project financing in small economies due mainly to capacity limitations. In many instances, the agency charged with overseeing implementation of projects involving supervision of consultants and technical assistance personnel usually lacks the staffing to efficiently carry out their supervisory functions. Consequently, consultants are frequently attached to staff that are required to undertake these supervisory functions in addition to their regular daily duties; with the result that projects either get poorly managed and are subjected to delays in commencement and completion.

It is important therefore that agencies identified to execute the various projects in the Action Plan are adequately staffed to see to their timely completion.
The following agencies and organisations are targeted for project execution:

- Physical Planning Division
- Ministry of Housing
- Land Valuation Unit
- Roseau City Council
- Local Government Department
- Youth Division
- Dominica Export and Import Agency (DEXIA)
- Dominica Port Authority
- Roseau Old Market Trust
- Forestry, Wildlife and Parks Division
- Ministry of Education, Sports and Youth Affairs
- National Development Corporation (NDC)
- Ministry of Communication and Works

4.6. **Terms of Reference**

This part of the report also contains draft terms of reference together with some design, regulatory and development incentives guidelines, and schematic designs in respect of short-term (Phase 1) projects. The respective recommended executing agencies are expected to review/refine the draft term of reference before submitting them to the recommended organisations and governments for financing.
## 6. List of Priority Projects

### Short-Term (Phase 1) Projects

<table>
<thead>
<tr>
<th>No.</th>
<th>Project Name/Components</th>
<th>Objectives</th>
<th>Estimated Cost/ Funding Sources EC$’000</th>
<th>Action Steps</th>
<th>Executing Agency</th>
</tr>
</thead>
</table>
| IS 1 | Land Use and Building Control Regulations Strengthening • Review of Draft Building Code/Guidelines • Preparation of zoning, subdivision and Minimum Property Standards Regulations | • Strength Physical Planning Authority  
• Achieve more efficient/ effective development control  
• Reduce development application review time  
• Increase certainty of development application outcome  
• Reduce land use conflicts  
• Ensure construction of safer buildings | 100  
UNDP  
CFTC  
OAS  
EU | • Review ToR  
• Submit project proposal to funding agencies  
• Negotiate funding  
• Invite tenders  
• Award contract  
• Adopt new regulations | Physical Planning Division (PPD) |
| IS 2 | Establishment of Urban Development Corporation | • Strengthen physical planning and public sector housing administration and management  
• Rationalize use of public sector technical expertise  
• Improve design/ implementation of public sector housing and urban development projects | 50  
OECS  
CDB  
OAS | • Review ToR  
• Prepare/submit cabinet paper  
• Negotiate funding  
• Invite tenders  
• Award contract  
• Review/implement Recommendations | Ministry of Housing, Energy and Physical Planning |
<table>
<thead>
<tr>
<th>No.</th>
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<th>Objectives</th>
<th>Estimated Cost/Funding Sources EC$'000</th>
<th>Action Steps</th>
<th>Executing Agency</th>
</tr>
</thead>
</table>
| IS 3 | City of Roseau Cadastre                     | • To develop reliable and accurate body of information on land within the City of Roseau for improved revenue collection and detail planning  
• Improve living and sanitary conditions within existing low income housing areas in Central Roseau/New Town  
• Discourage use of the Roseau River for disposal of human waste  
• Improve low income households access to pipe borne water and washroom facilities  
• Facilitate/encourage clean-up/beautification of premises  
• Removal of derelict buildings and vehicles | 800  
WB  
CDB  
BDD  
CFTC  
200  
CIDA  
CDB | • Review terms of Reference  
• Secure funding  
• Invite tenders/award contract  
• Consider consultant’s report  
• Disseminate information to relevant/concerned authorities  
Review Infill Properties Project by DOWASCO  
• Secure funding  
• Construct new facilities  
• Encourage community participation in management  
• Appoint Working Group  
• Revisit existing city council legislation  
• Prepare detailed project proposal | Land Valuation Unit  
Roseau City Council |
<p>| HUD 1 | Roseau Infill Properties Water and Sanitation Project | | | | Roseau City Council |
| HUD 2 | Central Roseau Beautification | | | | Roseau City Council |</p>
<table>
<thead>
<tr>
<th>No.</th>
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<th>Estimated Cost/Funding Source EC$'000</th>
<th>Action Steps</th>
<th>Executing Agency</th>
</tr>
</thead>
</table>
| SD 1 | New Town Fish Ball | • Temporary use of vacant site  
• Removal/replacement of unsightly fences  
• Beautification of public buildings and compounds  
Provide opportunity for income generation:  
• Enhance community tourism potential of the area  
• Provide avenue for the sale of local fish product  
• Forge linkage between the sporting and fishing activities of the community  
• Promote friendly/competitive activities at community level  
• Enhance night life activity  
• Encourage upkeep of the New Town Waterfront | 50 GOVT | • Secure funding  
• Appoint project manager  
• Encourage public, private and NGO sector participation  
• Appoint working group comprising local govt and community group representatives  
• Provide funding  
Upgrading of the existing temporary bye-pass/bay front (sanitation, lighting, beautification)  
Upgrade existing footpaths linking Bayfront with Victoria Street  
Encourage local participation  
Develop partnership among stakeholders (Govt, NGO, Community groups)  
Organize skills training module in creative and industrial arts | Local Government Department/ New Town Fisheries Cooperative/Harlem Sports Club |
<table>
<thead>
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<th>Action Steps</th>
<th>Executing Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD2</td>
<td>Youth Apprenticeship Scheme</td>
<td>Assisting in the socio-economic development of the youth by: - Providing experience and skills which are required by the job market - Provide short term employment - Strengthening manpower resources in the public/private sector - Developing the spirit of volunteerism - Prepare young persons for job market - Re-establish the Bay Front as part of the City’s identity - Improve the environmental quality and security at the bay front</td>
<td>100 EC$’000</td>
<td>- Prepare detailed Project Proposal - Secure funding - Revisit existing apprenticeship Legislation - Establish Management Structure - Develop operational standards and eligibility criteria - Encourage public/private sector partnership</td>
<td>Youth Division</td>
</tr>
<tr>
<td>T1</td>
<td>Bay Front Regeneration: - Ferry and cruise ship terminals upgrade - Trade exhibition and information centre - Waterfront park and entertainment pavilion - Tourism and entertainment establishments (restaurant, hotels, shopping etc.)</td>
<td></td>
<td>200 EC$’000</td>
<td>- Review terms of reference - Secure funding - Request proposals and select consultant</td>
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| T2. | Vending Arcade/Plaza and Food Court | - Enhanced pedestrian environment (traffic calming, sidewalk widening, street planting, street furniture, etc.)  
- Clear pedestrian linkages to central commercial zone  
- Provide a focal point for recreation, entertainment, and trade promotion  
- Provide functional links with the rest of Central Roseau  
- Reduce congestion on Central Roseau streets  
- Centralise street vending in manageable environment  
- Improve working environment for vendors  
- Make more effective use of old market square  
- Improve diversity/ Marketability of goods | 75  
CDB  
EU/ETDP  
CIDA  
Govt. of France | - Encourage private sector participation in funding and development  
- Review terms of reference  
- Secure funding  
- Request proposals award contract  
- Implement recommendations  
- Encourage private sector participation in funding and management | Physical Planning Division  
DEXIA |
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</table>
| T3  | Roseau Cruise ship Berth upgrading | • Upgrading existing berthing facilities to accommodate panamax and post panamax ships  
• Increase/improve reception/dispatching facilities  
• Provide landing stages for dive operators  
• Provide tendering facilities for cruise ships  
• Encourage cruise ships operators to continue using Roseau Cruise ship Berth | 500 WB CDB EU | • Prepare terms of reference  
• Secure funding  
• Request proposal/award contract  
• Consider/implement consultants recommendations | Dominica Port Authority |
| T4  | Rehabilitation of the Roseau Old Market | • Restore the Old market square as a major visitor attraction | 25 UNESCO EU/ETDP | • Review terms of reference  
• Secure funding | Roseau Old Market Trust |
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</table>
| T5  | Strategy for upgrading Tourism Facilities and Services | • Upgrade and refurbish existing hotels, guest houses and restaurants operations below maximum established standards  
• Upgrading ancillary facilities and amenities such as rest rooms, art galleries, etc.  
• Improve quality of services to visitors  
• Road classification: arterial, collector, and local roads  
• Access requirements for roads in industrial areas, residential areas, commercial and retail areas, accessibility for the elderly and disabled, and pedestrianised areas | 70K  
CDB  
EU/ETDP  
BDD | - Review terms of reference  
- Secure funding  
- Invite proposals/award contract  
- Consider/implement consultant’s report  
- Encourage private sector participation | NDC |
| Tr1 | Establishment of an Appropriate Road Function Classification System | | 90  
CDB  
CFTC | - Conduct study to reclassify roads according to their function  
- Legislative process | Ministry of Communication and Works |
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</table>
| Tr2 | Development of a Transit System             | ▪ Administration, rationalization and control of the public transport industry  
▪ Privately financed, supplied, operated and managed  
▪ Accessible to all members of the Roseau community  
▪ Affordable, representing good value for money  
▪ Caring, treating passengers with dignity and respect  
▪ Comfortable, improving vehicle standards and ride quality  
▪ Effective, serving a wide range of origins and destinations  
▪ Environmentally sound, progressively reducing the environmental impact of transit services  
▪ Responsive to changing travel needs and patterns of activity | 750 CDB WB Govt. of France UNDP | ▪ Conduct study to develop a public transportation system. The study will include the location of a Main Transit Terminal which will be the focal point of the transit network routes. These routes may include shuttle services, dial-a-ride services, and park-and-Ride services.  
▪ The study will include appropriate planning to determine and assess the regions of residence of the users of the city, with a subsequent goal of providing long haul transit service between home and city locations, as closely related to door-to-door treatment as economically possible  
▪ The study will also include the development of an operational plan. | Ditto |
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</table>
| Tr3 | Road Improvements       | ▪ Safe, ensuring high standards of physical safety  
▪ Secure, providing a travel experience that is not blighted by fear of assault, attack or other anti-social behaviour throughout the journey  
▪ Likely to increase the proportion of people who choose to use public transport to meet their travel needs.  
▪ Improving Bath Road to a two-way, two-lane road with no parking. The two-way traffic operations on Bath Road would be between River Street in the north and High Street in the south, and only one-way traffic operations southbound between High Street in the north and Victoria Street in the south. | 1500 CDB Kuwait Fund CIDA      | ▪ Setting up of the Transport Management Unit (TMU)  
▪ Contracting services, organizing and administering routes and terminals, the collection and analysis of data pertaining to passenger demand and potential suppliers  
▪ Ongoing monitoring of the industry, including vehicle standards  
▪ Detailed engineering design, supervision, and project management, including institutional strengthening  
▪ Construction and implementation | Ministry of Communication & Works |
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<td>▪ A new Bath Road bridge with sidewalks on both sides and a new road link to Federation Drive via Dupigny Lane. ▪ A one-way eastbound link is supported between the new Bath Road Bridge in the prolongation of Bath Road and Goodwill Road ▪ In order to provide Independence Street with two travel lanes and two parking lanes, a well-designed gutter system is needed to allow the vehicles to park across the sidewalk face, thus freeing up the travel lanes.</td>
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|     |                     | ▪ Great George Street between King George V and the bridge to become a two-lane road, with sidewalks on both sides, and parking on one side only, where possible.  
▪ Traffic Management Measures to facilitate the following: In order to improve the continuity of the northbound arterial route of Great George Street and to assist motorists avoid the tourist and shopping areas of the Bay Front area, the direction of traffic flow on Castle Street to be reversed. Vehicles northbound on Victoria Street would enter Castle Street and travel to Cross Street and onto King George V Street and Great George Street. | EC$‘000 | | |
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</table>
| Tr4 | Bus Terminals/Garages  | The traffic flow direction on Cross Street between Castle Street and King George V Street would also be reversed.                                                                                           | 350 CDB CDB Govt of France UNDP        | ▪ Market analysis to identify potential market and fare revenue  
▪ Investigation of alternative sites and types of parking facilities  
▪ Estimation of capital and operating costs  
▪ Development of operational plan to identify equipment, personnel and support required  
▪ Development of implementation plan  
▪ Generation of financial plan and business case | Ministry of Communication & Works |
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</table>
| Tr5 | A Traffic Impact Assessment of Windsor Park Sports Stadium | ▪ A flexible innovative system, which permits the clearance of a capacity crowd by all travel modes in under 90 minutes, with 90% exodus within 60 minutes of the end of an event.  
▪ A traffic routing system and improved parking facilities with queuing minimised so that the impact on traffic movement not related to the stadium is minimised  
▪ Preservation of the amenity of local residents whilst guaranteeing access for businesses and residents on event days, and allowing use of facilities by the local community where practicable. | 150K  
GPRC  
CDB  
UNDP  
CIDA | ▪ Conduct a traffic impact study for the Windsor Park Sports Stadium  
▪ Prepare a Traffic Operational Plan for Windsor Park Sports Stadium | Ministry of Communication & Works |
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</table>
| Tr6 | Innovative Transportation Project Financing Methods and Sources | • The mission of this project is to explore the formulation of appropriate financing mechanisms and their sources for the expeditious implementation of the transportation infrastructure projects identified above. The focus would be on designing innovative financial instruments and mechanisms for financing infrastructure improvement. | 50K GOCD OECS CARICOM | • To identify and explain new appropriate financing methods for infrastructure development  
• To bring a wide range of experience and viewpoints into focus on tasks, opportunities, and problems involved in implementing infrastructure financing  
• To determine possible solutions for implementing infrastructure development | Ministry of Communication & Works |
| OS1 | Botanic Gardens Restoration  
• Expanded propagation facilities and interpretive material  
• Rationalised building and landscaping programme  
• Rationalised circulation system | • Provide opportunities for passive recreation and nature interpretation  
• Secure complementary land use and circulation patterns  
• Enhance the visual values of the Gardens  
• Re-establish the Gardens as a key tourism attraction | 75 EU/ETDP GEF KEW Gardens | • Review and finalise terms of reference  
• Secure funding  
• Request proposals and select consultant  
• Encourage private sector participation in funding, development and management | Forestry, Wildlife and Parks Division |
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</table>
| OS2 | Roseau River Corridor Regeneration | • Regenerate the ecology of the River Corridor (water resource, wildlife species and habitants)  
• Mitigate erosion and other adverse environment impacts.  
• Maintain scenic values  
• Provide opportunities for nature-based recreation within a wider urban setting | 100 | • Review terms of reference for the project  
• Secure funding  
• Request proposals and select consultant  
• Encourage participation from the private, volunteer, and NGO sector in development and management | Forestry, Wildlife and Parks Division |
| OS3 | Parks and Playfields Restoration | • Increase opportunities for active and passive recreation  
• Maxmise use of existing facilities  
• Upgrade the visual quality of facilities and surroundings | 30 | • Review terms of reference  
• Prepare cabinet submission/secure funding  
• Conduct study  
• Conduct an assessment of existing facilities  
• Promote participation from the private, volunteer, and community sectors in development and management | Ministry of Education, Sports and Youth Affairs |
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</table>
| OS4 | Central Roseau Pedestrian Environment Enhancement  
- Street trees, weather protection canopies, widened sidewalks with benches, street lighting  
- Vest pocket parks on selected vacant plots  
- Visual continuity along shopping streets and consistency in the placement and form of signs (sidewalks, crossings, etc. vehicle |  
- Ensure pedestrian comfort and safety  
- Provide for an aesthetically stimulating pedestrian environment  
- Provide for social interaction and other interesting activities | 50  
WEF  
UNESCO  
OECS |  
- Conduct a preliminary assessment of the pedestrian environment  
- Prepare terms of reference for the Project  
- Secure funding  
- Request proposals and select consultant  
- Encourage private sector participation in funding, development and management | Physical Planning Division/SHAPE |
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</table>
| HUD2 | Stockfarm Landfill Recycling | • Provide land for a permanent Carnival City facilities  
• Provide playing field for residents of Stock Farm  
• Provide parking for the Stock farm Netball Stadium  
• Improve living condition  
• Increase housing stock  
• Provide assistance to needy households  
• Encourage persons to return and live in Central Roseau  
• Reduce overcrowding in existing housing districts  
• Improve quality of housing stock | WEF EU CFTC | • Prepare terms of reference  
• Identify sources and secure funding  
• Invite tenders and award contract  
• Encourage private sector and NGO participation | NDC |
| Tr7 | Central Roseau Housing Development Strategy  
• Repair/Rehabilitation  
• Renewal/Replacement | • Prepare terms of reference  
• Identify sources and secure funding  
• Invite and award contract  
• Consider and implement consultant’s report  
• Encourage private sector participation in implementation of projects/programmes | CDB UNDP OAS CFTC | Ministry of Housing |
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</table>
| Tr8 | Roseau Duty Free Shopping Development Strategy/Action Plan | • Facilitate/encourage establishment of duty free shops in Historic District  
• Encourage more cruise ship passengers to disembark  
• Increase visitor spending  
• Increase employment opportunities  
• Improve attractiveness of tourist product | CDB EU/ETDP BDD | • Prepare terms of reference  
• Secure funding  
• Invite proposals/award contract  
• Consider/implement consultant’s report  
• Encourage private sector and NGO participation in implementation, funding and management | NDC |
| Tr9 | Water Ferry Service Around the Island | • Need for considering the feasibility of operating a waterborne ferry transit service focussed on the Central Roseau Region with routes to locations around the island. | Govt. of France EU CDB | • The study would need to assess the costs and revenues, the availability of suitable craft(s) and supporting infrastructure, and the suitability of various docking and routing options.  
• Within the Roseau, the terminal station would have to be centrally located, and integrated with the highest order public transport services to the waterfront. | Forestry, Wildlife and Parks Division |
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</table>
| OS5 | Ravine Areas Regeneration  
- Environmental conservation measures (enhancement of vegetation cover, stream bank stabilisation, etc.)  
- Nature-based recreation facilities (hiking trails, ecology parks, picnic stations, etc.)  
- Regenerate the ecology of the watersheds (water resource, wildlife species and habitats)  
- Mitigate erosion and other adverse environmental impacts  
- Maintain scenic values | UNDP  
OECS  
WWF | Conduct a preliminary environmental analysis of the watershed  
Prepare terms of reference  
Secure funding  
Encourage participation from the private, volunteers and NGO sectors in development and management | Forestry, Wildlife and Parks Division |
| OS6 | Hillside Conservation  
- Environmental conservation measures (sustainable, forestry, protection of wildlife habitats, etc.)  
- Nature-based recreational and educational facilities (hiking trails, ecology parks, picnic and viewing stations, etc.)  
- Regenerate the ecology of the hillsides  
- Mitigate erosion and other adverse environmental impacts  
- Maintain scenic values  
- Provide opportunities for nature-based recreation and education | UNDP  
OECS  
WWF | Conduct a preliminary environmental analysis of the hillsides  
Prepare terms of reference for the project  
Secure funding  
Invite tenders/award contract  
Encourage participation from the private volunteer, and community sectors in development and management | Forestry, Wildlife and Parks Division |
### Long Term Phase 3 Projects

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</table>
| HUD1 | City of Roseau Land Reclamation | • Provide high value waterfront land for development  
        • Provide sea defence for New Town/Citronier  
        • Improve thru-traffic in New Town  
        • Facilitate construction of a yacht marina  
        • Provide an alternative site for development of cruise ship berthing facilities | CDB WB Private Sector | • Prepare terms of reference  
        • Identify sources and secure funding  
        • Invite tenders and ward contract  
        • Encourage local and foreign private sector participation in funding and implementation | Dominica Port Authority |
4.7. Draft Terms of Reference, Design Guidelines, Land Use Control Indicators and Schematic Designs

Following are draft terms of references for short-term projects proposed above.

4.7.1. Terms of Reference: Institutional Strengthening Project-IS1 Land Use and Building Code Regulations

1. Background

Forward planning and development control administration in Dominica are regulated under the Physical Planning Act #2, of 2002 by the Development and Planning Corporation, through the Physical Planning Division.

The Act makes provision for the preparation of standards to include zoning, subdivision and building regulations to facilitate effective and efficient control of development.

Presently, the Planning Authority relies on subdivision regulations dating back to the 1960’s, designed for regulating building activities in public sector housing schemes and a set of “minimum property standards” developed primarily to facilitate building activities in the densely built-up west coast settlements, to regulate and manage development throughout the island.

A set of Draft Building Codes and Guidelines prepared for the OECS and adapted for use in Dominica since 1992, still await formal adoption.
As a result of the lack of enforceable regulations, the planning authority is forced to embrace a discretionary approach to development control with the associated risks of discriminatory application, uncertainty, lengthy development application reviews and sometime outright disregard of conditions of approval by developers.

2. The Project
The main objective of the project is to equip the planning authority with essential land use planning tools to manage and regulate physical development throughout Dominica.

The main output of the project will be a set of regulations for adoption under the Physical Planning Act. The regulations will comprise of the following:

- Zoning and Land use regulations
- Subdivision regulations
- Building regulations

The project will be administered by the Physical Planning Division.

3. Scope of Work
The Scope of Work will focus on development of acceptable and affordable land use, subdivision and building standards for enforcement.

The Consultant will be required to consider:

- Existing standards, guidelines and legislations
- Current policies and development plans
- Applicable standards of the OECS and CARICOM countries
- Internationally accepted principles of development control
- Consultation with stakeholders – developers, technical professional associations, etc.

4. Output
The following will be outputs of the project:
   a. An inception report to the executing agency
   b. Draft regulations for review by stakeholders
   c. Final draft regulations for adoption by the planning authority under the Physical Planning Act

5. Manpower Requirements
A multi-disciplinary team of at least four (4) technical professionals with experience in development control administration, land use planning, structural engineering and architecture.

6. Time frame: The project is expected to last a period of twelve (12) weeks.
4.7.1.2. Some Land Use Control Indicators

Introduction

In various sections of this report weaknesses in the current land use administration system, especially in the area of development control, were alluded to. Project proposals presented herein when realised will remove many of the constraints. However, during the period of preparation of the recommended regulations and detail or local development plans, building and other development activities are not expected to cease. The following indicators are intended to serve as guidelines for the preparation of recommended regulations as well as assist the planning authority in ensuring that development permitted during the interim will generally be in accordance with future regulations and local plans.

Control Indicators

1. Consideration should be given to placing interim development orders, temporarily prohibiting construction of new buildings without street frontage (other than public conveniences proposed under the "Roseau Infill Properties, Water and Sanitation Project") in areas earmarked for redevelopment in the Roseau Development Plan, Strategy and Action Plan, until completion and adopting of the recommended “Central Roseau Housing Development Strategy” and “City of Roseau Cadastre” projects.

2. Land use and zoning regulations should provide for the following land use zones:
   - Residential
     - Single and two family (S1-2)
     - Multiple family (M1) three to five units
- Multiple family (M2) more than five units

- Residential/Commercial
  - RS1 – one to two floors
  - RS2 – three or more floors

- Commercial
- Commercial/Institutional
- Institutional
- Recreational and Open Space
- Light Industrial/Warehousing
- Historical/Preservation
- Nature Reserve

3. Housing should not be permitted on ground floors in land use zones other than “Residential”

4. Prior to completion of the recommended Housing Development Strategy report, City of Roseau Cadastre and Zoning Regulations, new buildings should not be allowed on lots which cannot accommodate buildings with minimum gross floor area of 500 sq. feet on any one floor.

5. Until completion/adoption of the proposed zoning/land use regulations, developments in respect of land in Central Roseau should allow for onsite parking or in lieu therefore, the developer should be required to pay a prescribed amount into a “City of Roseau Parking Facilities Escrow Account” based on the following minimum parking provisions:
- Residential floor space with three or more units
- Commercial floor space with 800 sq. ft or more
- Institutional floor space of 500 sq. ft or more
- Warehouse floor space or 1,600 sq. ft or more

6. New developments in the Historic District that are not permissible “as-of-right” should be subjected to the “Development Agreement” provisions of the Physical Planning Act.

7. The planning authority should continue to encourage architects, engineers, contractors and draft persons to observe provisions of the draft Dominica Building Code and Guidelines and the authority should continue to subject development applications to the provisions of these standards, until revision and formal adoption of the same.
4.7.2. Terms of Reference: Institutional Strengthening Project
IS2 Establishment of an Urban Development Corporation

1. Background
Dominica has a very poor record in the area of development plan implementation and review. The country has also performed very poorly in the planning and delivery of housing programmes and projects in the recent past. The island and the public sector in particular suffer from a lack of experience/qualified technical professionals in the area of land use planning, project design/implementation and housing. Furthermore, there is a lack of consultation and information sharing among the agencies impacting on physical planning and development in the public sector. It is not uncommon for the department responsible for the day-to-day administration of the Physical Planning Act to be informed of major physical development projects long after the decision to proceed with such project are made.

In addition to the fact that physical development plans are never formally adopted, proposals in such plans also rarely get implemented largely due to a lack of follow-up and review after their initial preparation.

A newly established Ministry that brings together the portfolios of lands, housing and physical planning under the same Minister may help to improve cooperation/consultation among these departments. However, issues of capacity to plan and deliver projects and programmes will remain unless staffing in the respective agencies is adequately strengthened.
2. The Project
The main objective of this project is to strengthen the capacity of the public sector to plan and implement land use and housing development programmes and projects.

The main output of the project will be an institutional framework for the establishment of a new agency – Urban Development Corporation - integrating the functions and technical staff of:

- Physical Planning Division
- Housing Division
- Industry section of NDC
- Development and Planning Corporation legislative functions

The projects will be administered by the Ministry of Housing, Lands and Energy.

3. Scope of Work
The scope of work will focus on the optimal way of integrating the functions and technical staff of the above mentioned public sector agencies to establish an efficient and effective Urban Development Corporation for the planning and implementation of urban development and housing programmes/projects. In this regard, the consultant will undertake the following:

- Review relevant legislation
- Evaluate technical staff of the agencies
- Review legislative and administrative provisions of similar institutions in the OECS and CARICOM countries
o Propose an organizational structure

o Propose staff level, qualifications, salary scales and duties

o Propose legislative provisions to give effect to recommendations being put forward

o Estimate administrative cost for first three years of operations

o Consult with stakeholders, - union representatives ministries of Establishment, Finance, etc.

4. Outputs
   a. Inception report to executing agency
   b. Draft organizational structure and Legislative provisions for review of stakeholders
   c. Final draft report and legislation

5. Manpower Requirements
A team of at least four (4) professionals with extensive experience in personnel management, law, development planning and housing administration.

6. Timeframe: The project is expected to have a duration of eight (8) weeks.
4.7.3. Terms of Reference: Housing and Urban Development Project – HUD1 City of Roseau Cadastre

1. Background
Information on property description, ownership and values in the City of Roseau is critical for proper land use planning, development control and revenue collection for both central government (transfer fees) and the Roseau City Council (land/house rates).

Lands in the city, especially Central Roseau, are known to be very fragmented. There is also a high incidence of absentee landlords and squatters within the neighbourhoods making up the City. However, the number of properties so affected has not been accurately determined.

A 1992 Property Inventory and Valuation report on the City of Roseau prepared by the Land Valuation Unit of the Ministry of Finance identified a number of problems associated with properties in the City, they included:

- Unavailability of survey plans making description and identification of boundaries extremely difficult
- Lack of readily available information to establish ownership
- Multiple ownership
- Lack of verification of transfer of inherited property
- Lack of accurate information in City council records
- A large number (about 1/3) of unregistered properties
Unreliable information on land subdivisions within the City
Lack of verification/registration of private land surveys with the Director of Surveys as required by law

Unless these weaknesses are resolved, detail land use planning and development central cannot be effectively and adequately performed and information critical for the application, review and updating of land/house tax and land registration legislation will be lacking, adversely affecting central government and city council revenues.

2. The Project
The primary objective of the project is to prepare a cadastre of properties in the City of Roseau to facilitate detail land use planning, development control, and increased property tax and transfer fees revenue collection.
The project will be administered by the Land Valuation Unit of the Ministry of Finance.

3. Scope of Work
The consultant will be required to:
   - Review relevant reports, maps and legislation
   - Conduct field surveys
   - Research Land titles/values
   - Assess property values
   - Prepare draft supporting legislation
   - Map information
   - Consult with stakeholders
o Prepare reports

4. Project output
The consultant will be required to submit the following reports:
 o Inception report
 o Preliminary cadastre report and draft legislation
 o City of Roseau Cadastre and support legislation

5. Manpower Requirements
A multi-disciplinary team of professionals experienced in property valuation, law, land surveying and land management.

6. Timeframe: The project is expected to last a period of six (6) months.
4.7.4. Terms of Reference: Tourism Project T1

Regeneration of the Roseau Bay Front

1. Background

The Roseau Bay Front comprises that section of the coastline that borders the western edge of Central Roseau. It stretches from Roseau River in the north to Fort Young Hotel in the south. Over the years this area had been subjected to intense wave action and erosion, especially during periods of storms. Today, it is protected by a seawall which is in itself a powerful landscape feature that incorporates certain park features such as sitting and viewing areas. Spectacular views to the Caribbean Sea are obtained from these areas. The cruise ship terminal and the ferry terminal also form parts of the waterfront park environment.

Bay Street, a relatively wide boulevard-type arterial, runs along the Bay Front and a number of key activity areas are also located along the landward side of Bay Street, including Fort Yong Hotel, Garraway Hotel, the New Market, the Dominica Museum, and the Old Market Plaza. Several east-west streets in Central Roseau terminate at Bay Street and provide convenient links from the Bay Front to the commercial core of the City and to the institutional zone in the eastern section of Central Roseau.

While the Bay Front is currently constrained by insufficient amenities and security facilities, it is however an important activity zone in the City and has very high potential for further development particularly as an entertainment and tourism-oriented zone. Under the Eco-tourism Product Development Component of an Eco-Tourism Development
Programme being implemented by the Government of Dominica, the Bay Front has been targeted for regeneration activities that will promote the tourism thrust in Roseau. In order to develop activities that can be funded through this programme, a short-term Technical Assistance Contract is being commissioned to formulate a Regeneration Plan for the Bay Front.

2. The Project
The primary objective of the project is to provide a planning framework for establishing the Bay Front as an important focal point for recreation, entertainment, and other related commercial activities. The main output of the project will be a Regeneration Plan to enhance social, economic, environmental and physical conditions on the Bay Front. Specific component outputs of the plan will comprise the following:

- Identification and analysis of the key issues relating to the Bay Front
- Strategic vision and development objectives for future development activity
- Development policies and proposals
- Evaluation of the development proposals

The project will be administered by the Programme Management Unit of the Eco-Tourism Development Programme, Ministry of Tourism. The selected Consultant will work in close collaboration with the Roseau Development Programme Working Group and the Steering Committee for Eco-Tourism, The Roseau Old Market Trust and The Society for Heritage Architecture, Preservation and Enhancement
(SHAPE). The Consultant will make formal submissions to the Working Group and the Steering Committee for review and comment in accordance with the scope of the project.

3. Scope of Work
The scope of work focuses on the main components of the plan and on the activities required to achieve those components. In carrying out these planning activities, the Consultant will be required to pay particular attention to the following key considerations:

- Previous studies, and projects regarding development of the Bay Front
- Plans for the development and operations of urban waterfronts in other parts of the Caribbean Region
- Internationally accepted principles and theoretical concepts regarding the development and management of urban waterfronts
- Consultations with stakeholders at strategic stages of the exercise including relevant public, private, and community sector organisations.

The planning methodology should also involve continuous evaluation of policies and proposals for internal consistency and assessment and mitigation of any adverse environmental and socio-economic impacts.

The components outputs of the plan and corresponding project activities are as follows:
Output 1:
Identification and analysis of key development issues:

Activities:
a. Inventory and analysis of the physical, economic, social and environmental components of the Bay Front, including:
   - Natural features and processes (topography, drainage, water quality, geology and soils, coastal processes, key ecosystems, etc.)
   - Current and historic land use and activity patterns on the Bay Front and nearby areas.
   - Form characteristics of the built environment (architectural design; use and condition of buildings; sites and structures of archaeological historic, or architectural significance; park facilities; vacant and derelict sites and structures; etc.)
   - Quality of the street environment (street life, vending, pedestrian circulation, signage, lighting, street furniture, landscaping, utility fixtures and overhead cables, etc.)
   - Location and capacity of infrastructure facilities (water supply, drainage, waste water and solid waste management, electricity, telecommunications)
   - Existing transportation facilities (road infrastructure, traffic circulation and parking, pedestrian circulation, marine infrastructure)
   - Land ownership and parcellation patterns
   - Existing formal and informal economic activities
   - Current social concerns in the area (crime, drugs, etc.)
   - Environmental quality (pollution; waste generation; vulnerability to environmental hazards)
• Existing management responsibilities and practices (responsibilities of public sector agencies and private corporations; levels of coordination among agencies; etc.)

b. Integrated analysis of existing problems, constraints, and opportunities in order to determine the key development issues which would need to be addressed.

Output 2:
Strategic vision and development objectives.

Activities
a. Review the development history and current operational mode of the Bay Front
b. Consult with key stakeholders on the development issues and regarding their aspirations for future development of the Bay Front
c. Interpret a basic vision for development of the Bay Front based on the operational review and stakeholder consultations.
d. Specific development objectives, consistent with the selected vision

Output 3:
Development and management proposals

Activities:
a. Consistent with the development objectives specified, formulate regeneration strategies for the bay Front that will include:
   • Attracting investment projects and generating employment opportunities
• Providing access to stimulating recreational, cultural, and entertainment activities
• Designing environments that are safe, comfortable, convenient, aesthetically stimulating, and adaptable
• Utilising renewable urban resources (existing utilities, vacant sites and buildings, etc.)
• Providing reliable and cost effective physical infrastructure

b. Determine the type and extent of facilities required to support the activities proposed for the area. These facilities could include:
• Ferry and cruise ship terminals upgrade
• Trade exhibition and information centre
• Waterfront park and entertainment pavilion
• Tourism and entertainment establishments (restaurants, hotels, shopping, etc.)
• Enhanced pedestrian environment (traffic calming, sidewalk widening, street planting, street furniture)

c. Formulate a development plan and design guidelines to address the following issues:
• Vehicular and pedestrian circulation systems and parking
• Land use proposals and activity areas
• Placement of key buildings and other physical facilities
• Designation of historic conservation sites, structures, and districts
• Placement and capacity of required utility facilities (water supply, etc.)
• Development standards and design concepts for the development of architectural, landscaping, and engineering features

d. Formulate management proposals for the Bay Front, indicating:
• Management responsibility, policies and practices for the public areas on the Bay Front
• Possibilities for collaboration among public, private and non-profit sectors in development and management of the Bay Front.

e. Formulate an action plan for implementation of the proposals including key projects, development scheduling, funding requirements, and community participation and corporation partnerships.

Output 4:
Evaluation of physical development and management proposals.

Activities
a. Conduct a basic scooping exercise to identify any significant adverse impacts that are likely to arise from implementation of the proposal and formulate mitigation measures as required.

b. Conduct a pre-feasibility analysis of the proposals, including projected costs and revenues and rate of return on investment

c. Consult with key stakeholders for comments on the development proposals, impact assessment, and feasibility analysis
d. Revise the proposals where necessary, based on the assessments and consultations.

4. Reporting Schedule
The primary output of the project will be an integrated report on the various components of the Development Plan. The report should comprise suitable explanatory text and graphic illustrations and should be presented in an attractive format. During the course of the project however, the Consultant will be required to submit progress reports to the executing agency as follows:

Inception Report:
This report will include a work plan outlining the project methodology and the sequence and timing of activities, including meetings with the executing agency and stakeholder consultation sessions. The report will also present a preliminary indication of the development issues facing the Bay Front. This report will be submitted two (2) weeks after the commencement of the project.

Development Issues Report
This report will outline the findings of the inventory and analysis of the various components of the Bay Front, highlighting current problems, constraints, and opportunities and analysing the key development issues. This report will be submitted six (6) weeks after the commencement of the project.
Draft Plan
This report will represent the draft plan comprising the strategic vision, development objectives, and development proposals. In order to place the proposals into a proper context however, a summary of the development issues should also be included. This report will be submitted twelve (12) weeks from the start of the project.

Integrated Final Plan
This report will represent the final plan, after consideration was given to the evaluation of the proposals and the comments received from stakeholders and other sources. The report will be submitted fifteen (15) weeks after the commencement of the project.

Where applicable, background papers on the methodology, findings, and recommendations of special studies undertaken during the course of the exercise should be provided.

5. Manpower Requirements
A multi-disciplinary team of professional and technical personnel with experience in urban design and landscape architecture will be required for the execution of the project.

The qualifications and experience of each member of the planning team must be specified in the contract bids.
Design and Development Guidelines:

1. Plan the Bay Front as an integral part of the City
   - Encourage the development of waterfront activities which will complement, rather than compete with, the adjacent business sector in Central Roseau.
   - Establish clear physical and visual linkages between the waterfront and the central commercial zone.

2. Establish the Bay Front as a focal point for tourism, recreation, and trade promotion
   - Provide for the development of tourism and entertainment oriented facilities including hotels, restaurants, sidewalk cafes, nightclubs, specialty shopping, arts and craft exhibits, and cultural performance areas.
   - Establish a trade exhibition and information centre as a trade promotion strategy.
   - Upgrade and expand the cruise ship and ferry terminal facilities. Relate the upgraded terminals towards the other proposed tourism facilities (shopping, restaurants, trade promotion centre, etc.).
   - Develop recreation facilities such as a marina for pleasure boats, boat rentals, and water taxis; a waterfront park comprising a promenade, bicycle path, picnic shelters, informal open spaces, scenic lookouts, and recreational fishing docks; and a community recreation centre with outdoor game courts.
3. Enhance the environmental quality and security at the Bay Front
   - Introduce such amenity features as widened sidewalks and well-designed shelters, planters, bins, benches, and other outdoor furniture.
   - Install attractive outdoor lighting fixtures of adequate illumination to highlight the amenities in the area and to provide for the safety of visitors.
   - Establish a harmonious planting system comprising appropriate trees, shrubs, and ground covers.
   - Institute measures to ensure conservation of the significant historic features on the waterfront.
   - Design new development in harmony with the existing environment in terms of such features as architectural design, building height, material of construction, etc.

4. Integrate the transportation system with the land use proposals and the circulation system in Central Roseau
   - Transform Bay Street into a scenic parkway with appropriate street trees and safe turn-offs to lookout points and parking lots.
   - Establish a series of small and appropriately screened and shaded parking lots on the waterfront.
   - Extend the proposed street planting scheme on Bay Street onto the key linkage streets to the commercial core such as King George V Street, Cork Street, Kennedy Avenue, Hillsborough Street, and River Bank Road.
   - Establish safe and convenient public transit stops and shelters on the waterfront.
4.7.5. Terms of Reference: Tourism Project-T3 Roseau Vending Plaza/Arcade and Food Court

1. Background
Street vending in Central Roseau has been a major concern for a very long time. The problem has become even more severe over the past years, corresponding with growth of cruise ship visitors to the island. Among the problems associates with street vending in Central Roseau are the indiscriminate use of sidewalks by vendors to the discomfort of pedestrians, crowding of the entrances of conventional business establishments, obstruction of street parking spaces and erection/storage of unsightly huts and other structure on sidewalks.

Among proposals previously put forward to alleviate problems of street vending in Central Roseau are:

- Designation of selected minor/narrow streets to pedestrians and vending only
- Relocating all vendors to one central location
- Use of the Roseau New Market for all vending operations.

Street vending is an important source of self-employment to many persons, particularly women. Vending also adds vitality to city life. In the city of Roseau vendors are very dependent on visitors, particularly cruise ship visitors to sustain their operations. However, the present arrangement of operators in this informal sector, particularly along Roseau Waterfront; is disorderly, obstructing,
discomforting, overcrowded and unsightly to both visitors and daily users of the City.

2. The Project
The main objective of the project is to provide user friendly and economically viable rental space for vendors presently operating on the streets of Central Roseau. The main output of the project is the formulation of detail plans to relocate street vendors in Central Roseau and provision of rental space for establishment of a Food Court.

The project will be administered by the Dominica Export and Import Agency (DEXIA).

3. Scope of Work
The consultant will be required to:

- Determine the number of vendors to be relocated by produce category
- Assess the functional physical space required to satisfactorily accommodate the vendors
- Assess ancillary space needs for the operations of the new facilities
- Review relevant reports/studies
- Identify alternative suitable site for the relocation including those suggested in the Roseau Development Plan, Strategy and Action Plan 2020
- Consult with stakeholders
- Prepare a preliminary report to include preliminary designs and costings for review of stakeholders
o Prepare final report to include detailed design drawings, Bill of Quantities, Cost estimates and Draft tender documents for execution of the works.

4. Manpower Requirements
A multi-disciplinary team of technical professions with experience in architecture, structural engineering and quantity surveying.

4. Timeframe:
The project will be expected to have a report/detailed design period of four (4) months.
Drawing: 13-1
4.7.7. Terms of Reference: Tourism Project- T5
Strategy for Upgrading of Tourism Facilities and Services

1. Background
Overview of Tourism In Dominica
Over the past 20 years Dominica has positioned itself as an eco-tourism destination, promoting its natural, historical and cultural heritage recognizing the importance of community participation in the tourism development process.

A Tourism Standards act has been passed by parliament and tourism standards developed by the Bureau of Standards. As such all enterprises must meet the standards specified to become licensed and this will form part of the regulatory environment for tourism, once implemented. It is therefore important that a survey and analysis of all tourism facilities and services be undertaken in order to identify the nature and magnitude of the problems of this sector and to propose assistance to the sector.

The recently developed tourism policy report revealed that “Dominica's tourism legislation has undergone significant improvement with recent passage of the Tourism Act, providing an excellent policy framework for classification, rating and certification systems for tourism products. Weaknesses now relate more to investment incentive provisions for tourism. However, with respect to the ancillary services sector it includes aspects of viability, management, training and refurbishing to meet the required standards”
2. The Project
The main objective of the project is to undertake an evaluation of the accommodation, food and beverage and ancillary services sectors with a view to upgrading the standards of service of this sector and to meet the standards set by the industry so as to provide the level of service required within such a competitive environment.

3. Objectives
The main objectives of the project will be identification of the needs of this sector to ensure viability and competitiveness.

Provide incentives to the private sector to encourage upgrading and refurbishing of their facilities and incorporation of standards.

Strengthening of human resource and marketing techniques.

The National Development Corporation through the Division of Tourism will administer the project.

4. Scope of Work
The Consultant will be required to:
- Review existing standards, guidelines, legislation and tourism policy programmes.
- Assess the existing accommodation and ancillary services sector to evaluate the physical product and operational systems - management, accounting, marketing and product delivery
- Assessment of training and manpower needs
- Assess product potential
- Consult with stakeholders
- Develop a strategy for meeting minimum standards- The strategy will include sources of concessionary funding for refurbishing or re-modelling of accommodations, upgrading facilities, financing, marketing and management and capacity building.

5. Output:
   a. An inception report to the executing agency
   b. Assessment of physical product and operational and management systems
   c. Development of a strategy for meeting minimum requirements to include upgrading, financing, marketing, capacity building and provision of services for discussion with all stakeholders.

6. Manpower Requirements
   A multi-disciplinary team to include technical professionals in tourism, business development, architecture, human resource development.

7. Duration
   The project is expected to last a period of 16 weeks.
4.7.7. Terms of Reference: Roseau Sustainable Transport Demand Management Study

1. Background
Transportation demand management is any action or set of actions aimed at reducing the impact of traffic by influencing people’s travel behaviour. Managing travel demand today is about providing travellers with choices of mode, location, route, and time. Strategies to manage demand are now more critical to better transportation operations and system performance than strategies to increase capacity of facilities.

The British Government released a strategy for sustainability (Department of Transport, 1999, A better quality of life: a strategy for sustainable development for the United Kingdom, London: The Stationery Office), which identified several sustainability indicators with particular impact on transport, including the following:

- Energy efficiency of road passenger travel
- Passenger travel by mode
- How children get to school
- Average journey length (or time) by purpose
- Traffic congestion
- Distance travelled relative to income
- Real changes in the cost of transport
- People finding access to services difficult
- Access to rural services
- Access for the disabled
- Access to the countryside
- Local environmental quality (noise and pollution from traffic)
- Concentrations and emissions of selected air pollutants
- Depletion of fossil fuels

The role of the transportation system is to

- Provide for the safe, efficient and economical movement of people and goods;
- Address regional economic development objectives of government (regional disparities); and,
- Support government priorities as they relate to tourism, industry agriculture, education and settlement.

The decisions with respect to investment in transport and infrastructure should be prioritised on the basis of maximisation of net social benefits.

2. Objectives
The Ministry of Communications and Works is interested in carrying out the Roseau Sustainable Transport Demand Management Study to provide investment planning for the next 15 years to facilitate the mobility of people and goods and promote the development of industries that provide transportation systems, services, and products in ways that reflect the needs of a diverse population and support the broader economic, social, and environmental objectives of the Commonwealth of Dominica.

The only other transportation-oriented study ever done was the Roseau Road Reinstatement: Feasibility / Strategy Study done from 1998 to 2000 by Dessau Soprin International et al on behalf of the
Ministry of Communications, Works and Housing, and funded by the Government of the Commonwealth of Dominica and Kuwait Fund for Arab Economic Development. The entire focus of this study was on the collection of data, projections, and analysis of vehicles in order to predict the number of vehicles expected on the road network by 2020, and to propose and cost the road improvements and expansions required. There was no assessment of the travel patterns and demands of people and goods.

The key elements of the proposed Roseau Sustainable Transport Demand Management study are:

- Study for the Establishment of an Appropriate Road Function Classification System
- Study for the Development of a Transit System
- Detailed Engineering Design for Road Improvements
- Study for Location and Planning for Parking Lots / Garages
- Feasibility Study for Planning of a Water Ferry Service Around the Island
- A Traffic Impact Assessment of Windsor Park Sports Stadium
- Study of Appropriate Innovative Transportation Project Financing Methods and Sources

3. The Consultant’s Staff
The Consultant will assemble a team with appropriate expertise in relevant disciplines. Detailed resumes of the team members must be submitted along with an organizational chart. The written commitment
of all independent team members or contracted professionals must be submitted.

4. Management Procedures
The Study will be administered by the Ministry of Communication and Works. The Ministry will seek Cabinet’s approval in appointing a Steering Committee for the Study, comprising appropriately selected members. The Steering Committee will oversee the project, and procure the Consultant on the Ministry’s behalf. The Consultant’s role will be to ensure that the project is completed in accordance with the agreed time and cost schedules and quality.

In the course of implementation, project meetings will be convened monthly or as required to review the status of the project and resolve issues. The Chairman of the Steering Committee will chair these meetings, or his designee. The Consultant’s project manager will be their main liaison for the project. The Consultant shall propose a meeting schedule with the Steering Committee that conforms with the phasing of the Study. The adequacy of the meeting schedule will be a factor in assessing the Consultant’s proposal.

Execution of the project will also require the consultants to consult with the key stakeholders who will be impacted by the development on an on-going basis. In addition, the Ministry’s representative will arrange specific sessions at which the consultants will be required to present findings and proposals and receive feedback from the stakeholders.

The Ministry will assist the Consultant in identifying such reports, plans, studies, maps and baseline data as may be available. The
Consultant will be responsible for securing this data, as well as collecting all other necessary data.

5. **Timetable**
The proposed timetable for completion of the scope of work is twenty-four (24) calendar weeks.

6. **Deliverables**
The Consultant will submit the following:

   (a) **Inception Report**
   This report must be presented within thirty (30) days of the starting date, and it must contain details of the procedures proposed by the Consultant for carrying out the Study, the work programme, the execution schedule, details of resources to be assigned to the project, and the tentative disbursement schedule.

   (b) **Monthly Progress Reports**
   Monthly, on the established closing dates, a monthly report must be presented. In this report the work carried out during that period must be detailed, including conclusions reached, as well as the work schedule proposed for the following period.

   (c) **Cost Report**
   The Consultant will prepare a report with cost estimates, general considerations and criteria used, details, concepts, etc.

   (d) **Draft Final Report**
   This report which has to be submitted for approval of the Steering Committee, will summarize all the work which was carried out, the conclusions and Consultant’s recommendations.
(e) **Final Report**

It will be the product of the revision and approval of the above-mentioned draft.

7. **Consultant’s Proposal**

The Consultant shall prepare a proposal which clearly indicates how the Consultant will carry out the work set out in this Terms of Reference. The Consultant’s proposal must contain, at least, the following:

- The approach to be used in conducting the Study Programme specifying the degree of involvement by the Steering Committee and the public. The Consultant will propose a public consultation programme for the project. The adequacy of the proposed consultation programme will be a factor in the consultant selection process.

- A work flowchart showing the timing of the phases of the programme (with completion dates and meetings. The total time required for the project and each component shall be specified in weeks.

- The proposal should include any suggested revisions to the programme outlined in the Terms of Reference and an explanation of the reasons for the suggested changes. The proposal shall also recommend a meeting schedule between the Consultant and Steering Committee that conforms to the phasing of the Study. Recommended additions to the Scope of the Study outlined here must be priced separately and shown as optional.
• Names, qualifications and experience of the staff to be assigned to the project and a list of similar / related projects the firm has undertaken.

• Maximum total cost of the programme, broken down into component phases, with meetings, printing costs and disbursements detailed separately.

• Per diem rates for key personnel involved in the Study and an estimate of the number of days the individual project staff will spend on the Study and in what components of the Study.

• Copies of any recent studies prepared by the firm similar to that being requested.

• Two copies of the proposal for consideration. Proposals must be received by the date to be announced.

The evaluation will produce a ranking of proposals, and negotiation will be entered into with the top ranked Consultant. Should the negotiations fail to result in an agreement negotiations will be entered into with the second ranked Consultant and this will be repeated until agreement is secured. The complete selection and ratification process may involve a time period of between one and three months. For this reason, all cost predictions must be valid for at least three months from the final date for submission of project proposals.
Drawing: 16-1
Drawing: 16-2
4.7.8 Terms of Reference: Open Space Project OS1: Restoration of the Dominica Botanic Gardens

1. Background
The Botanic Gardens is a primary open space facility in the City of Roseau. It comprises forty (40) acres of land located northeast of Central Roseau. The Agriculture Division is responsible for about half the acreage of the Gardens which is devoted to the growing of ornamental plants. The Forestry Division is responsible for the remainder of the facility which is essentially devoted to recreation. About five to seven acres of this latter allocation comprise a cricket field. The Agriculture Division and the Forestry Division have a number of service buildings in the Gardens.

Over the years Gardens has been subjected to tremendous pressure from misuse and adhoc development. Key problems currently being experienced include limited budget allocations and staff resources for management of the facility; uncoordinated development activities; inadequate visitor facilities; and the nuisance of vehicular through-traffic.

Under the Eco-tourism Product Development Component of an Eco-Tourism Development Programme being implemented by the Government of Dominica, the Botanic Gardens has been targeted for restoration and enhancement activities that will create variety and encourage new activities within the Gardens. In order to develop activities that can be funded through this programme, the Forestry and Wildlife Division is commissioning a short-term Technical Assistance Contract to develop a Development and Management Plan.
2. The Project
The primary objective of the project is to establish a planning framework for the restoration of the Botanic Gardens. The main output of the project will be an integrated Development and Management Plan with a five-year time perspective. Specific component outputs of the plan will comprise the following:

- Identification and analysis of the key issues relating to the development and operation of the Botanic Gardens.
- Strategic vision and development themes for future development activity.
- Physical development and management proposals.
- Evaluation of the development proposals.

The project will be administered by the Programme Management Unit of the Eco-Tourism Development Programme, Ministry of Tourism. The selected Consultant will work in close collaboration with the Roseau Development Programme Working Group and the Steering Committee for Eco-Tourism. The Consultant will make formal submissions to the Working Group and the Steering Committee for review and comment in accordance with the scope of work of the project.
3. Scope of Work
The scope of work focuses on the main components of the plan and on the activities required to achieve those components. In carrying out these planning activities, the Consultant will be required to pay particular attention to the following key considerations:

- Previous studies and reports and current policies and procedures relating to the development and operation of the Botanic Gardens.
- Procedures relating to the development and operations of other botanic gardens in the Caribbean Region.
- Internationally accepted principles and theoretical concepts regarding the development and management of botanic gardens.
- Consultations with stakeholders at strategic stages of the exercise including relevant public, private, and community sector organisations.

The planning methodology should also involve continuous evaluation of policies and proposals for internal consistency and assessment and mitigation of any adverse environmental and socio-economic impacts.

The component outputs of the plan and corresponding project activities are as follows:

Output 1:
Identification and analysis of key development issues.
Activities:

a. Inventory and analysis of the biophysical, socio-economic, and management components of the Botanic Gardens, including:

- Natural features and processes (topography, drainage, geology and soils, wildlife and vegetation, key ecosystems, etc.).
- Location, condition, and adequacy of existing physical facilities on site (buildings and other structures, trails, roads, parking, utilities, etc.).
- Current and historic land use patterns on site and in surrounding areas.
- Current activity patterns and levels of visitor use of facilities.
- Carrying capacity and capability of the site for botanical activities.
- Vulnerability of the site to environmental hazards (climatic, seismic, man-induced).
- Operational programmes and procedures regarding educational, recreational, and research activities.
- Organisational structure and staffing for management of the operations of the Botanic Gardens.
- Current sources and levels of funding for capital development works and operation of the facility.

b. Integrated analysis of existing problems, constraints, and opportunities in order to determine the key development issues which would need to be addressed.
Output 2:
Strategic vision and development themes for future development activity.

a. Review the development history and current operational mode of the Botanic Gardens.

b. Consult with key stakeholders on the development issues and regarding their aspirations for future development of the Gardens.

c. Interpret a basic vision for development of the Gardens based on the operational review and stakeholder consultations.

d. Specify educational, recreational, and other development themes, consistent with the selected vision and around which operational programmes could be developed.

Output 3:
Development and management proposals.

Activities:

a. Carry out projections on future visitor levels to the facility.

b. Consistent with the development themes specified and visitor projections, formulate activity programmes for educational, recreational, research, and conservation activities.

c. Determine the type and extent of facilities required for visitor use and to support other related activities on site, including expanded plant collection and propagation facilities and
additional recreational and interpretation facilities (picnic shelters, directional signs, trails, labelled plant specimens, etc.).

d. Formulate a physical development plan and design guidelines to illustrate the following:
   - Access to the site and internal vehicular and pedestrian circulation systems and parking.
   - Location of conservation areas, specimen plant collections, etc.
   - Placement of buildings and other facilities for recreational, interpretive, and research activities and administrative offices.
   - Placement and capacity of utility facilities (water supply, drainage, solid and liquid waste disposal, energy supply, telecommunications).
   - Development standards and design concepts for the development of architectural, landscaping, and engineering features.
   - Visitor flow patterns and use of the site such as to protect the more ecologically sensitive features (horticultural collections, etc.).

e. Formulate a management plan for the Gardens, indicating:
   - Operational policies and procedures relating to such matters as hours of operation, security, application of user fees, etc.
   - Organisational structure, staffing, training, and other institutional requirements for effective management of the operations of the Botanic Gardens, including provision for specialist professional staff positions.
• Potential sources and required levels of funding for capital development works and recurrent expenditure. Possible sources of income to be considered include introduction of a membership fee system; application of daily user fees; fund raising events; and corporate and government grants.

f. Formulate an action plan for implementation of the physical development and management proposals including key projects, development scheduling, funding requirements, and community participation and corporate partnerships.

Output 4:
Evaluation of physical development and management proposals.

Activities:
a. Conduct a basic scoping exercise to identify any significant adverse impacts that are likely to arise from implementation of the development proposals and formulate mitigation measures as required.

b. Conduct a pre-feasibility analysis of the proposals, including projected costs and revenues and rate of return on investment.

c. Consult with key stakeholders for comments on the development proposals, impact assessment, and feasibility analysis.

d. Revise the proposals where necessary, based on the assessments and consultations.
4. Reporting Schedule
The primary output of the project will be an integrated report on the various components of the Development and Management plan. The report should comprise suitable explanatory text and graphic illustrations and should be presented in an attractive format. During the course of the project however, the Consultant will be required to submit progress reports to the Roseau Development Programme Working Group and the Steering Committee for Eco-Tourism, as follows:

Inception Report:
This report will include a work plan outlining the project methodology and the sequence and timing of activities, including meetings with the Working Group and the Steering Committee and stakeholder consultation sessions. The report will also present a preliminary indication of the development issues facing the Botanic Gardens. This report will be submitted two (2) weeks after the commencement of the project.

Development Issues Report:
This report will outline the findings of the inventory and analysis of the various components of the Gardens, highlighting current problems, constraints, and opportunities and analysing the key development issues. This report will be submitted four (4) weeks after the commencement of the project.

Draft Plan:
This report will represent the draft plan comprising the strategic vision, proposed development themes, and physical development and management proposals for the Gardens. In order to place the
proposals into a proper context however, a summary of the development issues should also be included in this report. This report will be submitted ten (10) weeks from the start of the project.

Integrated Final Plan:
This report will represent the final plan, after consideration was given to the evaluation of the proposals and the comments received from stakeholders and other sources. The report will be submitted twelve (12) weeks after the commencement of the project.

Where applicable, background papers on the methodology, findings, and recommendations of special studies undertaken during the course of the exercise should be provided.

5. Manpower Requirements
A multi-disciplinary team of professional and technical personnel with experience in parks planning and management will be required for the execution of the project. The qualifications and experience of each member of the planning team must be specified in the contract bids.

6. Restoration of the Dominica Botanic Gardens:
Design and Development Guidelines:
1. Plan the Botanic Gardens as an integrated botanical and horticultural facility
   - Restore the Gardens to serve a variety of scientific, educational, aesthetic, and recreational purposes.
   - Establish a design concept comprising a series of thematic gardens of living plant collections that are suitably arranged and appropriately labelled.
2. Design the Botanic Gardens as a functional, coherent, and aesthetically stimulating facility

- Develop the Botanic Gardens as a pedestrian domain, prohibiting vehicular through traffic. Establish peripheral vehicular access and parking and allow only service access within the Gardens.
- Develop a Visitors Centre as the focal point of the Gardens, located as close as possible to the peripheral parking area and main entrance. Include administrative offices and a range of educational and recreational facilities in the Visitors Centre.
- Establish a series of display, demonstration, and ornamental gardens relating directly to the Visitors Centre.
- Develop clusters of research and maintenance facilities separated from the public areas.
- Connect the various thematic gardens and other facilities by a system of walkways that provides visitors with a sequence of changing views and vistas. Design the walkways with varying widths and with directional signs in order to provide clear guidance to visitors and to control the flow of visitors in certain sensitive areas.

3. Provide facilities for meaningful scientific research

- Establish a cluster of research facilities separated from the public areas and comprising a research centre, experimental and specialty gardens, propagation facilities, laboratories, greenhouses, and nurseries.
- Establish a cluster of maintenance and service facilities separated from the public areas and possibly associated with the research complex.
4. Provide facilities for public education
   ▪ Include education-oriented facilities in the Visitors Centre such as an orientation desk, meeting rooms and auditorium, a library of botanical and horticultural science, audio-visual and display rooms, a plant information office, and a herbarium of dried and labelled plant specimens.
   ▪ Establish a series of display and demonstration gardens associated with the Visitors Centre.
   ▪ Include labelled plant specimens and habitat-oriented plant groupings in the display and demonstration gardens.

5. Provide facilities to support individual and group-oriented recreation activities, which will be compatible with the Gardens environment
   ▪ Include recreation-oriented facilities in the Visitors Centre including a reception lounge, snackbar and outdoor terrace, and a gift shop.
   ▪ Establish a series of ornamental and meditation gardens associated with the Visitors Centre.
   ▪ Establish a series of informal open spaces and picnic areas.
   ▪ Consider developing an outdoor performance area (amphitheatre, etc.).

4.7.9. Terms of Reference: Open Space Project OS2: Regeneration of the Roseau River Corridor

1. Background
Roseau River Corridor represents a unique landscape feature running through the middle of the City. The River itself is noted for its crystal clear flowing waters, which is typical of the general quality of river
environments in Dominica. Also, the forested banks buffer the hydrologic regime of the river and represent features of high ecological significance and scenic value.

Certain sections of the riverbanks are however being subjected to environmental degradation through destruction of vegetative cover and squatting. The River Corridor however still presents high potential for environmental conservation and nature based recreation activities.

Under the Eco-tourism Product Development Component of an Eco-Tourism Development Programme being implemented by the Government of Dominica, the Roseau River Corridor has been targeted for regeneration activities that will maintain the ecological integrity of the Corridor and enhance the tourism thrust of the City by providing opportunities for unique nature-based recreation activities within an urban setting. In order to develop activities that can be funded through this programme, the Forestry and Wildlife Division is commissioning a short-term Technical Assistance Contract to develop a Regeneration and Management Plan for the River Corridor.

2. The Project
The primary objective of the project is to provide a planning framework for establishment of a conservation and nature-based recreation park in that section of the Roseau River Corridor that falls within the boundaries of the City of Roseau. The main output of the project will be an integrated Regeneration and Management Plan with a five-year time perspective. Specific component outputs of the plan will comprise the following:
- Identification and analysis of the key issues in the River Corridor.
- Strategic vision and development themes for future development activity.
- Physical development and management proposals.
- Evaluation of the development proposals.

The project will be administered by the Programme Management Unit of the Eco-Tourism Development Programme, Ministry of Tourism. The selected Consultant will work in close collaboration with the Roseau Development Programme Working Group and the Steering Committee for Eco-Tourism and the Forestry and Parks Division, Ministry of Agricultural Wildlife. The Consultant will make formal submissions to the Working Group and the Steering Committee for review and comment in accordance with the scope of work of the project.

3. Scope of Work

The scope of work focuses on the main components of the plan and on the activities required to achieve those components. In carrying out these planning activities, the Consultant will be required to pay particular attention to the following key considerations:

- Previous studies and reports and current policies and practices regarding development activity in the River Corridor.
- Policies and plans relating to the development and management of similar watersheds in other parts of the Caribbean Region.
- Internationally accepted principles and theoretical concepts regarding the development and management of urban river corridors.
Consultations with stakeholders at strategic stages of the exercise including relevant public, private, and community sector organisations.

The planning methodology should also involve continuous evaluation of policies and proposals for internal consistency and assessment and mitigation of any adverse environmental and socio-economic impacts.

The component outputs of the plan and corresponding project activities are as follows:

Output 1:
Identification and analysis of key development issues.

Activities:

a. Inventory and analysis of the biophysical, socio-economic, and management components of the River Corridor, including:

- Natural features and processes in the River Corridor and the wider watershed, including topography, drainage, water quality, geology and soils, wildlife and vegetation, and key ecosystems.

- Current and historic land use and development patterns in the Corridor, including agricultural activity, squatting, recreation activity, etc.

- Patterns of land parcellation and ownership.
- Carrying capacity and capability of the Corridor for recreational and conservation activities.

- Vulnerability of the area to environmental hazards (climatic, seismic, man-induced).

- Existing management responsibilities and practices.
  
  b. Integrated analysis of existing problems, constraints, and opportunities in order to determine the key development issues which would need to be addressed.

Output 2: Strategic vision and development themes for future development activity.

Activities:

a. Review the development history and current operational mode of the River Corridor.

b. Consult with key stakeholders on the development issues and regarding their aspirations for future development of the Corridor.

c. Interpret a basic vision for development of the Corridor based on the operational review and stakeholder consultations.

d. Specify conservation, recreational, and other related development themes, consistent with the selected vision
and around which operational programmes could be developed.

Output 3:
Development and management proposals.

Activities:

a. Consistent with the development themes specified, formulate activity programmes for conservation, recreational, educational, and research activities. Activities that could be considered for the area include sustainable forestry, stabilisation of the riverbanks, hiking, picnicking, river bathing, nature interpretation, and scientific research.

b. Determine the type and extent of facilities required to support the proposed activity programmes, including picnic shelters, directional signs, trails, bathing pools, landscape and wildlife viewing stations, ecology parks, and interpretation areas.

c. Formulate a physical development plan and design guidelines to illustrate the following:

- Access points to the Corridor and internal vehicular and pedestrian circulation systems and parking.
- Land use and development proposals, including the placement of key buildings and other physical facilities.
• Placement and capacity of required utilities (water supply, etc).
• Development standards and design concepts for the development of architectural, landscaping, and engineering features.
• Visitor flow patterns and use of the Corridor such as to avoid intrusion into the more ecologically sensitive areas.
• Recommendations regarding relocation of squatters and acquisition of private lands where found to be necessary.

d. Formulate a management plan for the River Corridor Park, indicating:

• Legislative and administrative requirements for management of the park.
• Management responsibilities, policies, and practices.
• Organizational structure, staffing, training, and other administrative requirements for effective management of the operations.
• Possibilities for collaboration among public, private, and non-profit sectors in the development and management of the Park.
• Potential sources and required levels of funding for capital development works and recurrent expenditure.

e. Formulate an action plan for implementation of the development and management proposals including key projects, development scheduling, funding requirements, and community participation and corporate partnerships.
Output 4:
Evaluation of development and management proposals.

Activities:

a. Conduct a basic scoping exercise to identify any significant adverse impacts that are likely to arise from implementation of the proposals and formulate mitigation measures as required.

b. Conduct a prefeasibility analysis of the proposals.

c. Consult with key stakeholders for comments on the proposals, impact assessment, and feasibility analysis.

d. Revise the proposals where necessary, based on the assessments and consultations.

4. Reporting Schedule
The primary output of the project will be an integrated report on the various components of the Regeneration and Management Plan. The report should comprise suitable explanatory text and graphic illustrations and should be presented in an attractive format. During the course of the project however, the Consultant will be required to submit progress reports to the Roseau Development Programme Working Group and the Steering Committee for Eco-Tourism, as follows:
Inception Report:
This report will include a work plan outlining the project methodology and the sequence and timing of activities, including meetings with the Working Group and the Steering Committee and Stakeholder consultation sessions. The report will also present a preliminary indication of the development issues in the River Corridor. This report will be submitted two (2) weeks after the commencement of the project.

Development Issues Report:
This report will outline the findings of the inventory and analysis of the various components of the River Corridor, highlighting current problems, constraints, and opportunities and analysing the key development issues. This report will be submitted six (6) weeks after commencement of the project.

Draft Plan:
This report will represent the final plan, after consideration was given to the evaluation of the proposals and the comments received from stakeholders and other sources. The report will be submitted twelve (12) weeks after the commencement of the project.

Where applicable, background papers on the methodology, findings, and recommendations of special studies undertaken during the course of the exercise should be provided.

5. Manpower Requirements
A multi-disciplinary team of professional and technical personnel with experience in parks planning and watershed management will be
required for the execution of the project. The qualifications and experience of each member of the planning team must be specified in the contract bids.

6 Regeneration of Roseau River Corridor
Design and Development Guidelines

1. Relate the River Corridor to the rest of the City
   - Establish a direct and functional relationship between the river corridor and the city.
   - Establish physical and visual access to the river corridor by developing riverside parks and scenic overlooks and viewsheds.

2. Plan the River Corridor as an integrated park system for conservation, environmental education, and nature-based recreation.
   - Institute conservation measures such as pollution control, reforestation, riverbank stabilisation, etc.
   - Establish educational facilities such as ecology parks, interpretation features, forest preserves, etc.
   - Establish recreational facilities such as bathing pools, hiking trails, horseback riding trails, bicycle paths, picnic shelters, etc.

3. Regenerate and enhance the ecological integrity of the River Corridor
   - Stabilise eroded riverbanks using bioengineering methods rather than structural measures.
- Maintain and enhance the vegetation cover within the corridor and the wider watershed in order to prevent erosion, siltation, and flooding and to maintain the water resource and water quality.
- Prohibit the dumping of garbage and the discharge of sewage and other waste material.
- Prohibit dredging and extraction of riverbed sand and gravel deposits and maintain the “islands” and sandbars as unique habitats and scenic features.

4. Secure public ownership of lands within the River Corridor.
   - As far as possible, acquire all available private lands within the river corridor.
   - Institute unified State control and management of the river corridor as an integrated park system for public use and enjoyment.

5. Control the use of lands adjacent to the River Corridor
   - Formulate compatible zoning provisions for lands adjacent to the corridor.
   - Design new development on adjacent lands in harmony with the form of the river corridor, particularly in terms of open space linkages and opening up scenic views.
   - Protect development on adjacent lands from any potential flooding hazard.
6. Establish institutional measures for management of the River Corridor

- Designate the corridor as a key element of the System of National Parks.
- Assign resources (human, financial, etc.) under the Forestry, Wildlife and Parks Division for management of the corridor.
4.7.10. Terms of Reference: Project OS3: Central Roseau
Pedestrian Environmental Enhancement

1. The Project
The project seeks to establish urban design, streetscaping, and greening solutions to enhance the pedestrian realm in the CBD and from the CBD to other neighbourhoods and districts within the City of Roseau.

2.0 Scope of Works
2.1. Define the pedestrian domain
   - Define sidewalks, street crossings, and other pedestrian zones in a clear and coherent manner.
   - Utilise paving material that will clearly define sidewalks and street crossings.
   - Utilise directional and street signs to guide pedestrians.
   - Establish clearly marked, tourism-oriented urban trails connecting places of interest (historic sites, etc.).
   - Ensure visual continuity along shopping streets by maintaining highly pedestrian-oriented activities (retail shops, restaurants, etc.) at ground floor levels; establishing consistency in the form and placement of business signs, street trees, outdoor furniture, and sidewalk paving; and maintaining an interesting sequence of views and vistas.

2.2 Ensure pedestrian comfort and convenience
   - Establish pedestrian routes with direct connections to key destination points.
- As far as possible, widen sidewalks and make pedestrian routes barrier-free.
- Provide for sheltered and shaded sidewalks by use of street trees and overhead canopies.
- Establish vest pocket parks for rest and relaxation on suitable vacant plots.
- Furnish the pedestrian domain with benches, planters, drinking fountains, waste bins, telephone booths, night illumination, etc.
- Utilise sidewalk-paving material that will be easy to walk on.

2.1 Provide for the safety and security of pedestrians
- Install special paving material (raised, patterned, or coloured tiles, brick, etc.) to clearly define pedestrian crossings.
- Utilise non-slip paving material on sidewalks.
- Remove existing obstacles and barriers from pedestrian routes.
- Install street lighting of adequate illumination.

2.4 Design an aesthetically stimulating pedestrian environment
- Encourage interesting pedestrian oriented activities along shopping streets.
- Ensure consistency in the placement and form of business and directional signs.
- Consider placing utility cables underground.
- Consider placing interesting theme trees at selected streets and focal points.
• Install well-designed and attractive sidewalk pavers and street furnishings (light standards and globes, benches, bins, planters, telephone booths, etc.).

3.0 The Output of the Project
The output of the project will be a set of detailed design drawings for the development and enhancement of pedestrian sidewalks, street crossings and footpaths. This should be done in a coherent manner as it relates to:
  o Path surface
  o Lighting
  o Planting
  o Edge definitions
  o Seating
  o Signage
  o Drainage

BG via Jack’s walk to the Morne and Kingshill.

The work will focus on the pedestrian environment defined by vehicular roads, pedestrianised streets and footpaths. These will also include but are not limited to the following footpaths:

A major component of this path is the 35-steps that was recently reconstructed under ETDP/RDP.

Turkey Lane through the Catholic Cemetery to High Street to Newtown
This footpath from Roseau South to Newtown is especially popular with students of the St. Mary’s Primary and Secondary schools. This path is
usually accessible during day light hours as the gates to the cemetery are closed at dusk.

**ALONG RIVER BANK NORTH TO GOODWILL AT UPPER MURPHY’S LANE**
This footpath has been a long-time favorite of pedestrians travelling to the PMH, Goodwill, Gutter, Tarrish Pit and beyond. The path is characterized by scenic views along the river and a concrete stepped walkway that intersects with Rose Street at upper Murphy’s Lane junction.

The absence of streetlights and the overgrowth of reeds along the River bank help to foster feelings of insecurity. This path has seen a decline in usage due to a proliferation of squatter residences and other mechanical workshops built on both sides of the motorable dirt road.

**EAST OF RIVERSIDE APARTMENTS TO LOWER MURPHY’S LANE.**
This path is an alternative to the above but the footpath is much shorter and links the road along the river north bank from east of the Riverside apartments to Lower Murphy’s Lane. The path is characterized by a concrete stepped walkway and offers users excellent views across the Roseau River to the CBD.

**FROM FEDERATION DRIVE ALONG CANAL TO LOWER WINSTON’S LANE TO CHARLES AVENUE**
This footpath that links Lower Federation Drive immediately east of Mr. Clean’s laundry to Charles Avenue in front of the PPD. The route is very broad and level and offers a distinct opportunity for landscaping. Upgrades to the surface and edges with adequate lighting, planting and the provision of seating/conversing areas are necessary.
3. Manpower Requirements
   A multi disciplinary team of professionals that will include one:
   ∙ Engineer
   ∙ Landscape Architect
   ∙ Land Surveyor

4. Duration
   The project is expected to last a period of four months.

6. Executing agency
   Physical Planning Division

7. Design Guidelines
   1. Define the pedestrian domain
      - Define sidewalks, street crossings, and other pedestrian zones in a clear and coherent manner.
      - Utilise paving material that will clearly define sidewalks and street crossings.
      - Utilise directional and street signs to guide pedestrians.
      - Establish clearly marked, tourism-oriented urban trails connecting places of interest (historic sites, etc.).
      - Ensure visual continuity along shopping streets by maintaining highly pedestrian-oriented activities (retail shops, restaurants, etc.) at ground floor levels; establishing consistency in the form and placement of business signs, street trees, outdoor furniture, and sidewalk paving; and maintaining an interesting sequence of views and vistas.
2. Ensure pedestrian comfort and convenience
   - Establish pedestrian routes with direct connections to key destination points.
   - As far as possible, widen sidewalks and make pedestrian routes barrier-free.
   - Provide for sheltered and shaded sidewalks by use of street trees and overhead canopies.
   - Establish vest pocket parks for rest and relaxation on suitable vacant plots.
   - Furnish the pedestrian domain with benches, planters, drinking fountains, waste bins, telephone booths, night illumination, etc.
   - Utilise sidewalk paving material that will be easy to walk on.

3. Provide for the safety and security of pedestrians
   - Install special paving material (raised, patterned, or coloured tiles, brick, etc.) to clearly define pedestrian crossings.
   - Utilise non-slip paving material on sidewalks.
   - Remove existing obstacles and barriers from pedestrian routes.
   - Install street lighting of adequate illumination.

4. Design an aesthetically stimulating pedestrian environment
   - Encourage interesting pedestrian oriented activities along shopping streets.
   - Ensure consistency in the placement and form of business and directional signs.
   - Consider placing utility cables underground.
- Consider placing interesting theme trees at selected streets and focal points.
- Install well-designed and attractive sidewalk pavers and street furnishings (light standards and globes, benches, bins, planters, telephone booths, etc.).
4.7.11. Terms of Reference: Open Space Project – OS4:
Restoration of Parks and Playing Fields

1. Background
The importance of recreation and sports in the holistic development of
the human person has always been recognized. As the adage goes, “all
work and no play make Jack a dull boy.” Among the essentials which
either positively or negatively impact on the facilitating and promoting
of recreation and sports on a community level are the availability and
standard of open spaces. In recognition of this effect, the then Roseau
Town Board was prompted to suggest the allocation of an area of land
in the town for public recreation, as early as 1910. This area was later
to be known as the Windsor Park.

There is a prevailing school of thought that a co-relation exists
between the availability of sporting and recreational facilities and the
level of violence and drug use in a community. It is necessary to
provide avenues where children and young persons can channel their
energies into positive activities. Additionally, the elderly may use these
facilities for leisure and relaxation.

The smallness of the City of Roseau and the ever increasing demand
by other competing forces, have made it impossible for large parcels of
land to remain unoccupied for any period of time. Furthermore, areas
designated for open space have succumbed to competitive usage and
have either disappeared or shrunk drastically.

The on-going work to up-grade the Windsor Park Playing field to an
International Sports Stadium has left a void in the city’s ability to
provide outdoor recreation to its residence. The situation is further compounded with the use of other open spaces for activities that are not compatible with outdoor recreation. This, therefore, has resulted in the over-use of the remaining open spaces that are available for use. The Pottersville Savannah is a specific case in point.

2. The Project
The main objective of the project is to restore all existing parks and playing fields in the City of Roseau, within a regulatory framework, that will provide for the optimal recreational and sporting needs of the residence of the city. The Consultants will pay particular attention to the following parks and fields:

- Lindo Park
- Pottersville Savannah
- New Town Savannah
- Bath Estate Playing Field
- Fond Cole Playing Field
- Elmshall Playing Field
- Asta Park
- Upper Kings Hill Playing Field
- Peebles Park

The following open spaces, which are occasionally being used by the public, should also be looked at with a view of inclusion if, and where, possible:

- Grounds of the State House and the small rectangular space at intersection of Federation Drive and Shop Lane, in Goodwill, for the purposes of organizing play areas for younger children; and
• Cemeteries within the city.

The project will provide for a cooperative partnership between the City Council, Government Departments and Sports organizations.

The Roseau City Council will administer the project. However, the selected consultant will also work in close consultation with relevant government departments, sports organizations and other stakeholders.

3. Scope of Work
The Scope of Work will focus on the development of a management system for the orderly utilization and maintenance of parks and playing fields.

The consultants will be expected to undertake the following:
• Review existing legislation and regulations and make appropriate recommendations;
• Evaluate the physical development requirements of each park/playing field;
• Present detail development plans and costs analysis for each proposal;
• Consult with key stakeholders at strategic stages of the exercise including relevant public, private and community sector organizations;
• Review existing day to day management procedures and make appropriate recommendations;
• Establish the ownership status of each park/field; and
• Examine the role of the City Council and other stakeholders in the overall management and maintenance of the relevant parks/fields and make recommendations.

4. Output
   • Inception Report for the executing agency;
   • Draft Development Plan for review by stakeholders;
   • Draft Report for review by stakeholders; and
   • Final Report and Development Plan for implementation by the executing agency.

5. Manpower Requirements
A multi-disciplinary team of at least four (4) professional and technical personnel with experience in sports administration, engineering, architecture and social planning will be required for the execution of the project.

6. Duration
The project is expected to last a period of eight (8) weeks.
4.7.13. Guidelines for Design of Incentives Packages to advance Urban Regeneration and Historic/Architectural Preservation in Central Roseau

Introduction
There is an urgent need for urban renewal, especially in the existing residential districts and protection of cultural and architectural heritage in Central Roseau. Central government does not have the financial resources to invest in these areas to make any significant impact. Government can however act as facilitator by adopting measures to attract local and foreign investment as well as to encourage property owners acceptance of regulations designed to preserve the cultural and architectural assets of the city.

To this end, consideration should be given to the following during preparation of incentives packages to attract and gain the support of investors, developers and property owners:

- Establish an urban development investment fund
- Establish a national Historical/Cultural Preservation Trust
- Provide income tax exemption to persons investing and contributing to said Investment Fund and Trust
- Encourage overseas national to participate
- Consider downward adjustment or full exemption of transfer fees, duty free concessions and/or tax exemption on income in respect of property transactions in respect of:
  a. Housing development with prescribed number of low income housing units
b. Approved use categories – duty free shops and guest houses for example

c. Creation of a prescribed minimum number of permanent jobs in respect of approved uses over a prescribed period in Historic District.

Allowing development incentives such as increased density, mixed use and reduce parking requirements in respect of:
- Change of use development
- Adaptive use in respected of listed buildings
- New developments with provisions above minimum useable open space requirements
- Land assembly in areas earmarked for redevelopment.

Reduced transfer fees and/or duty free on building materials in respect of properties acquired/developed for:
- Relocation of non-conforming uses in Historic District
- Medium to high density housing for low income in areas designated for urban renewal
- Medium and high-density rental housing.

Allow income tax exemption on rental and business income from listed buildings.

Legislate provisions permitting prescribed public/private sector joint ventures in respect of compulsorily acquired lands.
The Way Forward

The planning process of the Roseau Development Plan, Strategy and Action Plan should be completed through the planning authority taking the following action:

- Acceptance of the Final Draft Plan
- Subject the Final Draft Plan to public review
- Consider submissions from the public and prepare the Final Plan Document
- Submit the Final Plan to the Minister of Physical Planning for adoption under existing physical planning legislation.
APPENDICIES
Appendix: 1

**Innovative Transportation Project Financing Methods and Sources.**

Huge infrastructure improvement needs are required to meet the demands of sustainable development projects in the country. Raising these vast sums and effectively implementing these infrastructure projects is far beyond the capability of the Government alone. Therefore, private investments and, perhaps public-private partnerships, are required to finance implementation of these projects. Several types of potential infrastructure projects can easily be identified: road maintenance and expansions, public transport, parking, water supply–wastewater treatment, solid waste disposal, power supply, ports, airports, and land reclamation. There is no shortage of private investors, whether individually or through consortia. The problem is that these developers are not confident that the regulatory, institutional and legal arrangements are in place to facilitate major project development.

The promotion of private infrastructure finance, therefore, offers important opportunities for initiating long term sustainable economic growth for developing countries as well as providing attractive longer opportunities for international and domestic investors. Evaluating potential investments for securing project financing commitments usually will involve the criteria shown in Table 6. Therefore, project finance involves substantial analysis of these factors associated with determining project feasibility.
Table 6 Revenue Source Evaluation Criteria
(Adapted from British Columbia Ministry of Transportation and Highways, Transportation Financing Discussion Paper, August 1992)

<table>
<thead>
<tr>
<th>No.</th>
<th>Criterion</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Financial Capacity</td>
<td>Maximise capacity to fund</td>
</tr>
<tr>
<td>2</td>
<td>Political Acceptability</td>
<td>Maximise proven legislative or voter acceptance</td>
</tr>
<tr>
<td>3</td>
<td>Legal Authority</td>
<td>Maximise mechanisms which have legal track record</td>
</tr>
<tr>
<td>4</td>
<td>Equity</td>
<td>Maximise strong connection between charges and benefits</td>
</tr>
<tr>
<td>5</td>
<td>Elasticity</td>
<td>Maximise mechanisms conducive to growth</td>
</tr>
<tr>
<td>6</td>
<td>Revenue Stability</td>
<td>Maximise steady, predictable stream of revenues over time</td>
</tr>
<tr>
<td>7</td>
<td>Conflict</td>
<td>Maximise sources with no conflicting uses</td>
</tr>
<tr>
<td>8</td>
<td>Administrative Efficiency</td>
<td>Maximise mechanisms which are relatively simple or can ‘piggy-back’ on established sources</td>
</tr>
<tr>
<td>9</td>
<td>Debt/Creditworthiness</td>
<td>Maximise mechanisms which are established and accepted in the credit markets</td>
</tr>
<tr>
<td>10</td>
<td>Yield/(Other Peoples’ Money)</td>
<td>Maximise sources which provide infusions from entirely outside Government</td>
</tr>
</tbody>
</table>
Table 7 New financing methods

<table>
<thead>
<tr>
<th>No.</th>
<th>Method</th>
<th>Definition</th>
<th>Market Sensitivity</th>
<th>Use</th>
<th>Revenue Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Impact exactions or fees</td>
<td>Charges imposed by public authorities on new development as a condition of some regulatory approval</td>
<td>Development sensitive</td>
<td>Widespread</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>Special assessments</td>
<td>Charges imposed by government on property in a defined land area (district) in order to pay for improvements in that area</td>
<td>Development sensitive</td>
<td>Widespread</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>Service charges</td>
<td>Tolls levied</td>
<td>Income growth sensitive</td>
<td>Minimal</td>
<td></td>
</tr>
</tbody>
</table>
| 4   | Tax increment financing        | Diversion or earmarking of taxes (usually above a baseline) in a particular area to pay for improvements in that area via a project fund. Examples are:  
  - Increased property taxes  
  - Increased Sales tax  
  - Increased Income tax  
  - Gasoline tax  
  - Vehicle Registration tax  
  - Parking Tax  
  - User Pay  
  - Increased Room tax | Development sensitive       | Widespread | Moderate          |
<p>| 5   | Private donations              | Contributions of cash, property or services. Right-of-way donations by developers | Income growth sensitive     | Minimal | High              |
| 6   | Privatisation                  | Provision of public services by the private sector | Income growth sensitive | Widespread |                   |</p>
<table>
<thead>
<tr>
<th></th>
<th><strong>Cost sharing</strong></th>
<th>Two or more parties agree to share in financing the project cost (capital, operating or both)</th>
<th>Income growth sensitive</th>
<th>Minimal</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Developer financing</td>
<td>The developer finances the cost of project construction</td>
<td>Development sensitive</td>
<td>Minimal</td>
</tr>
<tr>
<td>9</td>
<td>Negotiated investments</td>
<td>Exactions from developers based on negotiations rather than a fixed schedule of charges</td>
<td>Development sensitive</td>
<td>Low</td>
</tr>
<tr>
<td>10</td>
<td>Transportation corporations</td>
<td>Non-profit entities created to aid a project by assembling land and financial resources</td>
<td>Income growth sensitive</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Road Utility districts</td>
<td>Special assessment districts formed with the consent of property owners in an area, with the authority to issue debt</td>
<td>Development sensitive</td>
<td>High</td>
</tr>
<tr>
<td>12</td>
<td>Lease / debt arrangements</td>
<td>Lease or sale of operationally non-essential land, such as air rights over a highway or land next to a transit station</td>
<td>Development sensitive</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Land banking</td>
<td>Acquisition of land for future use or sale</td>
<td>Development sensitive</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Utilities</td>
<td>Independent special assessment districts created to oversee all aspects of providing a particular element of the infrastructure</td>
<td>Development sensitive</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Public / private partnerships (or joint development)</td>
<td>Both sectors participate in a project with varying degrees of control and participation</td>
<td>Development sensitive</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Bond financing</td>
<td>Evidence of an issuer’s obligation to repay a specified principal amount on a certain date together with interest</td>
<td>Income growth sensitive</td>
<td>Widespread High</td>
</tr>
</tbody>
</table>
References

Appendix: 2

**TERMS OF REFERENCE: FEASIBILITY STUDY AND DESIGN FOR RECLAMATION OF THE ROSEAU CITY FORESHORE.**

1. **INTRODUCTION**
The Government of THE COMMONWEALTH OF DOMINICA intends to undertake reclamation works to expand the City of Roseau. In addition, the Government also proposes as part of this project to arrest the coastal problems being experienced along the coastline in the vicinity of ....... and its environs. As a precursor to such works, a study has to be undertaken to determine the feasibility of such a project, and the significant impacts, if any on the existing coastline. The coastline in and around Roseau is subject to erosion, and design for the mitigation of these coastal erosion problems, are also expected as part of the study. The limits of the reclamation are New Town Savannah in the north and Loubiere in the south. The seaward boundary is to be fixed on the basis of technical and economic viability.

These Terms of Reference (TOR) are intended to form part of a larger Request for Proposals (RFP) which will be issued to Development Companies or Consortia (Developer) on the basis of a Feasibility Study, Design, Finance, Construct approach.

The feasibility and design components of the RFP will consist of four main work activities:

(a) Analysis of the existing inland and coastal hydraulic regime.
(b) Identification of the needs and opportunities for the reclamation.
(c) Feasibility Study.
(d) Engineering Designs.
In the first stage, the Developer is expected to carry out an analysis of the existing inland and coastal hydraulic regime and define the existing problems as well as other potential problem areas, if any, because of the proposed land reclamation.

The second stage will consist of a determination of the opportunities that may be available from the development of the reclaimed area, as well as an identification of the needs for such a project.

The feasibility study shall consist of the analysis of the needs and opportunities that may arise from the proposed reclamation works, the development and analysis of alternative land use scenarios, the preparation of preliminary cost estimates for each alternative and the preferred option based on technical, economic and environmental merits.

Approval of the area earmarked for the land reclamation and the recommended alternative for the area reclaimed must first be obtained from the executing agency before proceeding to the engineering design stage.

The engineering designs shall consist of, inter alia, the preparation of such detailed designs as to permit accurate estimation of costs of the preferred alternative to facilitate the finalization of project financing arrangements by the Developer, a detailed economic analysis and justification. The feasibility study and design work should also produce Terms of Reference for an Environmental Impact Assessment to ensure the sustainability of the selected alternative.
2. GENERAL

2.1.1 Location

The Commonwealth of Dominica is one of the Caribbean island chain situated at Latitude 15 degree North and Longitude 61 degrees West.

Climate

The island experiences a tropical climate with a dry season from February to May and a wet season from June to December.

The annual rainfall exceeds 60mm, falling largely in the wet season. A significant meteorological aspect is the influence of the Northeast Trade Winds, which carry moist air from the Atlantic Ocean. The prevailing winds come from the Northeast in the dry season and East or Southeast in the wet season and are stronger in the dry season. Erosion is more prevalent in the wet season when the more aggressive sea state is encountered.

Average air temperature has a low variability during the year. Cloudiness and humidity reach a maximum in August and September. The humidity varies with the rainfall in different parts of the island, having the maximum values in the Northern Range. Mean annual temperature is 26.6°C, (average maximum temperature is 31.1°C and average annual minimum temperature is 22.2°C). Average annual wind is 115.3km/day, average bright sunshine hours are 6.69 hours/day and mean annual humidity is 77.1%.
3.0 OBJECTIVES

3.1 Project Objectives

The objectives of the project are to:

i. Identify an area for land reclamation purposes in order to expand the City of Roseau

ii. Provide opportunities for the development of modern businesses to enhance the tourism industry and diversification of the economy

iii. Create high value land for residential and commercial purposes

iv. Reduce the frequency and severity of coastal erosion, thereby preventing damage to public and private properties and infrastructure.

3.2 Study Objectives

The objectives of the project is to determine the area required for reclamation purposes, based on its feasibility from a technical, environmental and economical standpoint. It should also be consistent with Government’s policy, strategic objectives and immediate priorities.

4.0 SCOPE OF SERVICES

The study shall consist of, but not be limited to, the following categories of work:

4.1 Desk Studies

A wide variety of approximate data will usually be necessary for a first feasibility study. Such data may be obtained relatively easily from a desk study by consulting all available reports and manuals. However such data would be sufficient for the preparation of final designs and there will be a need for gathering more specific data.
4.2 Data Collection and Review

4.2.1. Familiarization with Government Policy

Any proposal put forward by the Developer must be consistent with stated Government’s policy, strategic objectives and immediate priorities for development within the coastal zone.

In the pursuance of this the Developer shall become acquainted with all policy documents prepared on behalf of the Government of The Commonwealth of Dominica.

4.2.1 Familiarization with previous Studies of Land Reclamation and Coastal Problems

The Developer shall consider all relevant studies previously carried out on land reclamation and coastal erosion problems in Dominica.

4.2.2 Consultation with Other Government Agencies and Interest Groups

The Developer shall liaise with all stakeholders including other Government agencies and relevant interest groups with a view to determining their concerns, which information shall inform the present study.

4.3 Field Studies

The Developer shall carry out field studies to acquire relevant data including but not limited to:

(i) Bathymetry/Topography
(ii) Geo-technical studies
(iii) Demography
(iv) Hydraulic Studies
(v) Morphology
(vi) Accretion and erosion.
4.3.1. Bathymetry/Topography

The bathymetry and morphology of the seabed at the location is fundamental to the design of the reclamation and its protective works, and is the major boundary condition for geometric and structural design of any coastal erosion mitigation works. It is recommended that all elevations be given relative to chart datum since this is the recognized datum for navigational purposes.

To facilitate the monitoring of the performance of the protective works it will be necessary to establish control lines perpendicular to the shoreline along which the elevation of the headland is known. Such lines must be clearly marked and be of a permanent nature, that they can be easily identified in the future.

The Developer shall define:

(i) areas in which surveys are to be carried out.
(ii) Scale, level of detail and precision on the basis of the requirement for the detailed design.

The surveys shall be made in reference to the existing bench marks and points of reference shall be securely founded in the field. These points of reference are to be clearly indicated on the topographic maps of the area.

4.3.2 Demography

The Developer should execute a comprehensive survey of the resident population to ensure that the proposed development and technology are consistent with their needs, attitudes, capabilities and aspirations, and that all social costs of implementing any project in the area are adequately considered.
The Developer is directed to access the available demographic data from the Central Statistical Office. It may be necessary to supplement the existing information with actual field studies.

4.3.3 Geo-technical Studies
The Developer shall undertake geo-technical studies especially as it relates to any proposed structures. Parameters to be investigated shall include but not be limited to:

(i) soil characteristics
(ii) earth pressures
(iii) water table fluctuations
(iv) slope stability
(v) settlement/consolidation
(vi) construction difficulties that may arise.

4.3.4 Hydraulic Studies – Water Levels, Wind, Wave and Current Patterns
The consultant shall gather relevant hydraulic data to determine the feasibility of the reclamation. Parameters to be investigated shall include but not be limited to the following:

(i) Water levels (surface and groundwater)
(ii) Wind speed
(iii) Waves
(iv) Current
(v) Existing drainage regime

Water levels are a principal boundary condition for the design of coastal protective structures. This is because other hydraulic boundary conditions are closely related to the actual water level. Variations in water level are due to meteorological, astronomical tide and seismic influences and also depend on local bathymetry.
In determining the design extreme water level the Developer shall consider tidal variations, storm surges, wind set-up and wave set-up.

4.3.4.1 Morphology
Morphology is the sedimentation and erosion processes occurring at the bed. Morphological changes may be due to tidal current and/or wave action. In many cases, knowledge of morphological changes of the bed with time are as critical to design as the mean bed level, enabling definition, for example, of the lowest bottom level in front of a structure. Therefore where a seabed is either in dynamic equilibrium or is morphologically unstable, the range of bed level changes that should be taken into account in the design must be determined. To ensure representative data on bottom changes, measurements must cover at least one wavelength per section.

4.3.5 Accretion and Erosion
The Developer shall determine from field investigations, the sediment transport loads, for different tidal conditions. Field samples shall be analysed to determine the sediment nature and characteristics (particle shape, mean particle size, threshold velocities, etc). Where possible an indication of the possible source of such sediment shall be given.

4.4 Additional Studies
The Developer shall identify and include in their proposal, any additional studies that may be considered necessary to be implemented, prior to the engineering design work.

4.5 Identification of Areas Prone to Inundation
The available records should be reviewed to determine the location of local inundation problems, where relevant. Complaints should be reviewed, and areas susceptible to inundation indicated on the base map.
Where possible, the Developer should attempt to identify not only the extent of inundation, but the typical depth and duration of inundation in problem areas. Local citizen interviews may be useful in this effort. Based on the information derived from this exercise the Developer shall prepare a map indicating the areas prone to inundation for extreme tidal levels.

4.6 Area to be Reclaimed
The Developer shall identify and define the exact area to be reclaimed. At this stage the presence of existing or future problems should also be acknowledged and defined. This must be accompanied by an appropriate solution to any foreseeable problems.

4.7 Boundary Conditions
In conjunction with the identification of the area to be reclaimed, all the boundary conditions that influence the size and shape of the reclamation and its potential solution must also be identified. Such boundary conditions shall include but not be limited to the following:

(i) Planning policy (including environmental impact aspects)
(ii) Physical site conditions
(iii) Construction and maintenance requirements
(iv) Cost considerations

4.8 Functional Analysis
The Developer shall undertake a functional analysis as an essential part of the design process to define clearly the functions the proposed works must fulfill in order to meet the needs and opportunities. In conducting this analysis, any unstated elements that should be taken care of must be clearly identified.
Level of service criteria should be clearly established to designate at what times, over what duration and if appropriate, at what rates the various stages of the development of the reclaimed area should occur.

4.9 Formulation and Analysis of Alternatives
4.9.1 Formulation of Alternatives
The Developer shall prepare alternative methods for satisfying the project objectives. These alternatives must meet the designated boundary conditions, functional requirements and level of service.

The Developer shall ensure that in the preparation of the alternatives, careful consideration is given to existing and proposed future development. This includes buildings, roads and utilities (water, electricity, telephone, sewerage, instrumentation, natural gas, etc.).

For each alternative the Developer shall provide, inter alia, the following information:

(i) General description – describe the alternative in detail
(ii) The criteria used in its formulation
(iii) Details of the major components
(iv) Definition of construction stages.
(v) Identification of the maintenance requirements – nature and frequency.
(vi) Preliminary designs and cost estimates of investment for each alternative. These estimates shall be divided according to the implementation stages.
4.9.2 Analysis of Alternatives
Based on the preliminary designs and cost estimates the alternatives shall be analysed and recommendations made as to which one is most feasible considering technical, environmental and economic aspects.

4.9.3 Institutional Requirements
Legal Frameworks and Institutional Strengthening

The Developer will be required to recommend any Institutional Development which will be necessary for the continued functioning of the project.

4.10 Hydraulic Analyses
The Developer shall undertake comprehensive analyses to determine the hydraulic conditions to which the reclamation will be subjected.

Through statistical analyses of available data and preliminary estimates of the project components, the Developer shall present benefit/cost analyses for design storms of appropriate recurrence intervals (5 years, 10 years, 25 years, 50 years, 100 years etc), with the associated critical parameters to water level, wave height, current etc. The level of service to be derived from the adoption of each recurrence interval must be clearly indicated. On the basis of these analyses the recurrence interval most suited for the project must be recommended.

The relevant State Agency will give the approval as to which recurrence interval is to be adopted for the study.

The Developer shall submit details on the hydraulic calculations carried out in the study. All structure parameters (size, geometry, etc) must be substantiated by hydraulic calculations. Any mathematical model applied
must be calibrated and validated to ensure its applicability to the particular location.

The Developer shall carry out a sensitivity analysis of the proposed works to an extreme event giving recommendations as to what measures can be adopted should this event occur.

4.11 Environmental Impact Assessment
The Developer shall prepare Terms of Reference for an Environmental Impact Assessment (EIA), which meets with the approval of the Environmental Management Authority.

4.12 Capital Improvement Plan
Following the selection of the desired alternative, the Developer shall prepare a Capital Improvement Plan (CIP). The CIP should contain a prioritization of all recommended erosion control measures based on community needs (benefits) and costs. An implementation schedule as well as a detailed cost for each project component should also be included in the CIP.

4.13 Operation and Maintenance Plan
The Developer shall prepare an Operation and Maintenance Plan for the project. Recommendations should be made within the plan to ensure that after implementation, the project will continue to function, as designed, well into the future. The Developer shall also address the institutional arrangements necessary for the continued efficient operation and maintenance of the project, after construction.

4.14 Land Acquisition Plan
The Developer shall prepare a Land Acquisition Plan for the proposed project if applicable. In this plan the Consultant shall identify and
quantify any land which has to be acquired for the implementation of the project.

4.15 Preparation of Engineering Designs, Cost Estimates, and Implementation Schedules for the Most Feasible Alternative

On obtaining the approval of the State Agency, the Developer shall prepare engineering designs for the selected alternative. This must include working drawings, cost estimates for the implementation of the project.

The hydraulic and geo-technical tools used to check and adjust the hydraulic and structural performance in the designs will be a combination of established theoretical and empirical approaches along with numerical and physical modeling where applicable. The calculations and model tests will have the objective of ensuring that the final structural design meets all the functional requirements given the physical site conditions and other boundary conditions. In this regard it will naturally incorporate all the latest information on boundary conditions, particularly in relation to physical site conditions (results from surveys commissioned earlier in the design process may only become available at this stage).

The process of checking and adjusting the selected design will involve each of the sub processes involved in the stage of generation of alternative solutions but carried out to a greater degree of refinement. The evaluation of hydraulic and structural performance shall be carried out for each of two categories of performance, in each case related to a limit state (a limit state being a loading condition), the exceeding of which will lead to a significant decrease in performance. The two categories of performance are:
(i) Performance under extreme conditions

Here the ability of the structure to survive extreme conditions will be checked. This is done by evaluating all the failure mechanisms likely to occur under the specified extreme conditions. In this case, the Limit State is the Ultimate Limit State (ULS). This limit state defines collapse or unacceptable serious deformations of the structure (e.g. sliding, breakage or removal of critical elements) for conditions exceeding the ULS.

(ii) Performance under normal conditions

Here the performance is evaluated under the normal or daily conditions to which the structure will be exposed during most of its lifetime. In this case, the limit states are the Serviceability Limit States (SLS). These limit states define (mostly hydraulic) conditions, the exceeding of which will disable various activities or services provided by the structure. In addition, the long-term performance of the structure under normal conditions (analogous to fatigue) will be evaluated here (e.g. degradation of scour protection, deterioration of armour elements etc.).

A Draft Final Report must be submitted to the State Agency for evaluation. After review by the Agency, a Final Report, incorporating such amendments as recommended by the Executing Agency, shall be submitted by the consultants.

5.0 THE PROJECT TEAM’S TECHNICAL SPECIALISTS

The Developer shall submit the composition of the team of experts who will be responsible for carrying out the feasibility and design. A team leader with authorization to act on behalf of the Developer, must be appointed from the team. A detailed resume of each member of the team must be included in the proposal. The following table indicates the minimum requirements for the composition of the Project Team.
<table>
<thead>
<tr>
<th>SPECIALIST</th>
<th>OBJECT ACTIVITIES</th>
<th>MAN DAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Manager (Experience in Coastal Zone Management)/ Reclamation</td>
<td>Assessment and preliminary review of existing documents, relating to the study. General project management and co-ordination, liaise with Government Agencies/Authorities.</td>
<td></td>
</tr>
<tr>
<td>Coastal Engineer</td>
<td>Selection, analysis and design of coastal protective structures. Evaluation of the influence of the tides, wind, waves and current on the conditions at the location; to ensure that the final design incorporates provisions for stabilizing the coastline, without negative impacts on the adjoining coastline. Preparation of relevant engineering specifications and Bill of Quantities.</td>
<td></td>
</tr>
<tr>
<td>Geo-technical Engineer</td>
<td>Examination of sub soil, making borehole logs, classification of the soil information regarding the technical characteristics and mechanical properties of soil; determination of stratigraphic profiles for the dynamic analysis and earthquake resistant design of structures relative to the behaviour of the soils (Field studies and Geo-technical Studies).</td>
<td></td>
</tr>
<tr>
<td>Environmentalist</td>
<td>Environmental impact analysis of proposals. Identification of positive and negative Impacts of each of the project alternatives.</td>
<td></td>
</tr>
<tr>
<td>Economist</td>
<td>Economic Analysis and project justification. Evaluating the economic aspects of projects and performing economic analyses – cost/benefit, internal rate of returns – to justify the feasibility of the preferred alternative.</td>
<td></td>
</tr>
<tr>
<td>Sociologist</td>
<td>Social surveys, land tenure, employment, attitudes, etc. and project planning.</td>
<td></td>
</tr>
<tr>
<td>Hydraulic Engineer</td>
<td>Selection, analysis and design of hydraulic structures. Evaluation of existing hydraulic regime</td>
<td></td>
</tr>
<tr>
<td>Land Use Planner</td>
<td>Assessment of and selection of the most feasible land use plan for the reclaimed area</td>
<td></td>
</tr>
</tbody>
</table>

6.0. TIME SCHEDULING AND REPORTING
During the conduct of the feasibility study and design work, it is expected that the Developer will prepare and submit the following reports for review by the Government:
(i) Inception Report
This report shall consist of the following:-

- General comments on previous studies on land reclamation projects in Dominica.
- Results of consultation with other Government Agencies and related Interest Groups
- Identification of needs and opportunities.
- Details on the progress made to date
- Changes to the work schedule.

This report will become due four (4) weeks after the initiation of the study.

(ii) Analysis of existing Coastal and Hydraulic Regime
This report shall comprise the following:

- Definition of the existing problems, causes and effects
- Definition of any foreseeable problems resulting from proposed measures
- Identification of boundary conditions associated with the project – policy constraints, site conditions, construction and maintenance considerations, cost considerations, etc.
- Results of field investigations completed to date
- Mapping of areas prone to inundation.

This report will become due ten (10) weeks after the initiation of the study.

(iii) Determination of Needs and Opportunities
This report shall include the following:

- Update on the field studies as well as any relevant additional studies
- Database (observed as well as generated)
- Functional requirements and analysis, of the proposed works
- Establishment of desired level of service of the proposed works
- Preliminary impact assessment of the proposals

This report will become due fourteen (14) weeks after the initiation of the study.

(iv) Formulation and Analysis of Alternatives Report
This report shall be composed of the following:

- Description of alternative methods aimed at satisfying the project objectives
- Criteria used in the formulation of each alternative
- Details of the major components
- Definition of the construction stages
- Preliminary designs and cost estimates
- Analysis of the alternatives considering technical, environmental and economic aspects
- Recommendation of the preferred alternative.

The Formulation and Analysis of Alternatives Report shall be submitted twenty two (22) weeks after initiation of the study

(v) Feasibility Report with Implementation Plans
This report shall contain the following:
- Detailed feasibility report of the preferred alternative
- Preliminary designs and cost estimates
- Terms of Reference for Environmental Impact Assessment
- Capital Improvement Plan
- Operation and Maintenance Plan
- Land Acquisition Plan
This report will become due thirty-six (36) weeks after the initiation of the study.

(vi) Draft Final Report
This report shall consist of the following:

- Final design of the preferred alternative
- Working drawings
- Cost estimates
- Implementation schedules
- Construction Methodology

The Draft Final Report shall be submitted forty-eight (48) weeks after the initiation of the study.

(vii) Final Report
After receiving the comments of the State Agency with respect to the Draft Final Report (such comments should be received within thirty (30) days). The Developer shall prepare a Final Report which must incorporate any changes as agreed with the State Agency. This Final Report shall include the following:

- Executive Summary
- Description of Works
- Final design calculations
- Detail design drawings
- Technical specifications
- Materials and availability
- Construction and methods and procedures
- Bills of Quantities
- Cost Estimates
- Construction Methodology
• Project Implementation Schedule
• A revised Terms of Reference for Environmental Impact Assessment
• A revised Capital Improvement Plan
• A revised Operation and Maintenance Plan
• A revised Land Acquisition Plan

This report will become due two (2) weeks after receiving the comments of the State Agency on the Draft Final Report.

Along with the Final Report, the Developer shall submit on CD’s, all files (Word Processing, Spreadsheets, AutoCad, etc.) related to the study. This should be accompanied by a list of file names, statement of content, date of writing and the personnel employed in their production. The software applied in the production of the files must also be indicated.

DATA, SERVICES AND FACILITIES FOR THE DEVELOPER
The Developer will be provided with all available relevant reports, drawings and other data as may be required.

To the extent that any technical or other services are required from the Government, the Developer is to indicate the specific services needed.

The Developer is required to obtain its own office accommodation and other facilities required for the project.

6.0 CONTENT OF PROPOSALS
The Developer’s proposal shall include the following:-
(i) Details of their experience in the conduct of similar studies giving the year duration, cost and comments with respect to its satisfactory and timely completion.
(ii) An organizational chart of the proposed project team and support staff.

(iii) Categories, numbers, names of all professional, technical and administrative staff to be assigned to the project.

(iv) Curricula Vitae of all professional staff.

(v) A detailed description of the method of approach to the study.

(vi) Work programmes and time schedules for the various elements of the study.

(vii) Details of the facilities (e.g. computer hardware and software, laboratory and field equipment etc) to be used.

(viii) Information regarding the registration or non-registration of the firms professional engineers.
Appendix 3: Public Participation Events - Attendance/Notes

2.1. TV Talk Show
On Wednesday May 18, 2005 Mr. Isaac Baptiste and Ms Josie-Marie Edwards of the Consulting Team, along with Mrs. Juliette Tonge – Chief Physical Planner, were guest on Marpin’s Television Program “From All Angles”. The program was hosted by Mr. Arthie Martin and entertained a number of telephone calls from the public.

2.2. Radio Talk Show
On Tuesday May 24, 2005 Mr. Isaac Baptiste and Mr. Lennox St. Aimee of the Consulting Team were guests on Kairi’s “Heng” program. Members of the team also responded to a number of telephone calls from the public.

2.3. Town Hall Meetings
2.3.1. First Town Hall Meeting
The first Town Hall Meeting was scheduled for the Waterfront and Allied Workers Union (WAWU) Hall on Monday May 23, 2005. The meeting had to be aborted due to a misunderstanding in the booking arrangement for that evening. However, indications were that the meeting would have been poorly attended.

2.3.2. Second Town Meeting
A second Town Hall Meeting was held on Thursday June 9, 2005 at the Barracun Building on Bay, Front from 5 P.M to 8 P.M. There were short presentations from Messrs. Isaac Baptiste and Lenny Andre and Ms Marie-Josie Edwards. The meeting was fairly well attended and generated a number of questions and comments. Some of the comments were recorded and are reproduced in the attached notes. A list of participants is attached below.
2.3.3. List of participants to 2nd Town Hall Meeting

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANISATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Don Riviere</td>
<td>Resident</td>
</tr>
<tr>
<td>2. Hon. Norris Prevost</td>
<td>Parliamentary Representative</td>
</tr>
<tr>
<td>3. Albert Watty</td>
<td>Resident</td>
</tr>
<tr>
<td>4. Vanessa Prevost</td>
<td>SUN Foundation</td>
</tr>
<tr>
<td>5. Luke Prevost</td>
<td>Agricultural Transformation</td>
</tr>
<tr>
<td>6. Augustus Harris</td>
<td>H. H. V. Witchurch &amp; Co. Ltd</td>
</tr>
<tr>
<td>7. Albert Mendes</td>
<td>St. Martin Secondary School</td>
</tr>
<tr>
<td>8. Arden Shillingford</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>9. Randolph Felix</td>
<td>Basic Needs Trust Fund</td>
</tr>
<tr>
<td>10. Valda Bruno</td>
<td>Planned Parenthood Association</td>
</tr>
<tr>
<td>11. Delia Cuffy-Weekes</td>
<td>Roseau Cultural Group</td>
</tr>
<tr>
<td>12. Vyleen Hazel</td>
<td>Convent Prep School</td>
</tr>
<tr>
<td>13. David A. Corriette</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>14. Sonia Felix</td>
<td>City Visioners for Development</td>
</tr>
<tr>
<td>15. Eustache Robinson</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>16. Cecilia Philogene</td>
<td>City Visioners for Development</td>
</tr>
<tr>
<td>17. Shirley Stuart</td>
<td>National Children Home (NCH)</td>
</tr>
<tr>
<td>18. Cuthbert Seignoret</td>
<td>Manager, West Indies Oil (Retired)</td>
</tr>
<tr>
<td>19. Carol George</td>
<td>Vendors Association</td>
</tr>
<tr>
<td>20. Roy Romain</td>
<td>Bay Front Vendors Asso (Pres)</td>
</tr>
<tr>
<td>21. Gweneth Jules Moorehouse</td>
<td>Old Market Vendors</td>
</tr>
<tr>
<td>22. Vincent Dupuis</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>23. Glenroy Cuffy</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>24. Naiomi Thomas</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>25. Marietta Hypolite</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>26. Judith Bellot</td>
<td>Roseau Improvement Committee</td>
</tr>
<tr>
<td>27. Errol Emmanuel</td>
<td>Roseau Improvement Committee</td>
</tr>
</tbody>
</table>
29. Norma Cyrille  
   Social Centre

30. Kenneth Tyson  
   Concerned citizen

31. Deborah Fortune  
   Lafalaise House Medical Lab

2.4. One Day Consultation

A One Day Consultation of stakeholders was held at the Public Service Training Centre on Monday June 3, 2005. The consultation sought to present background information to the participants and to discuss development issues facing the City, while formulating a strategic vision for the future. The keynote addressed was delivered by Mrs. Lauren Bannis-Roberts - Minister for Tourism, Enterprise Development and Public Sector Relations. A copy of the day’s program, including the Official Function, is attached. The One Day Consultation was reasonably well attended, as the attached list of participants will indicate.

2.4.1. List of Participants for One-Day Consultation

<table>
<thead>
<tr>
<th>NAME</th>
<th>ORGANISATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Andria Franklin</td>
<td>Tour Guide, R. I. C.</td>
</tr>
<tr>
<td>3. Victor Pelteir</td>
<td>City Council</td>
</tr>
<tr>
<td>4. Peter Jones Bannis</td>
<td>Cable &amp; Wireless, Dominica</td>
</tr>
<tr>
<td>5. Peter Wood</td>
<td>Cable &amp; Wireless, Dominica</td>
</tr>
<tr>
<td>6. Ashton Lugay</td>
<td>FTDP/PMU</td>
</tr>
<tr>
<td>7. Cecil Joseph</td>
<td>Mayor of Roseau</td>
</tr>
<tr>
<td>8. Jennifer Julien-Laudat</td>
<td>DHTA</td>
</tr>
<tr>
<td>9. Petronald Green</td>
<td>Min. of P. W. &amp; P. U</td>
</tr>
<tr>
<td>11. Kertist Augustus</td>
<td>W A W U</td>
</tr>
<tr>
<td>12. Bernard Lloyd</td>
<td>Property Valuation Unit</td>
</tr>
<tr>
<td>14. Randolph Felix</td>
<td>BNTF</td>
</tr>
</tbody>
</table>
Issues/observations/Recommendations from Public Consultation Events

- Illegal developments along the Roseau River ought to be evicted.
- Management of City ought to consider negative issues of stench.
- Cobbled road surfaces should be reinstated where it is deemed appropriate.
- Landmarks: A financial facility should be put in place to protect these buildings or other.
- A cooperative approach should be considered as an alternative to wholesale relocation and resettlement.
- Creation of bus terminals along Riverbank south caused a loss of area recreational space along the river.
- Importation of styrofoam items should be banned.
- The web should be used to factor in input from the Dominica Diaspora.
It was suggested that the Canal at Canal Lane be considered for restoration in future development plans for Roseau.

It was noted that “sustainability and threats” were not featured in discussions.

The need for burial sites was emphasized by one participant.

Stock Farm may offer opportunity to establish a new burial site.

Concerns for hazard volcanoes and floods for e.g mitigation not articulated in presentation.

Trees as a primary landscape element ought to be used for beautification of the town.

Use of sedimentation tanks at mining sites should be mandatory.

Use of filtration/sedimentation tanks in water catchment areas should be mandatory.

Construction of hotel at PWD site is ill advised.

More attention should be paid to appearance and location of bus shelters.

Consideration should be given to the construction of a bridge linking Hanover Street to Elliot Avenue.

Roseau market should be covered.

Water catchment areas should be protected. This would help maintain flow levels of several rivers and streams.

Portsmouth should be considered for cruise tourism site development.

Development of Roseau should be undertaken in tandem with other rural areas.

Aesthetic issues ought to be addressed in Action Plan.

Problems in Roseau typical in several other areas.

Due respect ought to be given to budding entrepreneurs.

Plans to improve efficiency of traffic throughout must be commended and supported.

How does the IDP and the Waitikubuli trail project fit into the overall strategy for development of Roseau.
Consultations undertaken by the IDP need to be considered in the reviews to develop the Strategic Plan.

One participant asked whether an overpass for Roseau is feasible.

Where are the small litter bins that were located throughout the town.

The need for a bus shuttle system instead of bus terminals within the CBD.

Will concerns for ozone depleting uses addressed in the plan?

Stiffer fines and/or more meters should be introduced in the CBD.

One participant endorsed the use of the Roseau Primary Health Care center site for the creation of Business Incubation Center.

Rigshaws should be introduced for use around the CBD.

Concerns were expressed about lack of opportunities for less fortunate to maintain and rebuild their homes.

The need for public standpipes articulated.

A Business Incubation Center needs to be sustainable, hence the proposal for such within an established commercial district.

One participant criticized the loss of Recreational space, particularly the children playground close to the DGS.

The loss of historic cobble stone road surfaces was lamented.

The opportunity for development of car parking facility between the East and West bridge was recognized.

A buffer zone to protect the River bank should be established.

Vehicle emission standards should be more stringent.

Recycling should be undertaken to reduce solid waste.

A member of the Old Market Vendors supports the creation of a Historic District.

New Market is presently under utilized.

Roseau River bank should be landscaped and enhanced with provision made for parking.

A vendors arcade ought to be established at Woodbridge Bay.
Dexia building may not be adequate to house all or most of the Bayfront Vendors.

The proposal for use of Roseau Primary Health Care Center site as Business Incubation Center was drawn to the attention of the presenters.

Government contribution to Road Reinstatement Project is 15 percent. Cost overall has doubled to date. Project to be phased: Phase 1 is new bridge, bridge widening, and new road from new bridge past stadium (Valley Road). New bridges would have pedestrian sidewalks. The entire programme to be done in this term of office.

Traffic congestion relief needed

Aesthetic enhancement needed

Too many Bus stands, Reserved parking areas, etc.

Need for parking improvement

Need for consideration of revenue generation from traffic – tolls, parking, etc.

Walking is dangerous – open drains, difficult to walk, pedestrian-vehicle conflicts

Levy has been imposed on the imported vehicles (done in the 2000 budget), but the dealers started also bringing in used cars, and so there is a problem with the numbers of cars on the road.

There has never been an organised public transportation system in Dominica. Public suffers when there is a cruise ship (one weekly off-season, and an average of two per day in season), and it is difficult to access public transport then.

Need to examine the Impact of stadium – vehicles and pedestrians, traffic, parking

Need for parking for commercial activities

How do we communicate between north and south? Inland or waterfront. Consideration of elevated roadway from southern bank up
the north roadway instead of simply a new bridge and then up the road.
- Reclamation in north for cruise and associated activities. Consideration of boardwalk / water taxis linking Roseau River
- Disaster preparedness – volcanic eruption – road planning should consider this
- Western Rd – Roseau to Layou (Chinese are considering, and have committed themselves to road between Roseau and Portsmouth)
- Container trucks and breakbulk transport
- How do we get the business sector to contribute towards cost of providing parking in the City
- No side/broken sidewalk/vehicles parked on sidewalk
- Government is obligated to provide parking alternatives
- Container vehicles – should have specific routes and specific time periods to operate
- Fire Service vehicles are impeded by traffic parked on both sides
- Need for bus terminal
- Safety
  - problems with bus drivers – ill-disciplined behaviour – accidents caused
  - road condition
  - street lighting
  - signs
  - educators needed in the ped crossing
  - speed is a problem
- Transport Board – advisory capacity
- Cost-effectiveness of one / two bus terminals, etc. – one definitely needed in the north
- Laws needed to prevent parking on sidewalk will be recommended with the road reinstatement study
- Traffic lights may be needed in certain intersections
- Proposed stadium – parking would be a problem. We have not seen parking plan
- Suggestion of High Street Terminal
APPENDIX 4 - REPORTS REVIEWED

1. Proposed improvement of the Ferry Terminal
2. Proposed development of a cruise ship berth at Woodbridge Bay
3. Improvement of berthing facilities of the Roseau Cruise Ship Berth
4. Dominica Tourism Policy
10. Roseau Bay Front Development Plan 1980
11. Central Statistics Quarterly Economic Indicator


16. Roseau Infill Properties Project Stage 1, Dessau Soprin/MCW&H

17. Roseau City Council Act Cap. 25:01

18. Physical Planning Act 5 of 2002


20. Dominica Minimum Property Standards, Physical Planning Division

21. Population and land Use studies; Water and Sanitation project, Dessau-Soprin

22. Dominica Population and Housing Census 2001


30. Child Abuse Register – Reported Cases, Welfare Division

31. Register of Probation Cases, Welfare Division

32. Juvenile Court Register, Welfare Division

33. Labour Force Survey, 1999
   *Education Indicators, Ministry of Education, Jan 2005*
APPENDIX : 5 List of Officials Interviewed

Hon. Mr. Reginald Austrie, Minister of Energy, Physical Planning, Housing and Lands
Hon. Mr. Ambrose George, Minister of Communications and Works
Hon. Mr. Charles Savarin, Minister of foreign Affairs and Establishment
Hon. Mr. Julius Timothy, Parliamentary representative, Roseau North
Mr. Petronald Green, CTO, MCW
Mr. D. Lewis, Manager/Engineer, Housing division
Mr. Brian Bynoe, Director of Surveys/Commission of Lands (Ag)
Mr. Cecil Joseph, Mayor of Roseau
Mr. Rawlins Bruney, Chief Engineer, DomLec
Mr. Mark Ridley, Domlec
Mr. Damian Shillingford, General Manager, DOWASCO
Mr. Peter Bannis, Cable and Wireless
His Lordship Bishop Gabriel Malzaire’
Mr. Mathias Lestrade, Police Commissioner
Mrs. Sharon Pascal- Director of Tourism
         Director of Industry Ag.
Mr. Michael Eugene- Industry Officer
Mr. Gerry Aird- Managing Director- HHV Whitchurch & Co Ltd.
Mr. Henry Shillingford- Member, SHAPE
Mr Andrew Armour- Manager Anchorage Hotel
Mrs. Judith Pestaina- Garraway Hotel
Mr. Benoit Bardouille – Manager, Dominica Port Authority
Mr. Yvor Nassief- Managing Director, Jewelers Int’l. Duty Free Emporium
Mr. Phillip Nassief- Chairman, Fort Young Hotel
Dr. Lennox Honychurch- Anthropologist/Historian
Mr. Eric Hypolite, Director of Forestry
Mr. Gregory General Manager, DEXIA
Appendix: U1
DOWASCO’S CURRENT TARIFF STRUCTURE – MAY 2005

METERED SUPPLY

Domestic
- Fixed service charge per month $10.00
- For 0 – 1000 gallons per month 8.80
- For more than 1000 gallons per month 8.80 per month

Commercial & Industrial
- Fixed service charge per month $20.00
- For 0 – 1000 gallons per month 11.80
- For more than 1000 gallons per month 11.80 per 1000

Stand pipes
- Fixed service charge per month $ 20.00
- Flat rate per stand pipe per month $270.00

Bulk Water Shipment
- Water delivered to ships $20.00/1000 gallons
- Water delivered to bulk carriers $10.00/1000 gallons

UNMETERED SUPPLY
- For property with one fixture $25.00 per month
- For property with more than one fixture $42.00 per month

SEWERAGE
- Flat rate $10.60 per month
DOWASCO’S CURRENT TARIFF STRUCTURE – MAY 2005 CONT’D

MISCELLANEOUS CHARGES

Connection Fee (Minimum)

- Sewer Normal $500.00 $250.00
- Water $240.00

Reconnection Fee

- Sewer & Water $100.00
- Service call for turning on water $100.00

Meter Testing Fee

- With a bore of less than 2” $50.00
- With a bore of more than 2” $75.00
Customers of Electricity are hereby notified that in accordance with the provision of the Electricity Supply Act 21 of 1996 and all amendments thereto, there will be no change in the base tariffs currently in effect, in conformity with Section 26(3). The following rates will continue to apply to all bills issued on or after February 1st, 2005.

**DOMESTIC**

Domestic rate applies to all electricity supplied to premises used exclusively for private residential purposes in cases where the consumers concerned had not requested in writing to be charged at the Lighting rate as follows:

A charge of 59.2 cents per kilowatt-hours in any month and 68.4 cents per kilowatt-hour for each kilowatt-hour in excess of 50 kilowatt-hours in any month subject to a minimum monthly charge of $2.50.

**COMMERCIAL**

Commercial rate applies to all electricity supplied to any premises not being used exclusively for private residential purposes and not being premises to which the Industrial or Hotel rates are applicable in cases where the consumers concerned had not requested in writing to be charged at the Lighting rate as follows:

A service charge of $4.32 per month per kVA of installed capacity plus 72.7 cents per kilowatt-hour in any month subject to a minimum monthly charge of the service charge.
**INDUSTRIAL**
Industrial rate applies to all electricity supplied otherwise than for electric lighting to any premises on which there are installed for the purpose of industry, electric machinery or equipment having an aggregate maximum power rating of not less than 5kVA; as follows:

1) A service charge of $4.32 per month per kVA of installed capacity
2) For electricity supplied between the hours of 6:00a.m to 10:00p.m at 64.7 cents per unit
3) For electricity supplied between the hours of 10:00p.m and 6:00a.m at 59.5 cents per unit; provided that a consumer to qualify for the rate under (3) shall give the company not less than three months notice of his intention.

**HOTEL**
Hotel rate applied to all electricity supplied to premises used as hotels and guesthouses with a minimum number of ten (10) rooms as follows:

A service charge of $4.32 per month per kVA of installed capacity plus 64.7 cents per unit subject to a minimum monthly charge of the service charge.

**LIGHTING**
Lighting rate applies to all electricity supplied solely for electric lighting purposes at 72.7 cents per unit subject to a minimum monthly charge of $20.00.
**STREET LIGHTING**
Street Light rate applies to all electricity supplied for the purpose of lighting the streets and roads mainly at nights throughout the Commonwealth of Dominica.

**FUEL SURCHARGE**
In addition to the charges set out above, a fuel surcharge will be applied to each unit consumed at a rate to be calculated and published monthly.

JOEL HUGGINS   NATHANIEL GEORGE   Date: February 1, 2005
**Appendix: U3**

**Number of fixed Telephone lines and the percentage of fixed lines in the capital, Roseau**

<table>
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<th>Customer Category</th>
<th>Roseau</th>
<th>Dominica</th>
<th>% of Fixed Lines in Roseau against total lines in Dominica</th>
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<tr>
<td>Business</td>
<td>1,882</td>
<td>2,989</td>
<td>63%</td>
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<td>Residential</td>
<td>3,879</td>
<td>14,526</td>
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<tr>
<td>Other</td>
<td>1,005</td>
<td>1,916</td>
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<td><strong>Total</strong></td>
<td><strong>6,766</strong></td>
<td><strong>19,431</strong></td>
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**Fixed line capacity in Roseau**

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<th>Type of Capacity</th>
<th>Ports</th>
<th>% of operating lines on the Roseau Exchange versus available ports</th>
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<td>Equipped Capacity</td>
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<td>78%</td>
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<tr>
<td>Wired Capacity</td>
<td>8,960</td>
<td>76%</td>
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</table>

**Fixed line capacity in Dominica**

<table>
<thead>
<tr>
<th>Type of Capacity</th>
<th>Ports</th>
<th>% of operating lines in Dominica versus available ports</th>
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</thead>
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<tr>
<td>Equipped Capacity</td>
<td>25,054</td>
<td>78%</td>
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<tr>
<td>Wired Capacity</td>
<td>32,560</td>
<td>60%</td>
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* Equipped Capacity – Ports readily available for use
* Wired Capacity – This refers to ports which can be available with the addition of customer associated hardware to existing frames at the Central Office
Appendix: E1

Saffir/Simpson Hurricane Scale

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<th>Category</th>
<th>Central Pressure mean (millibars)</th>
<th>Winds mph (km/h)</th>
<th>Surge (ft)</th>
<th>Damage</th>
<th>Example of Storm</th>
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<td>1</td>
<td>980 or more</td>
<td>74-95 mph (119-151 km/h)</td>
<td>4-5</td>
<td>Minimal</td>
<td>Anges 1972</td>
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<tr>
<td>2</td>
<td>965-979</td>
<td>96-110</td>
<td>6-8</td>
<td>Moderate</td>
<td>Kate 1965</td>
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<tr>
<td>3</td>
<td>945-964</td>
<td>111-130 mph (177-209 km/h)</td>
<td>9-12</td>
<td>Extensive</td>
<td>Elena 1985</td>
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<tr>
<td>4</td>
<td>920-944</td>
<td>131-155 mph (210-248 km/h)</td>
<td>13-18</td>
<td>Extreme</td>
<td>Hugo 1989</td>
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<tr>
<td>5</td>
<td>Less than 920</td>
<td>More than 155 mph (248 km/h)</td>
<td>More than 18</td>
<td>Catastrophic</td>
<td>Gilbert 1988</td>
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Source: http://cdera.org/FactSheet/hurricane.htm
Appendix: E2

RAINFALL DATA

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Source: Meteorological Office, Canefield Airport
Appendix: E3

WIND SPEED IN KNOTS
(1995-2004) \(^7\)

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\(^7\) Source: Meteorological Office, Canefield Airport
WIND DIRECTION IN DEGREES

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* Source: Meteorological Office, Canefield Airport
Appendix: E5

A listing of Environmental Agreements and Laws

International conventions

Environmental Conventions

Basel Convention, i.e. Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, (entered into force on 03 08 1998)

Cartagena Convention, i.e. Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (entered into force on 05-NOV-90)


Convention on Biological Diversity (entered into force on 05-JUL-94)

CITES, i.e. Convention on International Trade in Endangered Species of Wild Fauna and Flora (entered into force on 02-NOV-95)

Amendment to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Part.XI) (entered into force on 02-NOV-95)

Framework Convention on Climate Change (entered into force on 21-MAR-94)
International Convention for the Regulation of Whaling (entered into force on 18-JUN-92),

Protocol to the International Convention for the Regulation of Whaling (entered into force on 09-JUL-81)

International Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, particularly in Africa, (entered into force on 08 03 1998)

Protocol on Substances that deplete the Ozone Layer (entered into force on 29-JUN-93)

Amendment to the Montreal Protocol on Substances that deplete the Ozone Layer (entered into force on 29-JUN-93)

Law of the Sea Conventions


Convention on the International Maritime Organization (entered into force on 18-DEC-79)

Convention on the International Regulations for Preventing Collisions at Sea (entered into force on 15-MAR-78)

International Convention for the Safety of Life at Sea, (only signed in 17-JUN-60)

International Convention on Oil Pollution Preparedness, Response and Co-operation, (entered into force on 31 11 2001)


Convention of the World Meteorological Organization (entered into force on 22-MAR-80)

Convention on the Prohibition of Military or any other Hostile Use of Environmental Modification Techniques (entered into force on 09-NOV-92)

National environmental laws

Proclamation Made under Section 13 of the Wild Birds Protection Ordinance of 12 January 1931 Ordinance (Animal species protection/management, hunting/management/use of harvestable species)

Protection of Animals Ordinance, 1935 (An Ordinance to provide for the prevention of cruelty to animals)

Crapaud Ordinance, 1939 (An Ordinance to provide for the Protection and Preservation of Crapaud (Lepto Dactylus Follax) and to Control the Export thereof)
Pesticides Control Act, 1974 (An Act to provide for the Control of the Importation, Sale, Storage and Use of Pesticides)

National Parks and Protected Areas Act, 1975

Forestry and Wildlife Act, 1976 (An Act to provide for the protection, conservation and management of wild mammals, fresh water fishes amphibians, crustaceans and reptiles, and for purposes connected therewith)

An Act to provide for the Establishment of a Body corporate for the Carib Reserve, to make Provision for the Administration of the Reserve and for Matters connected therewith Carib Reserve Act, 1978

National Parks and Protected Areas (Cabrits National Park) order, 1986

Fisheries Act, 1987 (An Act to make provision for the promotion and regulation of fishing in the fishery waters of Dominica and for matters incidental thereto and connected therewith)

**National parks, protected areas and heritage sites**

Terrestrial

Morne Trois Pitons National Park (UNESCO site: several crater lakes and waterfalls, including the Emerald Pool, established in 1975)

Syndicate Parrot Preserve, established in 1989

Cabrits National Park (home to the partly-restored Fort Shirley, and also a marine reserve, established in 1985),
Forest reserves

Northern Forest Reserve (oceanic rainforest and is also famous as the home of Dominica's national bird, the rare Sisserou Parrot; established in 1977)

Stewart Hall Water Catchment (protected forests, established in 1975)