

Part 1:

NATIONAL PLANNING FRAMEWORK

November 2018 | DRAFT FOR PUBLIC CONSULTATION

TABLE OF CONTENTS

Section 1: Introduction	1	Section 6: Circulation & Transportation	37	
1.1 Overview	1	6.1 Comprehensive Transportation Plan		
1.2 Background	2	6.2 Corridor Plans		
1.3 Purpose	2	6.3 Street Hierarchy	41	
1.4 Why Plan Now?	2	6.4 Roadway Maintenance & Congestion Management	42	
1.5 Plan Organisation	4	6.5 Parking Standards	42	
1.6 Contents of Each Section	4	6.6 Public Transportation	44	
1.7 Development Plan Update Process	4	6.7 Bicycle / Pedestrian Facilities	46	
		6.8 Water Taxi / Ferries / Tenders	47	
Section 2: Vision	6	6.9 Sea Ports	48	
2.1 Vision	6	6.10 Airports	49	
2.2 Strategic Objectives	6			
		Section 7: Infrastructure	51	
Section 3: Zoning	9	7.1 Infrastructure Fund	52	
3.1 Agricultural Zone	11	7.2 Capital Improvement Programme	53	
3.2 Residential Zones	12	7.3 Solid Waste	54	
3.3 Commercial Zones	15	7.4 Septic Tanks / Sewer	56	
3.4 Industrial Zones	1 <i>7</i>	7.5 Stormwater / Drainage	57	
3.5 Institutional Zones	19	7.6 Potable Water	59	
3.6 Tourism Zones	20	7.7 Electricity & Street Lighting	60	
3.7 Planned Area Development	22	7.8 Communication	62	
3.8 Open Space	23	7.9 Fuel / Propane Gas		
3.9 Coastal Mangrove Buffer	24			
3.10 Coastal Zone	25	Section 8: Design	65	
		8.1 Site Design	66	
Section 4: Overlay Zones	27	8.2 Building Design	68	
4.1 Natural Resource Preservation Overlay	27	8.3 Public Realm	69	
4.2 Airport Approach Overlay	29	8.4 Walls and Fences	69	
4.3 Heritage Preservation Overlay	30	8.5 Commercial Signage	70	
4.4 Land Subject to Acquisition Overlay	31	8.6 Wayfinding Signage	71	
		8.7 Public Art	72	
Section 5: Area Plans	33	8.8 Comprehensive Design Guidelines	73	
5.1 Seven Mile Beach Tourism Corridor Area Plan	34			
5.2 Future Area Plans	35			

Section 9: Natural Resources	75			
9.1 Environmental Preservation				
9.2 Coastal Zone Management				
9.3 Sustainable Design and Construction	82			
9.4 Aggregate / Quarry Operations				
Section 10: Community Facilities	85			
10.1 Education Facilities	86			
10.2 Health Care Facilities	87			
10.3 Multi-Purpose Facilities	88			
10.4 Public Safety Facilities	88			
Section 11: Parks, Recreation & Open Space	91			
11.1 Comprehensive Parks, Recreation & Open Spaces Plan	92			
11.2 Funding	94			
11.3 Lands for Public Purpose	94			
11.4 Performance and Design Standards	95			
Section 12: Economic Element	97			
12.1 Employment Facilities	98			
12.2 Tourism Land Use Policies	100			
12.3 Cruise Ship Facilities	102			
12.4 Tourism Attractions & Facilities	103			

Appendix 1: Summary of Action Items

Appendix 2: Background Document Sources







1. INTRODUCTION

1.1 Overview

The Central Planning Authority, under mandate of section 5(1) of the Development and Planning Law (2017 Revision) has drafted this National Planning Framework as part of a comprehensive policy for land use in Grand Cayman. This document is the first of three components that will collectively constitute The Development Plan. These components are:

NATIONAL PLANNING FRAMEWORK

Overarching Vision, Goals & Objectives for Grand Cayman.



AREA PLANS
Detailed policy and guidance for identified areas (see Section 5).



ZONING MAP, REGULATIONS AND GENERAL PLAN Development Guidelines and legislative version of the Plan.

The establishment of an overall series of Goals and Objectives is the first stage of PlanCayman and is set out in this document; the *National Planning Framework*. The remaining parts of the Plan will follow on from this and seek to implement these broad objectives.

Area Plans will be prepared one after another, over the 5-year Plan period and public engagement will be a key part of the preparation process. In recognition that the Island is constantly evolving PlanCayman will be reviewed after 5 years to ensure that its various components, including the National Planning Framework and the Area Plans, remain relevant and up-to-date.

At this stage PlanCayman is focused solely on Grand Cayman although it is anticipated that, in due course, the approach may be extended to the Sister Islands, as appropriate.

1

1.2 Background

The Development Plan is intended to be a long-range comprehensive plan used to guide physical development and the overall use of land on Grand Cayman. The purpose of the plan is to assist residents, developers, government agencies and the Central Planning Authority through the development process by presenting the Island's goals and objectives. The first Development Plan was adopted in 1977 and was revised in 1997. Proposed amendments were submitted in 2002, however were never adopted. Whereas the previous Development Plans contained broad statements, this review process will set out both strategic goals as well as specific implementation strategies, including amended legislation.

1.3 Purpose

The purpose of the National Planning Framework is to serve as a roadmap for moving forward through the Development Plan review process. The National Planning Framework outlines the goals and objectives that have been identified as being of national importance for the use and development of land in Grand Cayman. In doing so it creates a strategic framework for the development of specific proposals and policies within the remaining components of The Development Plan. These then work in tandem with amendments to associated laws and regulations to effect these proposals and policies on the ground.

1.4 Why Plan Now?

The Cayman Islands are changing. From the "Islands that time forgot" in the 1950's Grand Cayman is now a major financial centre and tourism destination that has experienced rapid population growth. Significant development continues to take place throughout Grand Cayman with new homes, hotels, office buildings and the construction of new roads and other supporting infrastructure.

GROWING POPULATION

Few communities have seen their population grow at the rate experienced in Grand Cayman since the 1950's. There are 8,000 more people living in the Cayman Islands than there were just 5 years ago and the Islands' estimated total resident population of 63,415 (fall 2017) is the highest ever recorded. The Cayman Islands have one of the highest rates of migration in the world and now support more than 130 nationalities. This has a huge impact on the environment, infrastructure and the community of the Cayman Islands.

ENVIRONMENTAL PROTECTION

Grand Cayman boasts a variety of natural assets such as mangrove wetlands, scenic coastlines and open spaces. They not only provide important ecological functions and habitats for wildlife but they are vital to the character of the island and provide protection from storms. As Grand Cayman grows there is increasing pressure on these natural resources and so it is important that growth and development is balanced with protection of the natural environment.

ECONOMIC STABILITY

The tourism and financial services industries have driven the economy of the Cayman Islands for decades and have been central to the success of the islands. These industries need to be supported by providing the necessary facilities and environment for them to prosper. Stable economies also need diversity and so other emerging economic sectors, such as healthcare and high-technology, should equally be encouraged and supported.

PLACE QUALITY

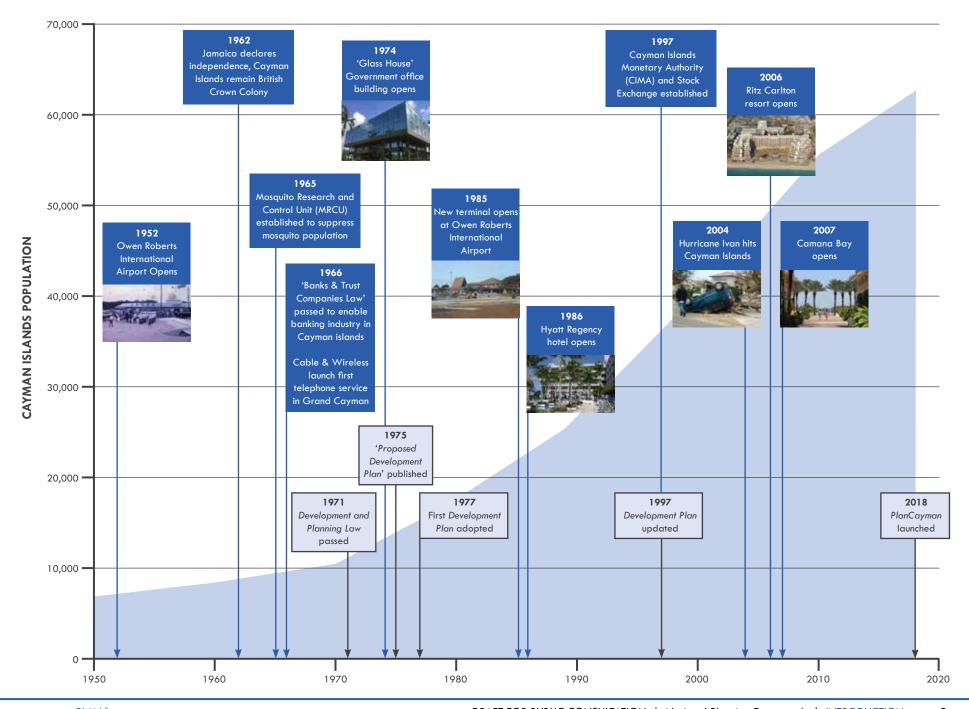
Great communities have attractive and comfortable places where people can meet, interact, relax and enjoy themselves. Grand Cayman has a number of places with these characteristics but too many of our streets and public spaces lack the quality and character that should be expected.

TRANSPORTATION CHOICES

Grand Cayman has grown and developed around the automobile and the vast majority of trips around the island are made by car. This dependence on private vehicles contributes to congestion, decreases air quality and negatively impacts health. Safe and appealing alternatives are required, such as public transportation, walking and cycling. If properly planned and supported these forms of transport can be enjoyable, non-polluting and efficient.

This Development Plan review is an opportunity to guide the future of Grand Cayman. The National Planning Framework builds on information and views gathered during previous public outreach programmes and studies and sets out a long-term vision for Grand Cayman.

Figure 1.1 (opposite): Cayman Timeline



1.5 Plan Organisation

The National Planning Framework consists of twelve sections including this Introduction outlining goals and objectives for each given subject. These elements are organised as follows:

- 1. Introduction
- 2. Vision and Strategic Objectives
- 3. Zoning
- 4. Overlay Zones
- 5. Area Plans
- 6. Circulation and Transportation
- 7. Infrastructure
- 8. Design
- 9. Natural Resources
- 10. Community Facilities
- 11. Parks, Recreation and Open Spaces
- 12. Economic Element

1.6 Contents of Each Section

In order to better inform, prepare and involve the residents of Grand Cayman as key stakeholders in this process action items have been included where possible. These are intended to serve as suggestions on how the more strategic goals and objectives could be implemented.

Goals, Objectives and Action Items - as articulated in this National Planning Framework - are defined as follows:

- Goal A Goal is a description of the general result that the Island seeks to achieve through the implementation of a revised Development Plan. One or more Goals are provided in each section.
- Objective An Objective is a specific condition that serves as a concrete step toward attaining the goal. Objectives are intended to be clearly achievable and when possible, measurable. There are one or more Objectives for each Goal.
- Action An Action Item is a tool intended to help achieve a specified Objective.

1.7 Development Plan Update Process

The broad goals of the Development Plan are set out within this National Planning Framework. As it is these goal statements which will guide the Development Plan review process, it is critical that the public understand their origins. The goal statements have been distilled from previous outreach programs such as 'Vision 2008' and the '2002 Development Plan Review'. Building upon this strong foundation of public dialogue was an important start for the current Development Plan review. This background information was compiled into the National Planning Framework by Planning Department staff under the direction of the Central Planning Authority.

Document Review:

The documents consulted include, but are not limited to:

- Vision 2008-The National Strategic Plan
- 1999 Proposed Development Plan Amendments
- 2002 Development Plan District Vision Statements
- 2002 Development Plan District Special Issue Committees
- National Environmental Framework
- CH2M-Hill Aggregate and Fill Study
- Cayman Islands Climate Change Policy, 2011
- National Solid Waste Management Strategy, 2016
- National Culture & Heritage Policy 2017-2026
- National Energy Policy 2017-2037
- National Tourism Plan (Draft) 2018-2022

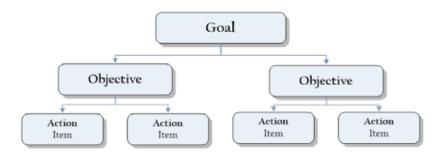


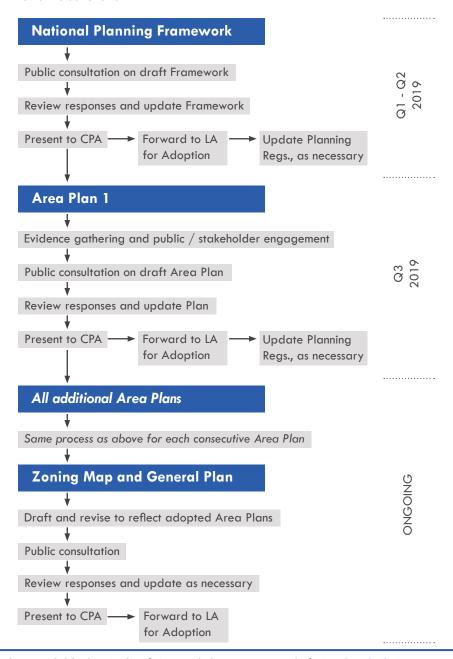
Figure 1.2: The hierarchy of Goals, Objectives, and Action Items

Technical Review:

This National Planning Framework has been prepared with previous input from various government agencies. These agencies will continue to be consulted throughout the preparation of the Development Plan to ensure that the proposed policies complement rather than conflict with their own particular goals. Previously consulted departments include:

- National Roads Authority
- Water Authority
- Department of Environment
- Department of Tourism
- Department of Agriculture
- Lands and Survey Department
- The National Trust
- Cayman Islands Fire Service
- Royal Cayman Islands Police Service
- Department of Environmental Health
- Mosquito Research and Control Unit
- Cayman Islands Airport Authority
- Department of Education
- Department of Economics and Statistics
- Government Information Services
- Prison Services
- Youth and Sports Department
- Office of Telecommunications

The process for preparing and adopting each stage of the Development Plan review is as follows:



2. VISION

2.1 Vision

The Development Plan seeks to achieve the following vision for Grand Cayman:

High-density developments and major commercial uses will be focused in identified suitable areas although locally-serving neighbourhood centres and smaller-scale tourism will be encouraged in other locations around the Island. Sustainable growth in residential development will be accommodated throughout Grand Cayman and facilitated by improved connections. Natural environmental assets will be protected and enhanced wherever possible.

2.2 Strategic Objectives

The following Strategic Objectives underlie the policies of the Development Plan:

COMMERCIAL CENTRES



Focus high-density commercial uses in identified centres and encourage locally-serving Neighbourhood Centres in suitable locations across the Island.

HOUSING



Provide safe, comfortable and affordable housing in appropriate locations throughout the island.

ENVIRONMENT



Protect important natural resources and enhance public open spaces wherever possible.

TOURISM



Identify suitable locations for both high-density tourist accommodation and facilities as well as small-scale hotel and tourist related activities in other parts of the island.





Improve connections across the island with new and upgraded public highways, incorporating facilities for pedestrians, cyclists and public transportation.

PLANNED AREA DEVELOPMENT



Allow for high-quality Planned Area Developments (PADs), such as Camana Bay and Health City, in suitable locations where they are compatible with the surrounding areas.

HEAVY INDUSTRIAL



Identify suitable locations for heavy industrial uses to be located and restrict the infringement of retail, office and residential uses in these areas.

DESIGN



Enhance buildings, street corridors and public spaces through Grand Cayman to provide attractive and comfortable places that everyone can enjoy.

7





3. ZONING

Assessing the appropriate use of land helps to facilitate long term decision making, minimises costs associated with public services and preserves the qualities that make an area special. Decisions made about how land is developed and used can define and add character to a place or conversely can spoil and detract from the character of an area for many years.

A land use plan is required to ensure that land is used to its full potential, with limited adverse impacts on neighbouring land owners. Ownership of land has always been an important part of the way of life in the Cayman Islands, hence a flexible approach to land zoning has been adopted as the policy of this National Planning Framework. Land use planning provides the tools to organise between competing and sometimes conflicting desires, to ensure orderly development of land.

This section of the National Planning Framework introduces an amended zoning framework to be incorporated into a revised Development Plan and associated Development and Planning Regulations.



Figure 3.1: The original 1977 Cayman Islands zoning map

Table 3.1 - Existing Zoning

The following table summarizes the existing zoning of land on Grand Cayman. It indicates that the majority of land is zoned as Agricultural / Residential, which totals 46% of the Island's land mass.

Zoning	Acres	Square Miles	Percent Total
Agricultural / Residential	22,226	34.7	46.1
Low Density Residential	15,172	23.7	31.5
Medium Density Residential	1,674	2.6	3.5
High Density Residential	694	1.1	1.4
Beach Resort / Residential	497	0.8	1.0
Hotel / Tourism	1,492	2.3	3.1
General Commercial	461	0.7	1.0
Neighbourhood Commercial	752	1.2	1.6
Marine Commercial	110	0.2	0.2
Heavy Industrial	350	0.5	0.7
Light Industrial	303	0.5	0.6
Mangrove Buffer	1,574	2.5	3.3
Public Open Space	1,037	1.6	2.1
Institutional	341	0.5	0.7
Airport Lands	289	0.4	0.6
Water Features (private canals & ponds)	732	1.1	1.5
Private Roads	536	0.8	1.1
Total	48,240	75.2	100

Source: Planning Department, 2018



Figure 3.2: Agricultural land capability in Grand Cayman, a summary of the 1996 University of the West Indies study.



Figure 3.3: Typical land uses in the Agricultural Zone that may not be compatible with higher density residential development.

3.1 - Agricultural Zone (AG)

Historically, the Agricultural / Residential zone was used as a tool to limit residential growth and encourage the development of agricultural uses. The majority of land currently zoned Agricultural / Residential is located in the undeveloped inland of the Island, especially in the districts of Bodden Town, North Side and East End. Furthermore, large sections of identified prime agricultural land has already been rezoned or developed to Residential and Commercial uses as George Town and Savannah have grown.

A 1996 study by the University of the West Indies identified significant Agriculture Class I and II lands (the highest capability for agriculture), located primarily in East End, North Side and over the Lower Valley water lens. Given the limited landmass of the Island, it is recognised that development pressures will likely continue for dry properties in these areas if they are not preserved. It is also acknowledged that the Agriculture industry plays a relatively minimal role in the economy of Cayman currently, but also that it is an industry which is growing and one which is a key component of Cayman's social fabric. It is important to note that once the land resource is developed the agricultural resource potential is ultimately lost. Therefore it is important to ensure that the necessary policies are in place to protect the remaining agricultural land, particularly those designated as Class I and II.

The Agricultural Zone (AG) is proposed for those properties that:

- 1. Are in their natural undeveloped state;
- 2. Are primarily used for agricultural purposes; or
- 3. Have the potential to be used for agricultural purposes because of soil and terrain characteristics.

This zone replaces the former Agricultural/Residential Zone.

Development on AG zoned land shall be limited to single family residences on large lots, agricultural related buildings and facilities, and other uses that are accessory to the primary agricultural use. The only commercial uses allowed in this zone are accessory and shall be those directly related to the primary agricultural use of the site (i.e., the selling of crops raised on the site).

Goal 1:

Ensure that prime agricultural land remains viable for agricultural use

Objective 1: Identify prime agricultural land and retain this land for future agricultural use.

Action Items

- Conduct an inventory of prime agricultural land and its current status
- Separate the "Agricultural/Residential" Zone into two separate zones, Agricultural and Estate Residential.
- Ensure existing development rights are preserved for current AG/Res property owners, but provide incentives to steer development away from the prime agricultural land.
- Ensure that water lenses are protected and made available for agricultural use.

Objective 2: Recognise the need for ancillary land uses in agricultural areas including but not limited to agricultural product processing, agritourism and the vending of agricultural merchandise produced on-farm.

Action Items

- Assess the impact of non-agricultural uses near prime agriculture land in relation to soil quality degradation and ground water quality and recommend measures to prevent further deterioration.
- Restrict adjacent land uses to the newly classified "Estate Residential" use and ancillary agriculture uses in order to mitigate conflicts between agricultural and residential uses.
- Ensure that areas for aggregate extraction are not sited on prime agricultural land.

Objective 3: Ensure that provision is made for horticulture.

- Identify prime horticultural land and support nursery growth.
- Department of Planning to work with the Department of Agriculture, the National Trust and local nurseries to identify prime land and assess long term needs.

3.2 - Residential Zones (Estate, Single-Family, Low-Density, Medium-Density, High-Density)

There are five proposed residential zones, with the primary differences between these zones being the types and densities of residential facilities allowed. The primary land use for all these zones is residential. However, other compatible uses such as parks, schools, community buildings, churches, and utility facilities, may be allowed on a case by case basis.

Home occupied businesses may also be allowed in the residential zones, provided they are not the primary use of the site and do not cause a significant negative impact on surrounding residences from noise, traffic, and other issues. Such businesses may include home offices, private music lessons, hairstyling, or some small manufacturing. Retail sales are not permitted in residential zones. An exception to this, as reviewed on a case by case basis, is the local tradition of home based "restaurants" that have traditionally served local food to the immediate neighbourhoods.

1. Estate Residential (ER)

This zone will address the need for large-lot single-family residences typically located outside of the urban areas of the Island. Accessory uses in ER zones may include small agricultural uses, including gardens, limited livestock raising, non-commercial stables, and limited agricultural production. These uses shall be limited to secondary uses of the site.

2. Single-Family Residential (SFR)

This zone will be developed for application in urban residential districts where only single-family residences are allowed. Duplexes and multifamily residences are prohibited in the SFR zone. The proposed SFR zone would be the first true detached residential zone on Grand Cayman.

- 3. Low-Density Residential (LDR);
- 4. Medium-Density Residential (MDR); and
- 5. High-Density Residential (HDR)

These zones allow for single-family, duplex, and multi-family residences at respectively increasing densities. Minimum lot sizes decrease as the permitted densities increase.

Residential zones occupy the top tier of the land use hierarchy, due to their importance on the social fabric of the Island. It is a stated goal of this document to afford residential areas the protection and opportunity to create unique places, with a sense of identity and ownership that accommodates a mix of incomes. A core strategy will be promoting development in these zones that is safe, vibrant and sustainable over multiple generations by drawing on various implementation strategies and policies.

At present, the absence of a defining policy and vision as to how the character of our neighbourhoods should be defined leaves these zones vulnerable to ever changing market forces. These can quickly change the character of an area to the detriment of existing residents. The identification of Planning Areas (Section 5) will address this issue by establishing a vision for the future of these areas, based on existing character and context, and will help to define the mix of housing types and zones in different parts of the Island.

Identified through this exercise is the need to improve the level of housing statistics being collected in order to better inform the planning process for the Island. Such statistics elevate the level of debate over housing and allow policy makers to determine if there is an under or over supply in a certain type of housing stock or if the levels are adequate given absorption rates.

Once the supporting data is collected and the relevant policy determined, questions such as are there too many two bedroom apartments on the Island can be answered and action taken such as insisting that all multi residential units have a mixture of units.

Another important aspect of residential zones is the need for affordable housing so that all members of society are provided with safe and comfortable housing options. In doing so it is important that these areas not be segregated from the rest of the community. An assessment will be conducted to determine the level of homelessness (i.e. persons unable to afford their own home) on the Island. In Grand Cayman the ever increasing cost of living, if not placed in check, forces residents to lower their acceptable living standards, as market pressures and costs put what was once the norm out of reach. Again there is recognised the need for creating a policy to address this matter, and then developing long-term strategies for converting this policy into implementation plans.

Goal 1:

Provide safe and comfortable housing options for all income levels while preserving high quality of life standards and a strong sense of "community" within our neighbourhoods.

Objective 1: Increase housing diversity to create safe, vibrant and unique neighbourhoods.

Action Items

- Rezone land adjacent to Agriculturally zoned land as "Estate Residential" which would reflect existing allowable densities and uses.
- Revise regulations to include new Agriculture (AG), Estate Residential (ER), and Single-Family Residential (SFR) zones.

Objective 2: Provide affordable housing that is integrated both physically and socially within the surrounding community.

Action Items

- Review the Planning Regulations to allow for smaller lot sizes and higher densities specifically for affordable housing, throughout Grand Cayman.
- Address the need for an Island-wide affordable housing policy, and associated implementation mechanisms.

Objective 3: Conduct an assessment of current residential unit capacity in order to determine the supply and distribution of residential units.

Action Items

- Create a forecast for long-term residential demand, and associated impacts on land use, building form, and tenure options.
- Review and revise, where necessary, existing residential zoning categories and requirements, including the allowed uses, names of the zoning categories, and design standards therein.

Objective 4: Provide for and regulate home-based businesses.

Action Items

 Adopt clear policies that address the regulation of home-based businesses.



Figure 3.4: Duplex development would be prohibited in the SFR zone but still allowed in LDR, MDR, and



Figure 3.5: A traditional Caymanian single-family residential property

Goal 2:

Ensure residential subdivision is well designed and protects natural resources.

Objective 1: Residential subdivision design shall embrace Grand Cayman's natural environment by retaining natural vegetation, key landscape features, and environmentally significant elements while controlling and retaining storm-water runoffs and protecting property from flood damage.

- Create design standards for new subdivision developments which take into consideration existing landscaping, permeability, variety and connectivity with surrounding developments.
- Update subdivision requirements to require a master grading plan and drainage plan.
- Require the submission of a tree, native plant, and habitat survey with all subdivision applications.
- Require developers to construct sidewalks that are sensitive to topographical and vegetative features prior to final approval of the housing scheme or subdivision.



Figure 3.6: Protection of sensitive areas such as canals and beach fronts would need to be addressed in subdivision design requirements.

3.3 - Commercial Zones (Neighbourhood Commercial, General Commercial, and Marine Commercial) & Mixed Uses

The are three proposed commercial zones for Grand Cayman.

1. General Commercial (GC)

The General Commercial zone is suitable for the higher density and intensity commercial developments typically found in urban core areas. This zone maximises site coverage and building height allowances while still permitting a mix of commercial and residential uses with a single structure. The primary use should remain commercial.

2. Neighbourhood Commercial (NC)

The Neighbourhood Commercial zone provides for low intensity commercial, retail, and/or office uses, with limits on building height and site coverage. Neighbourhood Commercial zones should include shops and businesses that service the local community. This zone is suitable for a mix of commercial and residential uses as part of an overall development master plan.

3. Marine Commercial (MC)

The Marine Commercial zone shall apply to waterfront commercial areas dedicated primarily to marine activities, such as activities associated with ships and shipping, charter boats and dive boats, water sport operations, cargo handling, and boat repair.

Mixed Uses in Commercial Zones

Mixed-use development refers to allowing more than one type of use in a building or set of buildings (i.e. retail on the ground floor, office on the second floor and residential on the upper levels). The creation of mixed use development is considered to better utilise land and helps to reduce the need for automobile dependency by locating residences close to workplaces. Generally it is a more pedestrian oriented form of development, and ensures an area remains vibrant after the end of the workday, while also encouraging the reduction of infrastructure, limiting sprawl, and providing opportunities for living, working, and socialising in the same location without the need of driving to the three different uses.

It is proposed that this type of development would be suitable in General Commercial and Neighbourhood Commercial areas and should particularly be encouraged in George Town in order to add more vitality and security outside of work hours. Other suitable locations for mixed-use commercial areas will be identified through the Area Plan process.



Figure 3.7: Neighbourhood scale commercial in the East End.

Goal 1:

Allow for mixed-use developments to create all-inclusive liveable communities.

Objective 1: Encourage the creation of vibrant and dense commercial centres by permitting developments that include a mix of land uses on a single site. These combinations should include residential uses above commercial space, ensuring residents have places to live, work and shop while reducing the need to travel.

Action Items

- Review the Planning Regulations to allow for true mixed use residential/office/commercial/retail developments in Commercial zones, as long as the residential use remains accessory to a commercial use. Consider necessary design standards to allow residential and commercial uses in close proximity.
- Identify locations for locally-oriented Neighbourhood Commercial centres that help to contribute to a 'neighbourhood heart' that serves as social and commercial crossroads for residents and visitors.
- Identify urban design guidelines and standards to create high quality, safe and accessible commercial centres and buildings.

The second of th

Figure 3.8: An example of residential uses above commercial premises on West Bay Road.

Goal 2:

Ensure adequate supply and distribution of office and commercial properties to meet the demands of residents.

Objective 1: Ensure an adequate supply of commercial land to meet market demand.

Action Items

 Conduct a commercial lands inventory in order to ensure an adequate inventory exists to meet the supply, absorption and future demand for commercial lands on Grand Cayman.

Objective 2: Encourage commercial development in district centres that are of a neighbourhood scale while supporting Primary commercial centres in Grand Cayman.

Action Items

 Identify suitable land parcels in each district, with consideration given to factors such as infrastructure, surrounding land uses, environmental features and economic conditions.



Figure 3.9: A sample layout of a multi-storey mixed use development, with commercial on the first floor and residential units on the upper floors. Source: http://www.city.burnaby.bc.ca

3.4 - Industrial Zones (Light Industrial Heavy Industrial, and Airport Industrial)

The Island's three proposed industrial zones are Light Industrial, Heavy Industrial and Airport Industrial. Non-industrial uses in these zones should be limited, and residential uses are prohibited due to the incompatibility with industrial activity. These limitations are necessary to reserve industrial land for future industrial needs.

The overarching goal for the industrial zones is to ensure the provision of protected areas for manufacturing and storage type operations at varying uses and intensity.

1. Light Industrial (LI)

The Light Industrial zone would accommodate uses such as storage and warehouses, agricultural related industry, marine related industry, and small scale industrial uses that are non-noxious and relatively benign in nature.

2. Heavy Industrial (HI)

The Heavy Industrial zone would accommodate a broad range of manufacturing and industrial uses that by their very nature produce noise, odours, hazardous materials, and heavy vehicle traffic.

3. Airport Industrial (AI)

This new zone will allow for the operation of Owen Roberts International Airport as well as accessory uses, including but not limited to cargo and fuel services, airport related food and hotel service, and offices such as the Cayman Airways headquarters and Immigration Department.



Figure 3.10: Heavy industrial uses in the George Town industrial district.



Figure 3.11: Light industrial uses

Goal 1:

Ensure adequate long-term supply of industrial land within existing industrial zones as well as creating light-industrial opportunities in outlying districts for local needs.

Objective 1: Ensure an adequate supply of industrial land to meet market demand.

Action Items

- An Industrial Lands Inventory should be conducted in order to ensure an adequate supply to meet the demand and absorption rates for industrial land on Grand Cayman.
- Identify suitable sites for future industrial areas through land use analysis and density regulations taking into consideration the build-out-scenario.

Objective 2: Encourage industrial uses to locate in industrial areas and restrict the infringement of retail, office, and residential uses into these areas.

Action Items

- Amend regulations prohibiting new residential development within industrial zones.
- Amend regulations limiting new commercial development within industrial zones to those that are an accessory use to industrial activity or service for industrial users (lunch restaurants, hardware, etc.).

Objective 3: Allow for locally serving Light Industrial areas throughout the Island.

Action Items

 Identify suitable land parcels in each district to be zoned Light Industrial, with consideration given to factors such as infrastructure, surrounding land uses, environmental features, and economic conditions.

Objective 4: Ensure industrial property has minimal impact on adjacent non-industrial uses and natural resources.

- Improve design standards to minimise noise, runoff, lighting, odour and emissions through improved design standards.
- Address land transport impacts between the George Town port and the Industrial Park.



Figure 3.12: Commercial/retail centres and residential developments in the industrial district remove valuable industrial land from the Island's inventory, and often lead to incompatible uses, most notably from the noise and large vehicles from the intended primary use of the district.



Figure 3.13: The George Town industrial area.

3.5 - Institutional (INS), Education (EDU) & Civic (CIV) Zones

In the past the Institutional Zone included education and civic facilities such as meeting halls, parks and cemeteries. These facilities will no longer be located in the Institutional zone but rather have their own zones in order to give residents more piece of mind as to the type of facility that could be located adjacent to their property.

1. Institutional Zone (INS)

Institutional Zones will be established to provide locations for hospitals, health care centres, correctional and rehabilitation facilities, police and fire stations.

2. Education Zone (EDU)

Education Zones will be established to provide locations for schools, and other educational related facilities.

3. Civic Zone (CIV)

Civic Zones will be established to provide locations for civic buildings such as public meeting halls/civic centres, as well as parks, and cemeteries. These facilities help to create social inclusion as they act as gathering places for members of the community.

The existing Institutional Zones are located within residential areas and therefore it is important that any proposed use not have a detrimental impact on neighbouring residential properties. In order to properly plan for these uses, an assessment of the existing uses and the demand for future uses will be conducted.

Goal 1:

Designate land throughout the Island to ensure adequately distributed institutional facilities in all districts.

Objective 1: Provide a range of institutional zoning options that can accommodate current and future institutional development on the Island.

- Conduct an assessment of all Civic buildings and uses, such as public meeting halls, parks and cemeteries and determine the Island's future demands for these facilities.
- Conduct an assessment of all existing education sites and determine the Island's future demands for these facilities.
- Conduct an assessment of all Institutional uses such as hospitals, prisons, police and fire stations, civic centres, shelters, etc., and determine the Island's future demands for these facilities.



Figure 3.14: John Grey High School, which is located in the current Institutional Zone to the south of George Town.

3.6 - Tourism Zones (Resort Residential, Neighbourhood Tourism, & Hotel Tourism)

There are three tourism related zones, which together can accommodate a range of densities and uses.

1. Hotel/Tourism (HT)

The Hotel/Tourism zones are areas that will see high-intensity tourist development including large resorts, hotels, restaurants, nightclubs, entertainment facilities, condominiums, and recreation facilities such as golf courses. Development will be carefully regulated to ensure that new buildings are generally related to the needs of the industry.

The overarching goals of the HT zone are:

- Orderly development, expansion and upgrading of facilities required to maintain a successful tourism industry;
- All development enhances the quality and character of the Cayman Islands' tourism accommodation;
- The prevention of the over-development of sites and to ensure that the scale and density of development are compatible with and sensitive to the physical characteristics of the site;
- To ensure proposals are not detrimental to the natural or visual quality of the area by reason of its location, size, design, or appearance;
- Minimal traffic impacts on surrounding properties and existing public roads;
- To ensure that proposals contribute to the public realm, where possible, by providing safe, attractive and comfortable spaces for walking and cycling;
- Waterfront developments are designed to avoid interference with natural coastal processes and reef systems;
- Adequate and appropriate landscaping and planting while encouraging native plantings;
- Significant natural features, stands of trees, and natural vegetation maintained;
- Adequate and unrestricted public access to the beaches and the sea, including fire and rescue vehicles;
- Adequate recreation amenities.

2. Resort Residential (RR)

The Resort Residential zone provides a transition between the Hotel/ Tourism zones and adjacent residential zones. Development within this zone will generally have the appearance of residential development in scale and massing.

The overarching goals of the RR zone are to ensure:

- Harmonious and compatible land use with adjacent properties and their zones;
- Sites and areas do not become overly dense by adopting amendments to the Developing and Planning Regulations that limit densities and site coverage;
- Project sites are aesthetically pleasing and compatible with surrounding land uses; and
- Safely designed projects are built to appropriate standards.

3. Neighbourhood Tourism (NT)

The Neighbourhood Tourism zone is a new zone which allows for small-scale hotels, condominiums, and resorts. The visual and physical impacts from these developments will be minimal. Development within this zone will generally have the appearance of Hotel/Tourism development, but will be less dense in scale and massing than those in the Hotel/Tourism zone. Development within this zone will include small-scale hotels and resorts and supporting commercial uses and apartments.

The overarching goals of the NT zone are:

- Development and design standards that are functional and safely designed and are compatible with surrounding properties;
- Developments that are built to appropriate densities through drafting revised density and site coverage standards;
- Aesthetically pleasing developments designed with sensitivity towards the surrounding landscape, environment and character of the area.

Goal 1:

Ensure sustainable, diverse, and appropriately scaled hotel and resort developments.

Objective 1: Guide the future development of high-density tourist accommodation and facilities into identified suitable locations.

Action Items

- Develop a long range plan and vision for the high-density tourism areas to protect product quality and guide the development of tourist accommodation and facilities.
- Create design standards and urban design guidelines that define, encourage and emphasize locally compatible development.
- Review and revise the design, height, and setback requirements to ensure that future development is compatible with the Island's historical architectural characteristics.
- Consult the Department of Tourism and other relevant agencies on all applications for tourist accommodation.

Objective 2: Create opportunities for new hotel and tourist related activities on other parts of the Island for the traveller who does not want high-density vacation opportunities.

- Review and revise, if necessary, existing land use laws and regulations for the Hotel Tourism and Beach Resort zones to allow for appropriately scaled development across the island.
- Explore and identify necessary regulation changes that encourage alternative tourism opportunities such as nature-tourism, agri-tourism and heritage tourism.
- Explore the feasibility and need of creating a Neighbourhood Tourism Zone for small-scale hotel operations.
- Create design standards and urban design guidelines that reflect the unique characteristics of lower-density tourism areas.
- Revise regulations for the height and setback requirements for the Eastern Districts.



Figure 3.15: The creation of the Neighbourhood Tourism zone would still allow for hotel development but at a reduced scale than what is allowed today, such as the Turtle's Nest Inn in Bodden Town.



Figure 3.16: Large-scale tourist based developments dominate the Seven-Mile Beach skyline.

3.7 - Planned Area Development (PAD)

A Planned Area Development zone (PAD) is intended to encourage innovation and flexibility in planning large development projects which incorporate multiple land uses. PAD's should provide a mixture of uses and housing types in a coordinated manner, that protect the site's physical and environmental characteristics.

PAD's may combine several land uses on a given site. These uses may include a specific combination of residential, commercial, institutional, industrial, open space and agricultural uses, and may occur among or within buildings as long as the uses are compatible with each other and with existing and potential uses surrounding the Planned Area Development.

Goal 1:

Provide a mechanism for quality master planned mixed-use developments.

Objective 1: With appropriate planning and design standards, allow for high-quality master-planned developments that are compatible with the surrounding areas and have adequate infrastructure within the development.

- Create the appropriate regulatory mechanism to allow for Planned Area Developments (PAD).
- DoP to identify standards to determine where PADs may be appropriate and the potential land uses that they may include, and revise regulations accordingly.
- Consider reviewing the threshold of 40 acres for the creation of a PAD for possible reduction to encourage growth in certain areas and the reduction of commutes.



Figure 3.17: Camana Bay, a well-designed Planned Area Development which incorporates a variety of land uses.

3.8 - Open Space (Public Open Space and Community Open Space)

The proposed Open Space zones contain two classifications that can be applied to both public (Public Open Space-POS) and privately owned (Community Open Space-COS) properties. The only allowable land uses for these properties are either active or passive open space.

Active open space can be defined as improved recreation spaces and facilities such as parks, playgrounds, ball fields, picnic areas, boat launches, and other such facilities.

Passive open space is typically undeveloped natural areas such as mangroves and natural beaches. Nature trails such as the Mastic Trail could also be classified as passive open space, while more structured trails such as the one at the Botanical Gardens would be considered active open space.

1. Public Open Space (POS)

Includes land already owned by Government including playing fields, public beaches, public parks, nature preserves, and established public rights of way.

2. Community Open Space (COS)

Includes land privately owned to which the immediate community has a right to access, including those lands required to be dedicated by subdivision developers (currently known as Land for Public Purpose).

Goal 1:

Preserve both publicly and privately owned open spaces for public enjoyment and protect them from any form of development.

Objective 1: Provide zoning classifications that incorporate the Island's active and passive open space facilities

- Prepare an inventory / map of all existing Public and Community Open spaces.
- Update the Zoning Map to include rezoning of all these sites.
- Amend the Planning and Development Regulations to include all existing Land for Public Purpose (LPP) and other open space into one of the open space zone classifications.
- Update the subdivision process to include a streamlined rezoning process for Open Space dedication.



Figure 3.18: Garvin Park, an important public open space in West Bay.

3.9 - Coastal Mangrove Buffer (CMB)

The Coastal Mangrove Buffer zone affords protection for existing mangroves in order to maintain both their storm buffer function and their ecological role. No development is allowed on property zoned CMB.

Goal 1:

Ensure the long-term protection of the Island's mangrove buffer from development pressure.

Objective 1: Implement appropriate planning tools to help protect the mangroves from future development.

- Review and amend the Planning and Development Regulations to ensure there are the proper tools in place to preserve the Island's coastal mangroves.
- Review the adequacy of the existing Mangrove Buffer zoning boundaries, with consideration given to buffer width, to ensure adequate protection of these valuable storm buffers and ecological resource.



Figure 3.19: Mangrove Buffer to the North Sound.

3.10 - Coastal Zone

Development which takes place in coastal waters around Grand Cayman has traditionally required a 'Coastal Works Licence'. This license is administered by the Department of Environment (DoE) with Cabinet approval. In future, decisions concerning works seaward of the mean high water mark or in, on or over Crownowned canals could be brought under the Central Planning Authority. They would need to be in accordance with national policy, land use considerations and advice from the DoE.

Works that typically take place in these areas include:

- Seawalls;
- Docks and jetties;
- Launching ramps and slipways;
- Groynes;
- Embedded moorings; and
- Excavation and dredging.

The overarching goal of the Coastal Zone is to ensure that development that takes place in these areas has the least possible impact on the marine environment and the context and character of nearby land-side uses. It is intended that existing marine protection designations will remain in place.

Goal 1:

Ensure that development taking place in, on or over Crown Lands below the high water mark are in accordance with national planning policy.

Objective 1: Implement appropriate planning tools to guide development in coastal waters.

- Identify considerations, principles and policies to guide development in Coastal Zones.
- Explore options for possible Coastal Zone boundaries, such as:
 - A uniform designation around Grand Cayman, or
 - Separate zones which reflect adjacent land-side land uses.
- Update the zoning map to include a Coastal Zone.
- Review and amend the Planning and Development regulations to ensure there are proper tools in place to preserve the Island's coastline and waters.
- Create design standards for coastal works.
- Clarify the submission requirements, consultation arrangements and process for issuing permits for Coastal Zone applications.



Figure 3.20: Docks and jetties would sit within the Coastal Zone





4. OVERLAY ZONES

There are several special circumstances on Grand Cayman that require additional considerations above and beyond those of the underlying zoning classification. The Overlays do not change the underlying zoning of a site, but instead identify areas with special needs, such as building height limits within the airport approach area. The following section identifies the needed Overlays for the Island.

4.1 Natural Resource Preservation Overlay (NRPO)

The Natural Resource Preservation Overlay (NRPO) is a broad reaching zone that helps protect the Island's valuable natural resources. This is a new Overlay that encompasses several natural features, including, but not limited to:

- Applicable areas within the Central Mangrove Wetlands;
- Land above water lenses;
- Scenic coastlines; and
- Other areas with important natural and ecological features.

It should be noted that the Mangrove Buffer is still a zoning classification and should be used when designating areas along the coastline.

With the NRPO, the following measures apply:

- The underlying land use remains in effect.
- The ownership of the land will not be affected.
- Development which is consistent with the policies of this Development Plan and the Development and Planning Regulations will be permitted, although certain elements of the Natural Resource may be recommended for protection from development. Some additional design and submittal requirements will be required to help protect the property's natural resources.
- Mitigation measures may be required to offset development impacts
- Incentives will be adopted to encourage further protection of these resources when properties are developed.

The regulations developed for this Overlay will not prohibit the development rights of the underlying property. However, incentive policies should be established and adopted within the Development and Planning Regulations to best protect valuable natural resources. Incentives could include clustering

of development, transfer of development rights to properties that are non protected, or other alternatives.

Design and review considerations and requirements will also be enhanced in this Overlay to ensure development is compatible with protected natural areas.

Goal 1:

Provide a mechanism for the preservation and protection of key habitats, sensitive landscapes and vulnerable ecological areas.

Objective 1: Identify the Islands unique natural resources.

Action Items

Create a Natural Resource Preservation Overlay (NRPO) and identify
the properties that are included in this Overlay, such as the Barkers
area, the Central Mangrove Wetland, Lower Valley Forest, Salt Creek
Mangroves, the Mastic Reserve and any other ecologically important
lands.

Objective 2: Ensure that development is sensitive to natural resources and protects important natural and ecological features.

- Identify any features of these properties that should be recommended for protection from development.
- Where development is permitted, ensure that proposals within the NRPO are evaluated against appropriate environmental review standards and processes.
- Adopt development standards for any development within the Natural Resource Preservation Overlay, and address issues including but not limited to foundation construction techniques, road construction, site grading, drainage, and solid and liquid waste disposal.



Figures 4.1 and 4.2: The Natural Resource Preservation Overlay would be used to help protect areas like the Mastic Trail (above) and scenic coastlines (below) while, in certain situations, still allowing uses from the underlying zoning when properly mitigated.



4.2 Airport Approach Overlay (AAO)

The Airport Approach Overlay (AAO) is established to ensure safe and compatible land uses and design standards for buildings within the zone.

Design standards such as building height limits, proper lighting, and noise mitigation will be addressed. Also, a list of prohibited land uses should be identified because of the incompatibility with the operations of the airport facilities. It is the intent of this zone to maximise the safety for both the people in the structures on the ground as well as those in the aircrafts.

Goal 1:

Ensure the safety and compatibly of aircraft and the users within the airport approach.

Objective 1: Ensure adequate development restrictions in the approach and departure corridors for Owen Roberts International Airport.

- Provide for airport-specific safety and security issues in the Owen Roberts International Airport area, such as building height, lighting controls, roofing material glare, and perimeter security requirements.
- Adopt appropriate planning laws and regulations to create the Airport Approach Overlay.
- Identify those land uses that should be prohibited or restricted within the Airport Approach Overlay due to safety, noise, and public welfare concerns such as schools, hospitals, and fuel storage.



Figure 4.3: Non-compatible land uses and building heights would be prohibited in the area necessary for aircraft approach and take-off at Owen Roberts International Airport.

4.3 Heritage Preservation Overlay (HPO)

The purpose of the Heritage Preservation Overlay (HPO) is to promote and encourage the preservation, acquisition, redevelopment and/or replication of historically significant features, including but not limited to the following:

- · Historic sites, areas, and trails;
- Historic buildings and structures;
- · Rights-of-way, including access to the sea;
- Ship launching sites;
- Lighthouses;
- Shipwrecks;
- Cemeteries: and
- Archaeological sites.

The overarching goals of the HPO are to;

- Preserve and protect the established historical, architectural, or cultural character of the area;
- Preserve and promote a sense of place by incorporating traditional design and development patterns; and
- Preserve any significant aspect, appearance, vista or view of the area.

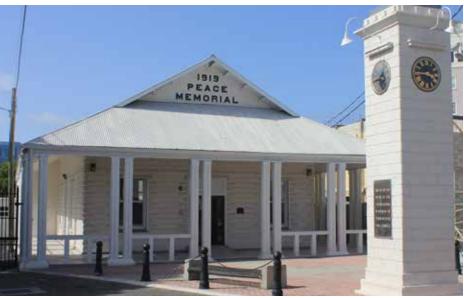


Figure 4.4: Historic sites and buildings would be protected with the application of the Heritage Preservation Overlay.

Goal 1:

Preserve and protect the Island's historical heritage sites and structures.

Objective 1: Ensure the long-term protection of the Island's unique historic areas that help define the history of the Island.

Action Items

- Identify areas in Grand Cayman with particular architectural and historic interest where there is a special character and identifiable sense of place.
- Rename the existing Historic Overlay Zone to "Heritage Preservation Overlay" (HPO) to better reflect the intent of protecting not only the historical structures, but also other heritage elements of the Island.
- Modify and expand the scope of the HPO in order to protect the integrity of the Island's heritage sites and structures for future generations.
- Create a description of allowable uses within the zone, acceptable alterations to heritage structures, and acceptable uses on the remainder of subject parcels.
- Identify any views and vistas that should be protected
- Incorporate a heritage review into all development applications within the Heritage Preservation Overlay with input from appropriate agencies such as the National Trust and National Museum.

Objective 2: Ensure the long-term protection of individual historic buildings, sites and properties throughout Grand Cayman.

- Expand the application of the Heritage Preservation Overlay, ensuring that it addresses National Trust designated properties, as well as other heritage sites throughout Grand Cayman.
- Identify buildings worthy of preservation due to their historic, architectural, traditional or other interest.
- Identify acceptable alterations and extensions to historic buildings.

4.4 Land Subject to Acquisition Overlay (LSAO)

There are several instances where it may be necessary for government to acquire private property for public use or preservation. The LSAO establishes a method to designate the property that the Government intends to acquire.

These land acquisitions would be necessary for items such as:

- Public parks and beaches;
- Preservation of environmentally sensitive land;
- Nature reserves and open spaces;
- Preservation of endangered and threatened species habitat;
- · Future road alignments; and
- Public and civic buildings.

Goal 1:

For Government land acquisitions to occur in a manner that is equitable and transparent to all concerned parties.

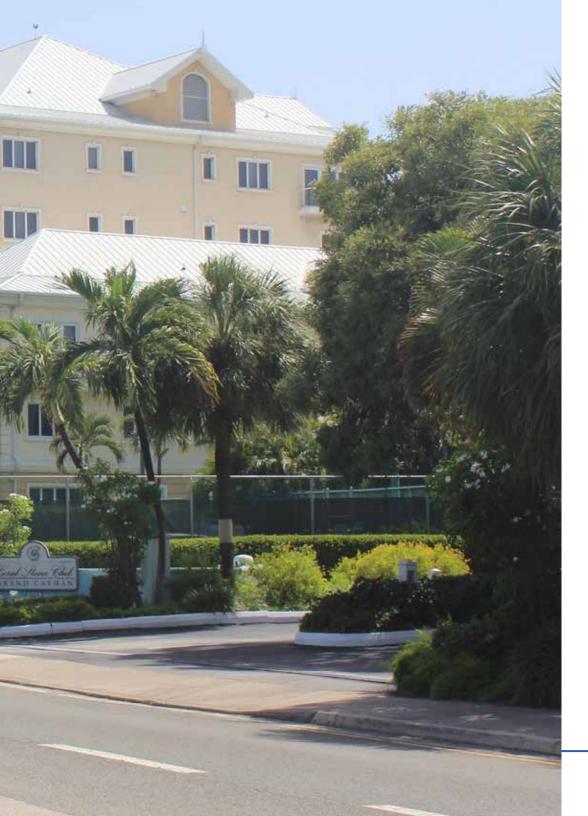
Objective 1: Provide the Government with an adequate tool for the acquisition of property that benefits the entire community, while protecting the rights of private property owners.

- Establish a LSAO and develop regulations and standards for the Overlay to be applied.
- Determine and map appropriate areas subject to LSAO as a separate schedule to the Development Plan map, and establish protocols to amend this schedule.
- Include an extensive research and public participation effort when determining land to be included in LSAO.
- Revise and clarify land acquisition procedures, policies, and laws.



Figure 4.5: Government land acquisitions may be required to enable future road construction.





5. AREA PLANS

From busy commercial centres and tourism corridors to tranquil residential neighbourhoods, the character of Grand Cayman varies significantly over a relatively small area. These places and neighbourhoods all make a vital contribution to the appeal of Grand Cayman as a place to live and work. It is important that the elements that make these places unique and special are recognised so that they can help to guide development in the future.

This section of the National Planning Framework introduces Area Plans, which focus on long-range, area-related policies and principles for future development. They are intended to implement the objectives identified within this National Planning Framework, and be consistent with the overall approach of PlanCayman, but may offer area-specific variations to meet the needs of that particular planning area.

Area Plans will be prepared one after another, over the 5-year Plan period, and public engagement will be a key part of the preparation process. Area Plans will also be subject to review to ensure that PlanCayman remains relevant and up-to-date.

5.1 Seven Mile Beach Tourism Corridor Area Plan

Seven Mile Beach is an internationally-recognised feature of Grand Cayman and a significant attraction for the many thousands of visitors who come to the island each year. Many Cayman residents also live and work in the area or visit the large number of shops and restaurants that are located here.

Significant growth along the Seven Mile Beach corridor has led to the development of a number of tall buildings while increasing traffic on the main route through the area - West Bay Road - has led to the construction of a parallel highway; the Esterley Tibbetts Highway. It is important therefore that the future land-use and infrastructure for Seven Mile Beach is properly planned, for both the short and long-range future. This will help to ensure that Seven Mile Beach remains an attractive place for both visitors and residents.



Figure 5.1: Seven Mile Beach is home to a number of tall buildings.

Goal 1:

Provide the proper planning tools to ensure the Seven Mile Beach Tourism Corridor remains vibrant both socially and economically.

Objective 1: Properly plan for land-use and infrastructure in the Seven Mile Beach Tourism Corridor for the short and long-range future.

- Prepare a comprehensive inventory of the Seven Mile Beach area, including but not limited to:
 - Land Uses and Densities;
 - Occupancy Rates;
 - Circulation and Parking;
 - Pedestrian facilities;
 - Bus and taxi facilities;
 - Wayfinding and business signage;
 - Design Standards/Guidelines;
 - Open Space;
 - Active street fronts;
 - View corridors;
 - Historic sites and resources;
 - Infrastructure; and
 - New planning applications or building permits.
- Conduct a public outreach programme with property/business owners, tourism representatives, government departments and the public to identify short and long range improvements for the Seven Mile Beach Tourism Corridor.
- Carry out a capacity modelling exercise to determine potential growth within Seven Mile Beach, based on current and alternative land use zoning.
- Develop a Seven Mile Beach Tourism Corridor Area Plan which includes policies, action items and a phasing plan.
- Draft plan shall be presented to stakeholders, government departments, and public for review and comment.
- Upon approval the Seven Mile Beach Tourism Corridor Area Plan will supersede all other related policies and regulations related to land use for this area, unless specifically noted in the Plan.

5.2 Future Area Plans

Upon completion of the Seven Mile Beach Tourism Corridor Area Plan work can commence on preparing detailed planning guidance for the other identified 'planning areas' in Grand Cayman. This includes central George Town, which will be prepared in accordance with the emerging George Town Revitalization Project.

Goal 1:

Ensure that development in all areas of Grand Cayman is carried out in accordance with a long-term vision and agreed development principles.

Objective 1: Prepare detailed Plans for all areas of Grand Cayman.

- Agree boundaries for future Area Plans.
- Follow the broad template of the Seven Mile Beach Tourism Corridor Area Plan for each future Area Plan, such as:
 - Prepare comprehensive inventory of the area;
 - Conduct public outreach with relevant stakeholders;
 - Carry out capacity modelling exercises;
 - · Present draft Area Plan for public review; and
 - Adopt Area Plan to provide future land-use and infrastructure guidance.



Figure 5.2: Proposed Area Plan boundaries





6. CIRCULATION & TRANSPORTATION

Transportation is one of the issues that almost every resident of a community has an opinion about, because it affects them everyday. Whether it is dealing with traffic congestion during the morning commute, trouble finding a parking space, the need to get around without car ownership, the transportation of goods and services for business owners, or even crossing the street by foot or bike in a safe manner, transportation and circulation is something that has a daily direct effect on all residents.

Existing Conditions

The recent rapid growth on Grand Cayman has put a strain on the Island's transportation network. The following is a summary of the existing transportation conditions on the Island.

- There were over 39,000 registered motor vehicles using approximately 380 miles of public and private roads in 2016. These figures continue to grow with the Island's population. A number of new roads are either being constructed or are planned including two major road projects aimed at alleviating commuter congestion (The Linford Pierson Highway and the East-West Arterial Road). The vast majority of all transportation trips are made by automobile.
- There is a distinct traffic pattern on the Island. Downtown George Town and the airport/industrial district serve as the key employment core for the entire Island. Traffic into these areas typically peaks between 7:30 and 9:00 a.m. Monday Friday. There are significant congestion points when travellers from the eastern districts and West Bay converge in the area during the peak hours. The congestion is intensified during the school year due to the large concentration of schools on Walkers Road.
- Crewe Road has significant traffic back-ups during the morning and evening rush hours.
- Dorcy Drive in the industrial park is consistently congested during working hours, and particularly busy between 11:00-1:00 on weekdays.

An additional "pinch point" during commute hours is on Harbour Drive in downtown George Town when cruise ships are in port. The combination of morning commuters going to offices in the area with the pedestrian activity of "cruisers" needing to cross the road to get to businesses on the east side of Harbour Drive creates additional congestion in an area that is already congested during peak hours on non-cruise ship days. This is typically not an issue in the evening peak as most cruise ships have left port by this time.

The evening commute of Downtown area workers heading home also creates significant congestion in George Town, Seven Mile Beach, West Bay, and western Bodden Town. This congestion typically starts before 5:00pm and alleviates around 6:30pm, sometimes later during peak tourist season.

The following Goals, Objectives, and Action Items are derived from public input, existing government studies, policies, and plans, practices that have proven successful outside of Grand Cayman, and observations of existing conditions on the Island. The Circulation and Transportation Element has been divided into ten sections, focusing on different areas of transportation planning.



Figure 6.1: Recent road construction along the Linford Pierson Highway.



Figure 6.2: Morning traffic along Walkers Road near the schools

6.1 Comprehensive Transportation Plan

The Island has many of the amenities that make up a comprehensive transportation system. However, many of these modes of transportation are designed or operated independently with no true comprehensive plan. There is a clear need for the development of a Comprehensive Transportation Plan (CTP) that addresses the Island's immediate and long-range needs for transportation by identifying all transportation related projects and how they relate to one another in a single planning document. For a relatively small island Grand Cayman had a significant investment in transportation infrastructure. The CTP, done in conjunction with an analysis of population and land-use development projections, can ensure that necessary transportation improvements and policies are identified, funded, implemented, or constructed.

Goal 1:

Develop an Island-wide Comprehensive Transportation Plan (CTP)

Objective 1: Address the Island's multi-modal transportation needs for both the short and long term.

Action Items

- Draft an Island-wide multi-modal Comprehensive Transportation Plan (CTP) that identifies Island-wide transportation goals.
- The CTP should document all major transportation related projects in one policy, coordinating all modes of transportation, scheduling, budgeting, and resources (staffing for design and construction, materials, and equipment).
- The CTP should address all modes of transportation (Pedestrian, bicycle, vehicles, public transportation, boats and air travel) and accessibility to these.
- The CTP should encourage the usage of electric and hybrid vehicles

Objective 2: Identify priority levels for implementation of specific projects identified in the CTP

Action Items

- As a final step of the CTP, earmark action items in priority levels of implementation
- Top priority action items shall be those that can be funded and started within 5 years of the Plan (5 year Transportation Improvement Plan) being adopted.

Goal 2:

Address the high-priority needs identified in the CTP

Objective 1: Ensure that locally focused transportation needs for both the short and long term are adequately planned for.

Action Items

- Establish multi-modal transportation plans for appropriate focus areas while ensuring these plans are consistent with the goals of the Long-Range Transportation plan and are compatible with nearby area plans.
- Identify high-need regions that require a detailed and site-specific transportation plan. Two examples are Downtown George Town and the Airport/Industrial Park area.
- George Town and the Airport/Industrial Park plans should be the pilot projects for these focused transportation plans.

Objective 2: Ensure the necessary resources are available to implement the high-priority issues of the CTP.

- Create a short to medium term (3-5 years) Transportation Improvement Programme (TIP) to implement the top priorities of the CTP.
- Using the CTP and the priority list identified in the plan, identify those projects that are to be funded and started within the next five years. This will be identified as the Transportation Improvement Programme (TIP).
- This plan shall be updated annually, adding an additional year each time, keeping the 5 year programme in place.
- The TIP is to be included as a section of the Island's Capital Improvement Programme (Section 7.2).

6.2 Corridor Plans

There are several transportation corridors on the Island that have unique land use and transportation characteristics. These corridors and the surrounding land uses provide a unique planning opportunity. The proper planning for transportation modes and design amenities can create a unique "sense of place" that highlights the corridor's surrounding land uses.

This section of the National Planning Framework helps define the procedures and scope of developing Corridor Plans for the Island.

Goal 1:

Develop Corridor Plans for those areas on the Island that have unique physical characteristics on and along a specific roadway or roadways.

Objective 1: Plan and coordinate the transportation, adjacent land use, aesthetic, and design element for select transportation corridors.

Action Items

- Identify and map corridors with unique land uses, characteristics, amenities, or themes. Examples may include Seven Mile Beach, Downtown waterfront roads, South Sound Road, Frank Sound Road, Eastern Ave., etc.
- Identify corridors that have unique characteristics that could warrant the preparation of a Corridor Plan.
- Establish a ranking system to prioritize corridor plans.
- Select the highest priority corridor to conduct a pilot corridor project.
- Develop corridor-level standards that address themes, signage, lighting, landscaping, branding, transportation amenities, and other items specific for these corridors through the creation of individual corridor master plans, developed with input from property owners, businesses, and other stakeholders.
- Plans are to address both transportation and land-use planning issues (with reference to the 'Planning Areas' identified in Section 5) and the relationship between the two.
- In order to represent the views of area landowners plans must be developed with significant input from property owners and key stakeholder/user groups from the immediate area of the corridor.
- Plans are to include an implementation plan.

Goal 2:

Re-evaluate the role of the immediate area's road network during the planning of major capital improvement projects.

Objective 1: Ensure that the former main corridors, such as West Bay Road, are being used at an appropriate scale upon the completion of new highways, such as the Esterley Tibbetts Highway.

- Assess the functionality and design of West Bay Road now that the Esterley-Tibbetts Highway is complete.
- Examine the feasibility of creating a pedestrian and transit focus for West Bay Road.
- Assess the functionality and design of Shamrock/Bodden Town roads upon completion of all phases of the East-West Bypass.
- Develop a plan for the future use of Shamrock/Bodden Town Roads.



Figure 6.3: The Esterley-Tibbetts Highway (foreground) is parallel with West Bay Road (with car in background). The future scale of use for West Bay Road should be examined, including looking at more pedestrian and transit friendly design amenities and traffic calming.

6.3 Street Hierarchy

The National Roads Authority (NRA) has developed a street hierarchy system to help define the design and amenities of the Island's road network. However, the Island's rapid growth and changing travel demands may require an update of the hierarchy. A review and possible revision should be conducted to ensure the network and design meets today's transportation needs.

Goal 1:

Ensure functionality and consistency in the design of the Island's road network.

Objective 1: Evaluate the street hierarchy classification system to ensure compatibility of future road needs and help define priorities for road improvements on both existing and future roads.

- Review and update the street hierarchy classification identified in the Roads Law (2005 revision) with clear definitions of amenities, rightsof-way needs, and access standards.
- Determine minimum standards and amenities for the identified classes, including Right of Way (R.O.W.), intersection standards, alternative mode facilities (bus lanes, bike lanes, sidewalks, crossings etc.), and the interaction between these alternative modes and automobiles.
- All roadways design standards shall include the typical location and criterion for underground utilities, including electric, telecommunication, sewer, and water.
- Use these road standards to help determine the R.O.W. for future planned projects in the CTP, identifying each new or improved roadway with one of the new classifications.
- Identify roads that do not meet updated standards and the allowable variations and include improvements to these roads in the CTP.
- Ensure that the road types are correctly related to the existing and planned zones.
- Evaluate the street hierarchy system in relation to development standards, regulations and laws and ensure compatibility.
- During the review of and prior to the adoption of the updated street hierarchy classification system, coordinate with appropriate agencies to ensure the compatibility of the system with the Island's development requirements.

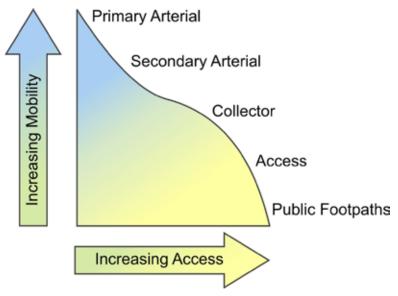


Figure 6.4: The existing Grand Cayman street hierarchy



Figure 6.5: The East-West Arterial; a Primary Arterial route.

6.4 Roadway Maintenance and Congestion Management

Maintenance of roadways is an important issue for any jurisdiction. The issue is even greater in Grand Cayman because of the large numbers of privately owned roads that often times fall into disrepair. Most people believe maintenance of these roads is the responsibility of the Government, when in reality it is up to the property owners to fix these roads. In addition to maintenance issues, these private roads are sometimes not designed to meet public road standards.

Another issue regarding the upkeep of the Island's roads is congestion. The major points of congestion are the main intersections. Improving the efficiency of these intersections with the latest in design and technology standards will improve the street network's overall efficiency.

Goal 1:

Ensure that all roads, private and public, are maintained to safe operating standards with seamless connectivity.

Objective 1: Coordinate the relationship of the existing and planned road network, including both private and public roadways.

Action Items

- Encourage seamless connectivity between both public and private road networks.
- Review and revise subdivision standards for roadways.
- Explore the feasibility of the incorporation of private roads into the public road network, especially those which contribute to a greater level of road network connectivity by the NRA, where necessary.
- Explore mechanisms to ensure private roads are maintained to a national standard, including securing funding sources for this maintenance.

Objective 2: Improve the efficiency of the street network, particularly in highly congested locations.

Action Items

- Develop trip reduction programmes for school traffic, especially along Walker's Road.
- Develop a plan to reduce the cruise pedestrian crossing impacts on Harbour Drive.

6.5 Parking Standards

The Island's Development and Planning Regulations define the size and number of parking spaces required for each type of development. However, with the increasing reliance of the single-occupancy vehicle and today's larger vehicles, these requirements are often times not adequate, most notably in the commercial districts.

One way to improve the situation would be to encourage the use of alternative modes of transportation. Parking for scooters/motorcycles and bicycles may encourage more use of these modes. Parking in downtown George Town is also a concern. With the limited amount of valuable real estate, alternative transportation and parking methods should be explored for this area.

Finally, parking enforcement laws should be addressed. Issues regarding private parking enforcement using clamping and the government's inability to curb some street-side parking should be addressed.

Goal 1: Improve the Island's parking standards.

Objective 1: Revise parking requirements that appropriately address the Island's diverse land uses, unique traffic characteristics and demands.

Action Items

- Update parking requirements to address alternative parking facilities and methods, including Electric Vehicle Charging Stations.
- Develop parking standards for shared parking facilities for nearby uses which have different peak parking hours.

Objective 2: Allow a variety of parking design standards that would maximise parking lot efficiency and safety, and are complementary to the associated land use.

- Develop parking design and circulation standards.
- Address limited/shared access points on to main roadways, parking layout options, drainage and landscape requirements, pedestrian access standards, building accessibility/service, and on-street parking.
- Incorporate access management standards into relevant development control standards to ensure consistent application.

Goal 2:

Encourage the use of alternative transportation modes.

Objective 1: Ensure provision of adequate facilities for non-car users.

Action Items

- Update development requirements to provide adequate facilities for alternative transportation modes.
- Develop requirements for designated parking areas for motorcycles/ scooters and bicycles.

Goal 3:

Address the parking needs and alternatives in central George Town.

Objective 1: Alleviate the parking shortage in downtown to ensure that it is accessible and can attract future development and re-development.

Action Items

- Develop a parking master plan for downtown George Town that addresses:
 - The feasibility of developing centrally located parking garages, metered on-street parking, park and ride facilities, and other related urban parking solutions;
 - Incentive programmes to reduce the total commuter vehicle trips into downtown;
 - A signage programme to direct downtown visitors to the outlying parking areas that are typically not full;
 - A comprehensive pedestrian network in the downtown to allow for off-site parking facilities; and
 - The provision of adequate public transportation facilities.

Goal 4:

Allow for the enforcement of a safe and effective parking programme.

Objective 1: Ensure that effective measures are implemented for the proper management of the parking programme.

Action Items

• Review and revise, if necessary, parking enforcement laws.



Figure 6.6: Bicycle parking should be incorporated into all commercial developments.



Figure 6.7: An example of an Electric Vehicle Charging Station.

6.6 Public Transportation

Grand Cayman established its first public transit system in 1998. There is a main bus dispatch centre located in downtown George Town, serving as the dispatch point for buses to all districts. According to the Cayman Islands Department of Tourism website (www.caymanislands.ky), as of August 2007 there are 38 mini-buses, often large passenger vans, operated by 24 licensed operators who serve nine routes. Daily service starts at 6 a.m. from the depot and the schedule is as follows from George Town to:

- West Bay every 15 minutes, 6 a.m. 11 p.m., Sunday Thursday; 6 a.m.
 midnight, Fri. & Sat. Fare is CI\$2 each way.
- Bodden Town Every 30 minutes, 6 a.m. 11 p.m., Sunday- Thurs.; 6 a.m. midnight, Fri. & Sat. Fare is CI\$2 each way.
- East End and North Side Every hour, 6 a.m. 9 p.m., Sunday Thursday and Saturday. On Friday, buses will operate until after Midnight. Fare: Cl\$5 each way.

The National Planning Framework makes recommendations to explore the potential improvements and possible expansions to the existing system. This would include an expansion of service for children, seniors and the disabled and the development of a programme to increase transit ridership.

Goal 1: Develop a long-term Public Transportation plan.

Objective 1: Improve the Public Transportation system to be efficient and meet the community's long-term needs.

- Determine the most efficient and responsive management for the Island's Public Transportation System.
- Conduct a cost-benefit study to look at alternatives, including status quo, Government ownership and management, the establishment of a quasi-public transportation authority, or the development of a privatepublic partnership.
- Develop a long range public transportation improvement plan that:
 - Evaluates the feasibility of different public transportation options including mode(s)/vehicle types, management and administration, routes, schedules and fares;
 - Helps reduce single occupancy vehicle trips by providing a convenient, reliable, accessible and comfortable alternative;
 - Ensures areas with high demand for trip origins and destinations are adequately serviced by public transportation;
 - Ensures proper planning for public transportation facilities such as transfer stations, shelters and dedicated travel lanes.



Figure 6.8: George Town bus depot.

Goal 2:

Improve the level of service of the public transportation system.

Objective 1: Make improvements to the public transportation system that will make it an attractive alternative to the use of personal vehicles.

Action Items

- Establish policies and guidelines that will lead to the expansion of public transportation.
- Explore alternative methods such as tram, trolley, or Bus Rapid Transit (BRT) service from residential and employment hubs.
- Incorporate public transportation options as a core component of tourism plans, creating an efficient way to move visitors around the Island while limiting the impact on the daily life of residents.
- Identify and develop public transportation stops, including providing shelters and bus pull-outs at key locations.
- Conduct a demand survey of current and potential riders to determine where service is most needed.
- Revise routes to adequately service the high-demand locations.
- Establish minimum standards for time between buses along major routes.
- Extend bus hours to evening hours, helping to reduce drink driving. Work
 with the bar/restaurant industry to establish a subsidy programme for
 this service.
- Develop design standards for shelters, accessibility, pull-outs and transit centres.

Objective 2: Ensure public transportation service for seniors and disabled people.

Action Items

- Assess the feasibility of a public transportation system catering to the needs of seniors and disabled people.
- Determine major origins and destinations for seniors and disabled people, such as medical care facilities.
- Establish defined routes for these key locations.
- Determine the feasibility of a subsidised transit system for services such as Dial-a-Ride.

Goal 3:

Encourage increased public transportation usage in conjunction with an expanded and improved network.

Objective 1: Develop policies and incentives to increase ridership.

Action Items

- Study policy alternatives that reduce reliance on personal automobiles.
- Increase bus options for schools to reduce peak hour traffic.
- Develop alternative transportation education programmes.
- Ensure that all major employment centres, residential neighbourhoods, and tourist attractions are adequately served by public transportation.

Goal 4:

Encourage expanded use of public transportation by tourists.

Objective 1: Develop policies and marketing programmes to expand public transportation ridership by tourists.

- Expand public transportation network to target tourist usage.
- Include a marketing and information programme in this expansion.
- Focus on airport, cruise port and hotel service.



Figure 6.9: Bus shelter.

6.7 Bicycle / Pedestrian Facilities

Newer major developments on the Island have been required to install sidewalks. However, there are often no sidewalks in front of developments constructed before the new regulations were in place. Therefore, the Island has an incomplete sidewalk network in most locations. High pedestrian areas such as downtown George Town and the Seven Mile Beach Corridor have significant gaps and capacity issues that need to be addressed.

The Island is also home to a large number of commuter, recreational, and competitive bicyclists. However, there are no existing designated bicycle routes, lanes or trails on the Island. The two new major roads, Esterley Tibbetts Highway and the East-West Bypass, have limited bicycle facilities incorporated into the design.

This section addresses needed improvements to the Island's pedestrian and bicycle facilities.



Figure 6.10: Sidewalks should be incorporated into all roadways, where feasible.

Goal 1:

Ensure adequate and safe facilities for pedestrians and cyclists.

Objective 1: Incorporate bike and pedestrian facilities into existing and planned roadway corridors.

Action Items

- Add bike and pedestrian facilities to existing major roadways where feasible, such as on existing roads which have an adequate right-ofway width.
- Develop a maintenance plan for bike lanes and sidewalks that includes removal of rocks and debris, trimming of landscaping, and filling of potholes.
- Install pedestrian crossing improvements for high-pedestrian traffic areas, such as downtown and along the Seven-Mile-Beach corridor, and at key points along highways and major roads.
- Map the location of existing sidewalks and identify a plan to increase connectivity, focusing on key tourist and other high-pedestrian usage areas (i.e. South Sound Road), as well as locations where there are only minor gaps in an otherwise continuous bike path or sidewalk.

Objective 2: Address the need for long range bicycle and pedestrian policy planning to encourage alternative transportation to cars.

- Implement policies that encourage bicycle and pedestrian travel.
- Create a master bike and pedestrian plan that includes elements such as design standards, identification of locations for facility improvements, funding sources, and priority/implementation schedule.
- Develop a mechanism which secures funding to complete high-priority sidewalk projects for immediate short-term improvement.
- Create bicycle parking requirements for all multi-family residential and non-residential developments and encourage installation of employee shower and changing room facilities for large employment centres.

6.8 Water Taxi / Ferries / Tenders

There is currently a small ferry service operating between Camana Bay and Cayman Kai / Rum Point but the greater utilization of the Island's waterways as an alternative transportation mode should be examined.

Also, it is important for the tourist industry to make sure that ferries and cruise tenders provide an adequate level of service to keep customer satisfaction at a high level.

Goal 1:

Provide alternatives to car commuting through sea-based options.

Objective 1: Explore long-range planning opportunities for seaside commuter service.

Action Items

- Examine the feasibility of establishing water taxi commuter service to alleviate rush-hour vehicle trips on the roadways.
- Evaluate the feasibility of a water taxi service combined with parkand-ride facilities from areas such as West Bay public beaches, Bodden Town dock, North Side/Rum Point, George Town, Airport / GT Barcadere, Camana Bay and Safehaven.



Ensure adequate facilities and services for moving all recreational passengers to and from shore.

Objective 1: Provide for the safe and efficient movement of passengers to and from shore.

Action Items

• Determine if the service level and shore side facilities are adequate and make short-term improvements, if applicable.



Figure 6.11: The Cayman Ferry.



Figure 6.12: Cruise tenders at the Royal Watler terminal.

6.9 Sea Ports (Cruise, Cargo, Aggregate)

The Island has one cargo port, in George Town, and another berthing station for the importation of petroleum products. According to the Cayman Islands Port Authority statistics, the amount of cargo being imported through the George Town port has increased from 189,000 tonnes in 2002 to 288,714 tonnes in 2017 (with a high of 379,000 tonnes in 2005). There were 477 cargo ship calls in 2016.

575 passenger ships totalling over 1.7 million passengers came to Grand Cayman's ports in 2016, utilising one of four passenger docks. Three are located in downtown George Town and serve as the primary cruise ship docks. The fourth is located in the eastern portion of the George Town district at Spotts Dock. This serves as the backup docking facilities when weather conditions prevent docking in George Town. At all these docks cruise ships rely on using tenders to ferry their passengers to the docks from their mooring locations.

The following goals address the long term needs and environmental sustainability of the Island's port facilities.



Figure 6.13: George Town port is home to both cruise and cargo ships.

Goal 1:

Address the long-term needs for sea port facilities on the Island.

Objective 1: Prepare for the long-term needs for port facilities of the Island.

Action Items

- Develop a master plan to determine the location, amenities, construction, and maintenance of all existing and future sea port facilities, including public boat launches and docks.
- In order to address the long-term aggregate shortfall on Grand Cayman, the Port Facilities plan should address the feasibility of siting a future aggregate importation docking facility.
- Through the CTP, address the need for adequate transportation routes/ modes for the movement of people and goods from port facilities in an efficient manner.

Goal 2:

Ensure safe and sustainable standards of marine facilities.

Objective 1: Minimise the environmental impact of all marine facilities and operations on aquatic flora and fauna.

- Review, revise, and draft regulations addressing standards for docks and jetties, marinas, and other marine accessory facilities.
- Adopt standards for marina fuel storage and dispensing, pump-out stations, and live-aboards.
- Establish policy and procedures to smoothly coordinate the review of permitting of all marine development projects.

6.10 Airports (Commercial, Private, Cargo)

The Island is serviced by Owen Roberts International Airport, which hosts several major airlines and acts as the hub for Cayman's flagship carrier, Cayman Airways. The airport is serviced by a 7,000 ft runway that is capable of landing wide body commercial aircraft.

The expansion and renovation of the airport is currently underway and is due to be completed in late 2018. It is the intent of the National Planning Framework to compliment these efforts being conducted by the Civil Aviation Authority and the Cayman Islands Airports Authority by planning for the long term airport needs of the island.

Goal 1:

Plan for long-range needs and alternatives for all types of airport facilities on the Island.

Objective 1: Prepare for the medium and long-term future of Owen Roberts International Airport (ORIA).

- Continue the planning and development of improvements in and around the current airport facilities.
- This plan should be done in conjunction with the Airport/Industrial Park Transportation Plan.
- Conduct analysis of the long-range role of the existing airport and, if necessary the need for a new airport site, land acquisition, and the land-use planning of properties near a potential facility.
- Examine the need and feasibility of the development of an additional airport facility, possibly for executive and private aircraft.
- Ensure that developments in the area surrounding the airport lands, and those within the approach zone do not impose a detrimental impact on the airport operations.



Figure 6.14: Redevelopment of the Owen Roberts International Airport terminal in Summer 2018.





7. INFRASTRUCTURE

Physical infrastructure is the backbone of a developed country's economy and its quality of life standards. These assets represent a long-term investment in both the physical, social, and financial development of a country. Assets of this nature require significant development time and funding and thus their impacts can easily span multiple generations.

In Grand Cayman, our infrastructure facilities such as wastewater, potable water, electricity, gas, and telecommunication facilities are often taken for granted. They can be thought of as the silent pillars of society, and as such get little attention in the press or in daily conversation with Island residents-unless they fail to meet expectations or design.

It is the intent of this section to ensure that physical infrastructure is developed on the Island in a cost effective manner that safely and efficiently serves the community in the long term; through proper planning and development and the funding of routine maintenance. In doing so this allows for full value realisation of these costly public investments

7.1 Infrastructure Fund

The Infrastructure Fund was established in 1997 for the purpose of providing funds for the development of roads and related infrastructure. Residential, commercial, and industrial developments on Grand Cayman currently contribute to the Infrastructure Fund at rates ranging from \$0.25 to \$4.50 per square foot, depending on the location of the development.

The future costs of each development, in terms of infrastructure, should be identified through impact assessments. This will help to mitigate or compensate for the potential effects of new development.



Figure 7.1: Schools are considered as 'soft' infrastructure.

Goal 1:

Ensure that adequate and equitable fees are being collected from developers in order to fund the capital improvement programmes (schools, parks, roads), and to maintain those facilities.

Objective 1: The infrastructure fee mechanism should fully recover all costs related to "hard" and "soft" infrastructure required by new development projects. "Hard" infrastructure consists of items such as road infrastructure, sanitary sewer infrastructure, potable water infrastructure and stormwater facilities. "Soft" infrastructure includes schools, emergency services, health care facilities and parks.

Action Items

- Update the Islands Infrastructure Fees, associated laws and policies.
- Evaluate true costs of all development types and ensure new development pays for the public cost of development, or funding earmarked in the CIP.
- Allow for credits for developers who contribute to the Island's infrastructure, such as school sites, parks, or road rights-of-way.
- Reduce infrastructure fees for developers in infill areas to encourage reinvestment.

Objective 2: To ensure that the burden of new development is not placed squarely on the Government and established residents and businesses.

Action Items

 Quantify the infrastructure needs of new developments through impact assessments to determine whether the Country or the developer should bear the burden of the costs or if there should be cost sharing.

Objective 3: Ensure that infrastructure fees are dedicated to specific accounts, and used for the purpose outlined in the CIP.

- Earmark infrastructure fees to be used for the construction, maintenance, and administration of necessary infrastructure.
- To the extent possible, infrastructure fees could also be used to construct
 the necessary infrastructure in the immediate areas surrounding the
 development. Fees can be used on a regional level to partially fund
 regional facilities such as large parks, police sub-stations, schools, firestations, etc.

7.2 Capital Improvement Programme (CIP)

Infrastructure on Grand Cayman is typically planned and constructed by the responsible agency. Although there is some level of coordination in most cases, it is often not formalised or mandated. This leads to difficulty in developing a comprehensive schedule and work programme. Often this is manifested in the form of increased cost, time, and inconvenience to the public, and may result in delays to other needed projects.

A comprehensive Capital Improvement Programme (CIP) looks to reduce these inefficiencies by coordinating public, quasi-public, and private infrastructure projects in a short-term funded project plan.

Typical elements of a CIP include:

- Transportation (The CIP will include the Transportation Improvement Programme as defined in the Transportation element of this Plan)
- Public facilities such as Fire Stations, Police Stations, Hurricane shelters, Schools, Libraries and Cemeteries
- Drainage and stormwater facilities
- Parks, recreation, open space, and beaches
- Cultural and historic resources
- Natural resources
- Housing
- Solid Waste
- Potable water
- Wastewater
- Communication
- Electricity
- Fuel and natural gas

Capital Improvement Programmes are not merely conceptual plans that may or may not be implemented, but rather are funded implementation plans that guide actual construction and/or design within a short-term planning window. Typical CIPs have a 5-year window, so funding, staffing, materials, and equipment availability can be accurately projected to a reasonable level of confidence.

The goals and action items outlined in this element will help Grand Cayman develop its first comprehensive Capital Improvement Programme. This document should be a 5-year plan, updated and re-adopted annually at the completion of the budget sessions of the Legislative Assembly.

Goal 1:

Develop an Island-wide Capital Improvement Programme (CIP), to include, schools, parks, roads, etc.

Objective 1: Document the Island's capital and infrastructure projects for the next five years in one all-inclusive document to ensure proper planning for schedules and resources as well as coordination between multiple projects/agencies.

- Draft an Island-wide Capital Improvement Programme (CIP) that details all public capital and infrastructure projects.
- Itemise all publicly funded infrastructure projects that are to be undertaken within the next five years.
- The CIP should document to include all projects identified in the Transportation Improvement Programme.
- Update the CIP on an annual basis immediately following approval of the fiscal year budget.
- Identify priority levels for implementation of specific projects and earmark priority action items.



Figure 7.2: Public parks would be included in the Capital Improvement Programme.

7.3 Solid Waste

The current landfill site in George Town has grown steadily since the mid 1960s and now forms a prominent feature that is visible over much of western Grand Cayman. With the landfill expected to be at capacity by the Summer of 2021 planning for the future of solid waste facilities on the island continues to be a very important and pressing issue.

The National Solid Waste Management Strategy for the Cayman Islands (2016) sets out the vision, values and strategic direction for the delivery of a new Integrated Solid Waste Management System (ISWMS). The strategy recognises that there are strong drivers to change solid waste management practices in the Cayman Islands and to minimise the overall amount of waste produced.

The Cayman Islands Government is currently exploring private partnership arrangements and to replace the current George Town landfill with a Solid Waste System that will process and divert up to 95% of waste from being landfilled in future. The overall approach will include the closure, capping and remediation of the current landfills in Grand Cayman and the Sister Islands and will include recycling, composting and a waste-to-energy facility.



Figure 7.3: George Town landfill waste drop-off.



Figure 7.4: George Town landfill.

Goal 1:

Encourage long-range sustainable alternatives and support plans for future solid waste disposal facilities.

Objective 1: Determine long-range solid waste disposal requirements and plan accordingly.

Action Items

 Support the strategic direction set out within the National Solid Waste Management Strategy for the Cayman Islands.

Objective 2: Ensure compatible land uses are adjacent to and in the vicinity of the George Town landfill and any planned future solid waste management facilities.

Action Items

- Review the current allowed land uses surrounding the existing and any planned solid waste management sites.
- Ensure that allowed land uses near current and planned solid waste management sites are compatible, taking into consideration the negative environmental, safety, and quality of life impacts generated by these facilities.

Objective 3: Ensure that land is made available in each district as a drop off point for bulk waste materials to help reduce illegal dumping.

Action Items

- Identify sites in each district for waste transfer facilities.
- Initiate an education programme to familiarise residents of the waste transfer facilities and what can and cannot be deposited at these sites.
- Develop standards to protect these sites from potential environmental damage.

Goal 2:

Reduce the existing and future amounts of solid waste.

Objective 1: Reduce the spatial requirements of solid waste management operations by supporting the waste hierarchy of reduction, re-use and recycling of material.

- Support education on the waste hierarchy and the importance of reducing waste
- Identify planning requirements to facilitate the collection, processing and/or end use of recyclables by the private sector.
- Establish a long-range comprehensive Island-wide recycling programme.
- Explore the feasibility of establishing a network of community recycling depots at convenient locations
- Consider introducing a requirement for applicants of larger developments to submit Waste Management Plans which demonstrate how waste associated with the proposal is to be minimised, how existing materials are to be reused on or off the site and how residual waste will be dealt with.



Figure 7.5: Most large supermarkets in Grand Cayman have public recycling facilities.

7.4 Septic Tanks/Sewer

There are two primary methods used for wastewater disposal on the Island. A majority of properties use individual septic tanks or small package treatment plants with deep wells. Other properties, located primarily in the Seven Mile Beach area, are connected to a sanitary sewer and treatment plant, operated by the Water Authority. The use of septic tanks as the predominate method of wastewater disposal will have long-term effects on the Island's fresh water lenses, marine life, and coral beds, and must be addressed urgently.

The existing treatment plant, which is located near the George Town landfill, has the potential to be enlarged to accommodate future expansion of the sewer network. The facility also has the ability to re-use effluent for irrigation and treat sludge that can be used for agricultural purposes.

Goal 1:

Ensure that adequate sanitary sewer facilities are available to all parts of the Island.

Objective 1: Plan for long term sanitary sewer needs.

Action Items

- Determine capacity for, and plan for the long-term expansion needs of the catchment area for the central wastewater treatment facility.
- Identify the capacity within the existing wastewater facility property.
- Determine if the existing site can serve the entire Island and, if not, identify potential sites for additional treatment facilities.

Objective 2: Identify areas that could be incorporated into the sewer network within the next twenty years, known as the Sanitary Sewer Sphere of Influence (SSSI).

Action Items

- Develop road and development standards to accommodate expansion of the sanitary sewer network.
- During the construction of new roads or the reconstruction of existing roads within the SSSI, consult with Water Authority to determine requirements for future connection to a sanitary sewer system.
- For all new developments within the SSSI, require siting of septic tanks to be between the dwelling unit and the adjacent road (or other designated future sanitary sewer location).

Goal 2:

Implement the latest technologies to minimise the environmental impact of wastewater treatment practices.

Objective 1: Encourage the reuse of treated effluent water for irrigation.

Action Items

- Install the necessary infrastructure to distribute the wastewater treatment plant's effluent to users, especially during the construction of new major developments.
- Revise the Planning Regulations to require major projects with large amounts of landscaping to use treated wastewater for irrigation.
- Require all new golf courses to use treated wastewater for irrigation.
- Require all existing golf courses to transition to using treated wastewater within 5 years of adequate supply coming online.

Objective 2: Address alternatives to individual septic tanks in order to minimise negative environmental impacts.

Action Items

 Revise regulations requiring future major developments to be serviced by a sanitary sewer and treatment facility or technologies that are determined to be a more environmentally friendly wastewater treatment option to individual septic tanks.

Objective 3: Ensure that wastewater generated near sensitive water bodies such as coastal areas, wetlands, ponds, water lenses and canals are treated to a higher standard.

Action Items

• Develop and implement alternative requirements for wastewater treatment near sensitive water bodies including coastal areas, wetlands and ponds, water lenses and canals.

7.5 Stormwater / Drainage

Stormwater management and drainage have been major issues for the Island for many years. These issues continue to grow with the Island's increased development.

In 2003, a Stormwater Management Committee was established to develop a comprehensive approach to fixing these drainage issues. During that study, 17 key areas were identified as major flooding problem sites.

Also identified in the study were five major causes to the Island's drainage problems:

- Topography, or the lack of change in topography;
- Insufficient regulatory controls;
- Land development and appeal process;
- Lack of sound and comprehensive engineering; and
- Poor maintenance of existing facilities.

The majority of on-site drainage is done through the use of deep wells. These typically function well during normal rainfalls, but are sometimes strained during larger storm events. They also require routine maintenance to clean out debris that can clog the drains.

The Cayman Stormwater Management Guidelines set out submission requirements for the following types of development:

- Major Subdivisions (subdivisions which create more than 6 lots) are required to submit a Drainage Master Plan (DMP) prior to approval; and
- Developments with an impervious site coverage of 4,000 sq ft or greater are required to prepare a Stormwater Management Plan. (SWMP)

Developments with impervious site coverage under 4,000 sq ft are not required to prepare a SWMP although the applicant is still required to demonstrate that the proposed development will not negatively impact adjacent properties or roadways.

The Stormwater Management Guidelines set out the submittal requirements for DMPs and SWMPs



Figure 7.6: Flash flooding happens in several places during the Island's frequent rain events.



Figure 7.7: Porous paving surfaces can help to reduce surface runoff.

Goal 1:

Ensure adequate stormwater infrastructure and design standards to mitigate existing flood-prone areas and prevent new problem areas.

Objective 1: Develop a long-range stormwater management plan.

Action Items

- Create a series of regional Stormwater Management Master Plans, including short, medium, and long-range implementation strategies.
- Develop detailed Stormwater Management Plans for individual drainage regions/basins.

Objective 2: Review and revise submittal requirements for new developments to ensure adequate planning and design for those plans.

Action Items

- Review and revise the requirements set out within the Cayman Stormwater Management Guidelines
- Require drainage plans during the construction phase of projects.
- Review and revise, where necessary, development regulations to reduce runoff.
- Create policies for the incorporation of porous landscaping or other design solutions in order to reduce runoff.

Objective 3: Identify flood-prone land and address the situations accordingly.

- Re-examine and update the inventory of flood-prone areas identified in the 2003 Report of the Stormwater Management Committee.
- Establish an implementation plan to improve flood-prone areas.
- Develop a priority list for drainage improvement projects. Update every two years.
- Identify appropriate locations and implement pilot programmes on some of these priority sites to test mitigation alternatives (other than typical "deep well" drainage pipes).
- Implement drainage improvements for the top priority sites.
- Identify "top priority" sites at a minimum of every two years.
- Incorporate these projects into the Capital Improvement Programme.

7.6 Potable Water

There are currently two primary potable water distributors on Grand Cayman. The Water Authority services George Town to East End, and the privately owned Consolidated Water Company services West Bay and the Seven Mile Beach area. Consolidated Water Company is also the Island's sole producer of potable water.

The Water Authority currently distributes approximately 792 million gallons per year, with plans to expand distribution levels as their network expands.

The Island's potable water is supplied by Consolidated Water Company through a reverse osmosis desalinization plant. Currently production capacity is around 1,460 million gallons per year, with plans to add additional capacity as the need arises.

Although there is an adequate supply of water for today and the foreseeable future, it is still a valuable resource that needs to be conserved, due to the energy costs associated with this process. There are currently only a limited number of water consumption reduction plans or policies for the Island.



Figure 7.8: The Abel Castillo Water Works.

Goal 1:

Ensure an adequate supply and distribution of safe drinking water for all developments on the Island.

Objective 1: Plan for the long-range maintenance and expansion of the potable water system.

Action Items

- Establish threshold levels for the development of new facilities.
- Establish a programme to monitor the growth in development levels towards established threshold levels.
- Identify potential sites for new facilities as needed based on the established threshold levels.

Goal 2:

Address water conservation practises to help minimise impact on the environment, costs and strain on the existing water system.

Objective 1: Reduce overall per-capita consumption of fresh water resources.

- Implement policies to conserve the Island's fresh water resources.
- Adopt requirements for water reduction technologies in new developments.
- Eliminate policies that may discourage water conservation measures such as individual water harvesting for household irrigation.
- Utilise alternative water sources such as using treated gray-water for irrigation.

7.7 Electricity & Street Lighting

The private Caribbean Utility Company Limited (CUC) is the sole production source and distributor of the Island's electricity. The Island's main power plant is located in the industrial park and contains 16 diesel powered generating units that produce 115 megawatts of power. The site of the plant is suitable for the long-range supply of power, according to the Infrastructure Special Issue Committee Report (May 2002). CUC is also responsible for the maintenance of the Island's street lighting, with most primary and secondary roads lit in the evening hours. With new technologies, standards should be updated to include new features to reduce energy consumption and spill-over or "light pollution."

The Cayman Islands National Energy Policy (2017-2037) has a strong focus on sustainability of the energy sector and promotes renewable energy, energy efficiency and conservation measures. A key component of this is a diversification of power sources and the policy forecasts that economically viable renewables will make up 70% of Cayman's electricity generation by 2037. This is based primarily on growth in solar PV, with some contribution also from wind technology and waste-to-energy.

This section deals with the Island's energy sector at a commercial level. Domestic energy generation is addressed later in 9.3 (Sustainable Design & Construction).



Figure 7.9: The CUC power plant in the George Town Industrial area.

Goal 1:

Reduce the Island's dependency on fossil fuel generated electricity.

Objective 1: Support the vision and goals of the National Energy Policy and encourage an expansion of alternative energy source investment by the Island's power providers, property owners and businesses.

- Support the long-term strategy to utilise alternative energy sources, including an interconnectivity policy for these alternatives to be introduced into the power network.
- Identify the requirements and potential locations for sites to accommodate alternative energy sources
- Consider incentives, revised regulations or simplified planning processes to encourage renewable energy development, such as solar panels, wind turbines etc.
- Ensure that the Island's natural environment is safeguarded whilst renewable energy resources are developed.



Figure 7.10: Energy from renewable sources, such as solar panels, should be encouraged.

Goal 2:

Ensure adequate facilities for future electric grid expansion.

Objective 1: Accommodate the Island's future electrical network needs.

Action Items

- Develop a long-range plan, in coordination with the Island's power providers, to prepare for necessary expansion of the power infrastructure.
- Identify sites for necessary substations, easements, corridors, etc.
- Update subdivision review standards to ensure new developments have adequate electric infrastructure that is compatible with the longrange plan.

Goal 3: Ensure adequate lighting for public safety.

Objective 1: Ensure safe lighting in private and public areas.

Action Items

- Draft and adopt lighting standards for all new developments to ensure safe lighting.
- Maintain and, where necessary, install new lighting on all major streets and pedestrian corridors.
- Install pedestrian level lighting on all major pedestrian corridors.
- Inventory all arterial and collector roads for street lighting and install new fixtures where lighting is not adequate.

Objective 2: Minimise environmental impacts of safety and security liahtina.

Action Items

- Draft and adopt lighting standards calling for focused lighting fixtures that do not increase the "spill-over" into neighbouring properties and into the night sky.
- Adopt a policy whereby all new public light fixtures are "green" or energy efficient and install energy efficient bulbs in all public lighting.



Figure 7.11: Lighting fixtures should be installed on all pedestrian routes and public spaces.

61

7.8 Communication

The Island has an extensive and modern communication network. Cellular and fixed line phone services, high-speed internet services, and cable television are available Island-wide. Fibre-optic lines are installed in some locations, and the network is growing.

Like electric wires, some of the Island's fixed-line telephone lines are still above ground. Cable and some internet services broadcast their signals through wireless transmitters, which are more suitable for the Island's weather.

The Island has generally kept pace with the latest in communication technology, and providers continue to pursue the latest advances in the ever-changing telecommunications world.



Figure 7.12: Electricity and communication infrastructure can create visual clutter.

Goal 1:

Support the provision of the latest communication technology for the Island's residents and businesses.

Objective 1: Ensure the communication needs for the Island's businesses are addressed.

Action Items

 Coordinate public improvement projects such as new road construction with communication providers to allow for installation of necessary infrastructure with minimal disruption.

Goal 2:

Minimise the visual impact of communication infrastructure.

Objective 1: Reduce the visual clutter created by antennae, poles and wires, and satellite dishes.

- Investigate the feasibility of requiring the underground placement of new communication lines.
- Review and revise tower and satellite requirements and standards.
- Require co-location of wireless transmitters where facilities are available and feasible.
- Adopt design guidelines addressing screening and location of commercial and personal antennae and satellite dishes.
- Consult with communication industry representatives and overseas jurisdictions and providers to develop feasible and acceptable regulations.

7.9 Fuel / Propane Gas

The Island's fuel supplies arrive at a sea berth on the west coast approximately one mile south of Downtown George Town (Jackson Point). There are several large storage tanks holding the Island's supply of gasoline and diesel. The area around these storage tanks is predominately residential, with several neighbourhoods of single and multi-family residential developments in close proximity to the tanks. Pipelines run from the bulk petroleum storage terminals to the power plant and to the airport to allow for the direct distribution of diesel and aviation fuel.

A secondary pipeline from the sea berth offloads propane from vessels to the Home Gas Ltd. distribution centre located on Walkers Road. This location is near several schools and residential neighbourhoods.

Small scale fuel storage containers are located throughout the Island, typically for emergency power generators. These generators and storage facilities are usually built with planning permission, as required, and must meet established safety standards.

There are currently no programmes established to reduce fossil fuel consumption. However there are private companies investigating ethanol production and one currently setting up for bio-diesel production. With global awareness regarding oil dependency rising, it is important for both the environmental and economic health of the Island to encourage alternative energy.



Figure 7.13: Jackson Point Fuel Terminal.

Goal 1:

Ensure there are adequate bulk fuel storage facilities to meet the Island's long-range demands.

Objective 1: Properly plan for long-range spatial needs for bulk fuel providers.

Action Items

- In conjunction with the Island's fuel providers, determine the long-range estimates of fuel storage demand for the Island.
- Determine if additional facilities would be required, and if so, develop a list of possible locations.
- Establish review criteria and determine the most suitable site(s).
- Revise Development Plan map to plan appropriate zones for the selected site(s) and the surrounding land uses, ensuring long-term compatible land uses.

Goal 2:

Ensure fuel storage areas and surrounding land uses are compatible.

Objective 1: Review and revise regulations to ensure future fuel storage facilities are located in compatible areas and that non-compatible uses do not encroach towards these facilities.

- Revise planning laws and regulations regulating the location of new bulk fuel storage and distribution facilities.
- Prohibit new fuel storage facilities near incompatible uses and land use zones such as schools, hospitals, and residential areas.
- Prohibit new incompatible uses from being constructed near existing and planned bulk fuel storage facilities.
- Review and revise, if necessary, the containment and buffer zones for these facilities.
- Revise planning laws and regulations regulating the location of generators and personal/commercial fuel storage.
- Review siting requirements for commercial fuel storage and prohibit in residential zones.
- Model blast radius/fields and use GIS spatial tools to locate suitable sites.





8. DESIGN

Design elements are the details that help define the feel of a particular building, street, region, or community. Some of these elements go relatively unnoticed, such as street furniture. Other items often become the landmark of a community, such as a famous sign, statue or architectural landmark. This section of the National Planning Framework focuses on seven core elements that help define the physical appearance and characteristics of an area. They include:

- Site design and landscaping;
- Building design;
- Public Ream;
- Fences and walls;
- Commercial signage;
- Way finding signage; and
- Public art.

Each of these sections will be developed independently, but with the intention of eventually incorporating each of the sections into the Island's Comprehensive Design Guidelines document.

Design elements - such as locating the building façade along the front lot line to avoid a sea of asphalt parking lots along the street front; or landscape requirements that highlight the native vegetation; or even the addition of accessories like benches, light poles, and themed directional signage - help create a sense of place, and can contribute to crime reduction and community safety.

Without these elements, the Island risks development without unique character, thereby creating a built community that is similar to those in other communities in the Caribbean, North America, or even Western Europe.

8.1 Site Design

Site design is a general description of how all the pieces of a particular development are laid out on the parcel. Successful site design looks at the relationship of several elements of the site, such as:

- Building layout and orientation;
- Vehicular circulation, parking and access;
- Pedestrian circulation;
- Landscaping and shading;
- Delivery and service access;
- Screening;
- Lighting;
- Security and safety;
- · Location of utilities and equipment; and
- Drainage and topography.

The Central Planning Authority is the approval body of development applications. Many of the site design elements are reviewed by the CPA, but there are few adopted standards or requirements, with CPA typically analysing projects on a case by case basis. An adopted set of review standards would ensure that site design standards are applied consistently.

Market forces have done a good job in helping to ensure quality site design in many developments on the Island. With the adoption of Island-wide site design minimum standards, all developments would be brought to a higher quality on a consistent basis.

Site design standards could also be modified or enhanced for special planning areas with unique characteristics or for functional purposes. Examples may include Central George Town or the Seven Mile Beach area for their unique characteristics, or the airport approach and industrial districts for functionality and safety. The identification of Planning Areas (Section 5) will define the overall character and preferred site design standards for particular parts of the Island.

Goal 1:

Ensure aesthetically appealing, compatible and functional design for major developments.

Objective 1: Improve site design requirements in relation to aesthetics, accessibility, connectivity, and orientation of structures.

Action Items

- Clarify and update site design requirements for each primary land use
- Develop site design criterion for multi-family residential, commercial/ retail, hotel/tourism, and industrial developments.
- Address other site design aspects in the guidelines, including but not limited to:
 - Building and parking layout;
 - Circulation, access and vehicle ROW;
 - Building materials;
 - Location of accessory structures;
 - Drainage and utility location; and
 - Loading areas and buffering.
- Consider introducing 'self assessment' criteria for applicants to check that all Site Design issues have been adequately addressed
- Incorporate the Site Design Guidelines into a Grand Cayman Comprehensive Design Guidelines document.

Goal 2:

Ensure the adequacy of existing setback requirements.

Objective 1: Review existing setback standards for all development types and accessory uses.

- Review and revise, if necessary, the existing setback requirements in the Planning Regulations.
- Review setback requirements for all land use categories to ensure they adequately address the Island's functional and aesthetic needs.
- Review and update setback requirements for accessory uses such as fences, hedges, landscape strips, etc.
- Update setback requirements addressing balconies, arcades and façade articulation.

Goal 3:

Adopt landscape standards to guide the review process and submittal requirements of landscape plans for new development projects.

Objective 1: Provide Island-wide landscape standards for public and private spaces.

- Create and adopt an Island-wide landscape design standard document.
- Adopt regulations requiring landscape plans to be submitted as part of the original application for planning permission.
- Adopt an Island-wide plant list of approved landscape trees, plants, shrubs, and ground cover for new developments to be incorporated into the approved landscape standards.
- Adopt standards that encourage the preservation and / or relocation of healthy existing vegetation on development sites.
- Incorporate the Landscape Guidelines into the Grand Cayman Comprehensive Design Guidelines document.



Figure 8.1: Site design should identify vehicle circulation and parking.



Figure 8.2: Good quality landscaping is an important part of site design.

8.2 Building Design

There are currently only minimal adopted laws and regulations regarding the standards for building design characteristics and applications are generally reviewed by Planning Staff and the Central Planning Authority on a case by case basis. The reviewing agencies typically look at several design characteristics when reviewing a building application, such as:

- Building height;
- Façades, especially on multiple storey structures;
- · Locations of entrances, windows, etc;
- Building materials;
- Energy efficiency and sustainability;
- · Compatibility with surrounding properties;
- Building orientation;
- Level of visual contrast; and
- Screening of roof equipment.

There needs to be a balance in any new regulations adopted to allow for design flexibility and individuality. There is potential for building design requirements to over-restrict design creativity, creating a sense that every building looks the same. Grand Cayman's Building Design Guidelines will be a guide for both designers and reviewers (CPA and Planning Staff). The document should define what is acceptable and clarify what is commonly referred to as "Caymanian" style design. These guidelines will define "appropriate" styles and scales for the Island while allowing for creative, innovative, and unique architectural designs.



Figure 8.3: This is a traditional 'Caymanian' style house, but what other styles should also be acceptable?

Goal 1:

Develop building design guidelines that incorporate 'green' techniques as well as the Island's traditional architectural style.

Objective 1: Establish minimum design requirements that ensure compatibility with surrounding land uses and help define an appropriate and acceptable minimum design standard.

Action Items

- Create architectural guidelines and design standards that define, encourage and emphasize features that are compatible with the Island's traditional architecture.
- Address standards for "franchise" architecture to incorporate local design characteristics into franchise developments.
- Develop guidelines with consultation from local architects to ensure adequate flexibility to allow for individual creativity.
- Design Guidelines should address items such as aesthetics, functionality, energy efficiency, and compatibility with surrounding uses (functionally and aesthetically).
- Encourage through incentives the application of energy efficient standards such as LEED and Energy Star, where these exceed the minimum building code requirements in the Cayman Islands.
- Incorporate these guidelines into a Grand Cayman Comprehensive Design Guidelines document.

Objective 2: Define specific building design requirements for different land use categories.

- Adopt different building Design Guidelines for different uses and locations.
- Develop guidelines for multi-family residential, commercial/retail, and industrial buildings.
- Where appropriate, develop special building design guidelines for designated special planning areas. These may include commercial and tourism areas, among others.

8.3 Public Realm

Cayman's public realm has traditionally been overlooked as no plan or vision has existed to guide the design and development of public areas. This is particularly the case in the heavily developed areas of central George Town and the Seven Mile Beach tourism corridor where there is a growing contrast between some of the well-maintained privately owned spaces and the less well-cared for public spaces that connect them. A high quality public realm can attract people to spend more time in these places whilst also helping to create more safe and secure environments.

For the purposes of this National Planning Framework, the public realm is defined as those areas where the public can gain access for passing through, meeting, visiting and spending leisure time. It generally includes publicly owned streets, pathways, rights of way, parks and publicly accessible open spaces, such as squares and waterfront areas. Street furniture, such as seats, street lights, signposts, bollards, railings and rubbish bins, contribute significantly to the character and quality of the public realm, as does the quality of the hard surfacing and street paving.

Goal 1:

Ensure a high quality public realm that provides a safe, attractive and inclusive environment.

Objective 1: Establish guidelines for the provision of a high quality and consistent public realm that enhances the spaces between buildings.

Action Items

- Develop guidelines for enhancements to the public realm with consideration to various design aspects including, but not limited to:
 - Streetscape (sidewalks, pedestrian routes and streets);
 - Lighting;
 - Paving and surface materials;
 - Street furniture;
 - Soft landscaping and trees;
 - Safety, security, wellbeing and accessibility
- Encourage developers to consider the relationship of a scheme to the public realm and, if appropriate, make a contribution to the enhancement of the public realm immediately adjoining the development site.

8.4 Walls and Fences

Walls and fences have existed on the Cayman Islands since the earliest stages of settlement, serving a variety of purposes including property markers and protection for defense establishments. While there are certain traditional styles it is now common to see a variety of materials, heights and designs across the island.

Walls and fences have the potential to make a significant impact on the character of an area, both positive and negative, and so guidance is needed to encourage more consistent boundary treatments in Grand Cayman.

Draft Wall & Fence Guidelines were prepared in 2014 and provide guidance on a number of issues including siting, height, materials, drainage, lighting, construction fencing and seawalls. At present the Central Planning Authority reviews wall and fence applications but it is hoped that the preparation of thorough and clear guidance may eventually lead to these applications being reviewed on an administrative basis.

Goal 1:

Establish principles for the design and siting of walls and fences in Grand Cayman

Objective 1: Ensure that walls and fences in Grand Cayman are designed and constructed in line with established guidelines.

- Review and complete Wall & Fence Guidelines document.
- Allow for variations to the guidance in certain situations.
- Incorporate the Wall & Fence Guidelines into a Grand Cayman Comprehensive Design Guidelines document.

8.5 Commercial Signage

Signage is an important part of many businesses, especially those who rely on more "impulse" or drive-by customers or those businesses whose location is not easily visible from a major roadway. However, if unregulated, commercial signage can become a nuisance, eyesore, and sometimes even dangerous when distracting or obscuring the view of drivers.

Sign Guidelines were prepared in 2014 and provide detailed guidance on a number of issues including exempted signs, types of permitted signs, prohibited signs and additional standards.

Goal 1:

Develop sign regulations that effectively identify the Island's businesses while limiting the negative impact on the overall aesthetic quality of the Island.

Objective 1: Develop a tool for use by CPA, government agencies, and property/business owners that clearly and consistently defines the Island's sign requirements.

- Review and update existing Sign Guidelines that are applicable to all private and public signs except for government road and way finding signage.
- Incorporate these sign regulations into a Grand Cayman Comprehensive Design Guidelines document.
- Upon completion of the Sign Regulations, develop enforcement measures to deal with illegal signs and clarify the rights for preexisting signs that would be "grandfathered" under the new design requirements.
- Develop enforcement measures that expedite the removal of illegal signs that were installed after adoption of the new regulations.



Figure 8.4: Examples of commercial signage around Grand Cayman.

8.6 Wayfinding Signage

Wayfinding, or directional signage, are signs guiding both residents and visitors to certain communities, landmarks, streets, or other points of interest. These are typically installed by government. Many communities in North America, as well as the Cayman Islands, typically use green signs with white reflective lettering. Grand Cayman's signs often include a graphic, especially at roundabouts, to help drivers through the roundabout to get to their destination.

There are, however, some communities that take directional signage to a higher level, using custom colours, shapes, or logos as part as an overall signage theme. For example, some communities may use different colours to define different types of destinations such as water features, historical landmarks, tourist attractions, parks and trails, etc. Other times, special districts within a community such as a downtown or a historical district, adopt their own unique directional programme to help define the boundaries of that area.

Grand Cayman is a unique, tropical destination with a large tourist population. A colourful and unique signage programme is just one of the tools that can be used as both a functional and aesthetic enhancement to the overall appearance of the Island.



Figure 8.5: An example of wayfinding signage in Grand Cayman.

Goal 1:

Encourage a uniform wayfinding signage programme for the Island.

Objective 1: Provide a standard wayfinding signage programme for both local and tourist destinations.

- Develop a wayfinding signage programme that standardises the Island's wayfinding signs.
- The standard directional signage programme should provide both pedestrian and vehicular scale signage.
- Directional signage shall incorporate a unique design that contributes to a unique "branding" of the Island. This can be done with a combination of colours, logos, and/or shapes.
- Examine opportunities for private sector sponsorship opportunities to help fund signage programme while keeping signs tactful.
- Incorporate the wayfinding signage programme into a Grand Cayman Comprehensive Design Guidelines document.
- Allow for variations to the directional signage programmes for unique districts.
- Where applicable, special districts may incorporate minor variations to the wayfinding signage programme to highlight the uniqueness and boundaries of that specific district.
- These special signs and districts may be identified during the development of the original wayfinding signage programme adoption, or may be amended at a future date.

8.7 Public Art

Many communities use art in public places to complement the surrounding built environment. Art can often double as a functional feature as well, including fountains to cool and buffer from road noise, or water features that double as a child's play area as well as a moving water sculpture.

Public art also serves as a landmark or reference point for communities. Picking the proper location and scale of the public art will help enhance and often define a public place. For example, a typical roundabout could be redefined as the Sir Francis Drake Circle, with a monument to him as the centrepiece.

Grand Cayman has many public and privately owned spaces that could be improved with additional public art, and there are plenty of local artists capable of helping to create the appropriate pieces. There are already some public art examples on the Island, including:

- Monuments and statues in Heroes Square;
- Stingray fountain in the Bayshore shopping centre;
- Blue iguana statues located throughout the Island;
- Murals in downtown; and,
- An underwater mermaid statue at Sunset House dive site.

Also, many private businesses open to the general public, such as restaurants and hotels, feature small galleries of work by local artisans.

Organised efforts should be undertaken to expand on the public art programme, adding another element to the design of the community to help define the "sense of place" for Grand Cayman. These efforts should encourage local artists and/or local themes in the projects. Policies or incentives to encourage developers to include art into their projects should be considered.

Goal 1:

Promote Public Art and design amenities within public spaces and in privately owned developments.

Objective 1: Enhance the overall aesthetic quality and local "flavour" and culture by incorporating a variety of art projects on both public spaces as well as private developments.

- Implement a programme for design, installation, maintenance, and funding of public art projects.
- Adopt a comprehensive programme for the addition of art work at identified locations, encouraging "landmark" type projects.
- Encourage local-level customizations of design themes celebrating the uniqueness of specific areas of the Island.
- Encourage local art in hotels and other similar buildings through DoT promotion of gallery openings, marketing, etc.
- Encourage an expansion of locally developed art displays.
- Encourage local art programmes and displaying of local art through fundraisers, grants to local artisans, or the development of art programmes for the Island's youth.



Figure 8.6: Murals are an effective way of adding public art to downtown buildings.



Figure 8.7: Statues in Heroes Square, George Town.

8.8 Comprehensive Design Guidelines

The previous sections of this plan element included the development of various design standards, regulations, and policies. Each of these sections will be developed independently, but with the intention of eventually incorporating each of the sections into the Island's Comprehensive Design Guidelines document.

This document will be a complete compilation of all the Island's design standards, policies, regulations, and guidelines.

When necessary, sections of the document may need to be updated by the Central Planning Authority to reflect changes in design and technology, while keeping design standards at a high level. This document will be the blueprint for developers, staff, and the Central Planning Authority to use when designing projects on Grand Cayman.

Goal 1:

Develop a comprehensive Design Guidelines document that enhances the built environment.

Objective 1: Compile all Community Design requirements in one comprehensive, user friendly document.

Action Items

 Upon completion of the action items in this section of the Development Plan, compile all design guidelines, policies, and regulations into one comprehensive document for use by the staff, public and the development community.

Objective 2: Educate and inform development community and public of new design requirements.

- Create a public awareness programme for implementation and distribution of new site design standards.
- Utilise the Planning Department website (www.planning.gov.ky) to aid in the education and distribution of the Comprehensive Design Guidelines.





9. NATURAL RESOURCES

The Natural Resources Element focuses on making the best use of natural resources while at the same time ensuring the protection, management and preservation of these resources for the long-term.

One of the most pressing needs for an Island nation with finite natural resources is to identify a path to sustainable development. The effective protection and use of natural resources is crucial to maintaining a high quality environment. Natural resources make a vital contribution to the character of the Island and the quality of life for its residents and appeal to visitors. It is essential that the quality of these features is protected and, wherever possible, enhanced. Problems arise when these resources come into conflict with competing demands for development made on existing open space. This can result in the interruption of natural drainage systems, fragmentation of habitats, introduction of invasive species, and marine and land-based pollution.

There are several recognized economic benefits associated with preserving natural resources and this is clearly seen via the amount of tourists that visit our Island to enjoy our coral reefs and natural beaches. It is our duty to ensure the protection of these natural features and go further to ensure that more features are protected, preserved and enhanced.

Protection of our natural environment is not only of local significance but it is also part of our regional and global responsibility. In this regard, the Cayman Islands is a Contracting Party through the UK to various Multilateral Environmental Agreements (MEAs). These mandate that development planning must be carried out with regard for the protection and sustainable use of our natural environment and resources, by employing strategies including environmental assessments in combination with a national system of protected areas. These MEAs include:

- The UN Specially Protected Areas and Wildlife (SPAW) protocol;
- The UN Convention on Biological Diversity;
- The Convention on Wetlands of International Importance (Ramsar Convention); and
- The UN Framework Convention on Climate Change (UNFCCC).

Other agreements that speak to the need for formalised assessment procedures are:

- The UK / Cayman Environment Charter;
- Vision 2008:

- Achieving a Low Carbon Climate-Resilient Economy: Cayman Islands' Climate Change Policy (2011); and
- The Cayman National Energy Policy (NEP) (2017-2037).

In addition to the aforementioned bilateral and international agreements, the National Conservation Law aims to provide a national implementation tool to ensure these commitments are met. It also requires consultation on all plans and projects that have the potential to impact the natural environment.

9.1 Environmental Preservation

Water Lenses

In the 1960's five freshwater lenses were identified in Grand Cayman. However by 1975 two of these lenses - in West Bay and George Town - were deemed unusable due to over use and wastewater pollution. The three viable freshwater lens of Grand Cayman contribute to the health of the overlying environment, and are vital sources of water for agriculture, horticulture, and as an emergency potable water source. Strict conditions need to be imposed to ensure that the water in the lenses will not be contaminated by development or effluent, and that the quantity of water used will not deplete the lens to the disadvantage of existing or future users.

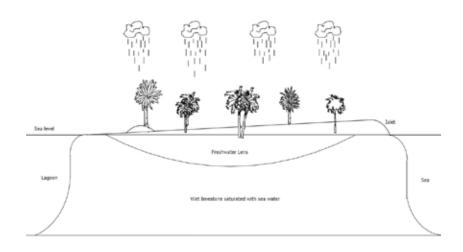


Figure 9.1: Model of a Freshwater lens.

Natural Habitats

All over the world mangrove forests are now recognised as environmentally valuable, productive biological communities that are essential to the health, welfare and safety of the people who live in and around them. In their natural state mangrove wetlands perform a variety of functions including:

- Storm protection and flood mitigation;
- Shoreline stabilization and erosion control:
- Groundwater recharge;
- Retention of sediments and pollutants;
- Export of organic matter to coastal areas;
- Stabilization of local climate conditions, particularly rainfall and temperature; and,
- Provision of nursery grounds and habitat for a variety of marine and terrestrial species.

In Cayman the protection of these ecologically important areas currently falls under Section 3.08 of the Development Plan 1997 and Section 18 of the Development and Planning Regulations (2017 Revision). Certain Crown-owned areas, which includes some mangroves, are protected under the National Conservation (Protected Areas) Order 2017. No other legislation exists for the protection of mangroves. This notwithstanding, Cayman is party to the Convention on Wetlands of International Importance ("Ramsar Convention") which places an obligation on contracting parties to formulate and implement their planning so as to promote the conservation and wise use of all wetlands in their territory. The Convention defines wise use of wetlands as "their sustainable utilisation for the benefit of humankind in a way compatible with the natural properties of the ecosystem.

Mangroves are not the only vegetation that require protection.

- Natural ponds and pools support a variety of unique species and are important for resident and migratory birds.
- Dry forests contain the greatest number of species on Grand Cayman and the most endemic species on the Island.
- Beach and coastal areas serve as popular recreational areas as well as providing a turtle nesting site and offering storm protection.
- · Coral reefs, seagrass beds, lagoons and open water are important for

fisheries, storm protection, recreation and tourism.

Conservatively, 120 species of plants and animals are recognized as being unique to our Island. Grand Cayman's Blue Iguana now only survives in the wild due to active conservation management. The 2004 Red List assessment of Cayman's native plants established that 46 percent of all native plants and trees are currently at threat of extinction, primarily due to deforestation associated with land development.

Furthermore, trees are important to provide a green contrast against the hardscape of the urban landscape and help to create a sense of place. They also act as a wind buffer and absorb dust and other air pollutants and provide homes for various animals. Many of the existing mature trees on the Island have been removed, particularly in the town centre, to allow for buildings or hard landscaping. Although some of the trees on the Island are protected, there are no guidelines in place which define appropriate building setbacks from trees. It should be a requirement that if trees have to be removed, they should be resited or replaced on or at least near to the site.



Figure~9.2: Beaches~are~important~not~only~for~recreation~but~also~for~turtle~nesting~and~storm~protection.

Goal 1:

Protect the Island's natural resources which directly and indirectly contribute to the general public welfare

Objective 1: Minimise the impact of major developments on the environment.

Action Items

 Ensure that major developments are evaluated against appropriate environmental review standards and processes.

Objective 2: Preserve or mitigate for the loss of important vegetation.

Action Items

- Develop a comprehensive tree survey of all trees that contribute to the character of specified areas or are of historical importance and develop rules and guidelines for the protection of these trees.
- A tree, native plant, and habitat survey should be undertaken and submitted with all subdivision applications.
- Create an adopt-a-tree program to allow additional planting in public spaces.
- Review, strengthen, and revise, where necessary, the current native tree
 preservation law.

Objective 3: Minimise the impact on natural ecosystems and biologically diverse areas found within development sites.

Action Items

- Establish design requirements and mitigation measures to promote the protection of ecosystems, biologically diverse land, and natural habitats.
- Develop and adopt mitigation policies for developments that destroy, reduce, or diminish the quality of natural habitats.
- A site habitat survey should be submitted with all applications for new development which meets specific thresholds.

Objective 4: Minimise the impact of development on surface or ground water quality.

Action Items

- Examine current wastewater options with a view to ensuring suitable options that protect the quality of ground water.
- Prohibit aggregate excavation above or adjacent to a fresh water lens in order to avoid contaminant intrusion.
- A detailed stormwater management plan should be submitted with all applications above or adjacent a freshwater lens.
- Encourage porous surfaces particularly for parking lots, in order to reduce surface run off.

Objective 5: Ensure clean air for residents and ensure that domestic policies and regulations are consistent with UNFCCC, the Paris Agreement and other relevant commitments.

Action Items

• Develop standards for air quality in consultation with DoEH and DoE.



Figure 9.3: Freshwater ponds provide important natural habitats.



Figure 9.4: The Mastic Trail; using nature for recreation.

9.2 Coastal Zone Management

Beaches are one of the most dynamic systems in nature as they show changes over hours, days, months and years. They exist because of the complex interaction between biological, geological and physical processes. Healthy beaches are dependent on healthy marine environments and vice-versa.

For small Caribbean Islands such as Grand Cayman beaches represent one of their most important natural and economic resources. While Cayman's beaches are indeed an extremely important economic resource for the tourism industry, they are also important to residents. Quality of life for residents is enhanced by unfettered physical access to our clean, sandy beaches for recreation, and significant view corridors to the sea. Beaches and beach ridges also provide a barrier between the sea and the land thus preventing flooding from storms. Many of Cayman's beaches (including Seven Mile Beach) are also nesting habitat for endangered sea turtles.

One of the most dominant characteristics of beaches is their constant changes in form, shape, and sometimes the very material of which they are composed. The best way to conserve beaches is to allow them the space to move - in a seaward direction during accretion phases and in a landward direction during erosion phases. The prudent use of coastal development setbacks can ensure that space is provided for a beach to move naturally, both during normal events as well as infrequent hurricanes, thereby ensuring that the beach is conserved for all to enjoy and that coastal infrastructure remains intact.

Threats to Cayman's beaches include:

- Inappropriately sited coastal development;
- Illegal and legal sand-mining;
- Predicted climate change effects such as more frequent and more intense storms and hurricanes; and
- Global sea level rise (based on a very conservative predicted sea level rise of 1 foot by the year 2100 which translates to 4 inches by the year 2030, the predicted shoreline recession is 33 feet by 2030).

Additionally, many of the Islands' hotels and condominiums occupy a large portion of the Islands' best beaches and there is a growing level of frustration and perceived threat regarding the public's right of access to beaches around Cayman. Assurance of public access must be addressed.

Coastal Zone Management aims to protect, preserve and enhance fragile resources by managing the competing conflicts between land and water. This transitional strip of land contains some of the most valuable habitat on the Island, particularly within the mangroves where these plants help to maintain water quality and clarity, filter pollutants, trap sediments originating from land and act as a nursery. Coastal Zone Management also looks at protecting beach access, preventing sand mining and making use of native vegetation in landscaping. Furthermore, there are special site design conditions that need to be taken into consideration which include lighting and beach use, especially on turtle nesting beaches.

Integrated Coastal Management (ICM), is a concept which has been internationally adopted as a means of seeking to balance the demands on coastal resources and promote sustainable use by taking an integrated approach to planning and management. It can be defined as a coordinated and dynamic process by which decisions are made for the sustainable land use, development and protection of coastal and marine areas and resources. Issues typically addressed by the ICM paradigm include:

- Protection and management of coastal resources such as beaches and coral reefs:
- Protection of important coastal habitats such as wetlands and sea grass beds:
- Protection of coastal water quality
- Management of coast-dependent economic uses such as tourism;
- Improvement of public access for recreational purposes;
- Reduction of loss of life and property due to coastal hazards such as storms and hurricanes;
- · Management of beach erosion; and,
- Management of use of coastal space.

Goal 1:

Recognise the interconnection between land and sea in all decision making on coastal development, particularly adjacent to marine parks.

Objective 1: Ensure that development on the coast and particularly near to marine protected areas would minimise impacts (i.e. surface run off).

Action Items

- Minimise impacts on aquatic resources including but not limited to the coral reef system, by addressing the indirect marine impacts of landbased development (i.e. sedimentation, nutrient loading), and the direct impact of marine dredging and excavation.
- Develop site design standards to reduce the flow of sediment and fertilizer into coastal waters.

Objective 2: Provide increased protection for coastal mangroves.

Action Items

- Review and amend, if necessary, provisions regulating development, filling, or removing of mangroves.
- Review and revise if necessary, the current setbacks from the Mangrove Buffer Zone.

Objective 3: Identify and implement remedies to prevent beach erosion, especially where development has encroached below the original vegetation line.

Action Items

- Define clear setbacks and public accesses to beaches for coastal development sites based on the line of natural vegetation and revise the existing planning regulations, if necessary.
- Update the Planning Regulations to accommodate new standards.

Objective 4: Ensure developments along coastal areas are designed with appropriate hazard management strategies.

Action Items

 Establish coastal zone flood maps, incorporating storm surge modelling and hydrographic information.



Figure~9.5: Managing~the~coastal~zone~is~essential~to~protect~our~beaches~as~well~as~private~property.

9.3 Sustainable Design and Construction

Building design and construction techniques should have regard to climate change and the need to reduce greenhouse gas emissions as well as other forms of pollution. Greenhouse gas emissions can be reduced through the use of energy efficient appliances, the generation of renewable energy, reduction of vehicle dependence, and other implementation measures.

Sustainable design and construction provides built developments that are efficient and affordable, socially acceptable and less damaging to the environment. It not only looks at energy efficiency, but also minimising land consumption, use of natural systems, providing a healthy, comfortable and safe living environment, minimising waste and not compromising existing ecosystems.

Goal 1:

Ensure that new projects minimise any negative impact on the environment.

Objective 1: Create Sustainable Construction Guidelines to help developers reduce waste.

- Ensure that the site layout and building design take full advantage of
 passive solar energy and natural ventilation, whilst avoiding excessive
 solar gain. Buildings should also utilise other energy efficiency measures
 and attempt to utilise sustainable energy generation.
- Reduce planning/infrastructure fees for developers using energy saving tools.
- Encourage the incorporation of alternative energy sources in building design such as wind turbines, solar panels, etc.
- Provide incentives such as reducing duty on certain materials relating to sustainable design and construction.



Figure 9.6: An example of solar panels on a single-family residence.

9.4 Aggregate / Quarry Operations

The combination of speculative and growth-related development has required extracting large volumes of construction aggregate and fill from marine borrow areas and inland mines, causing substantive impacts to marine and upland habitats. Cumulative impacts will eventually upset the balance of the natural ecosystems and ultimately compromise the Island's ecosystems and their capacity to provide vital services.

A study on the provision for construction aggregate and fill for the Cayman Islands, performed by the consulting firm CH2M Hill, was accepted by Government in 2001. This study discussed the need for a long term plan for meeting future aggregate and fill demand while also minimizing unavoidable impacts on natural systems. In 2004 the CPA adopted the Aggregate Policy which incorporates the recommendations contained in the CH2M Hill report.

Goal 1:

Reduce environmental impact associated with quarry operations whilst ensuring the continuing availability of quality construction aggregate and fill material for future development at a reasonable cost.

Objective 1: Continue implementation of the Central Planning Authority's Aggregate Policy (June 2004).

Action Items

- Ensure that a closure plan is in place for all existing quarry sites and future quarry sites and that they are implemented.
- The DoP with assistance from DoE should create a set of conditions for the closure plan.

Goal 2:

Reduce the demand for Island aggregate quarrying.

Objective 1: Encourage development techniques that require less aggregate than current practices.

Action Items

 Require alternative approaches to site and building design, such as minimising the amount of filling permitted on a development site.



Figures 9.7 and 9.8: Quarrying and excavation activities in Grand Cayman.







10. COMMUNITY FACILITIES

Community facilities have the ability to act as a physical and social focal point within neighbourhoods. By strategically placing them in accessible locations they can assist in creating a sense of community, as well as help reduce traffic congestion. Community facilities also add to the quality of life for residents and provide safety and security through education facilities and public safety services.

Community facilities include schools, libraries, places of worship, day centres, clinics and community halls. These services are currently provided by both the public and private sectors and it is important that both parties continue to play a role in the provision of these services.

10.1 Education Facilities

Education is a crucial part of people's lives and includes primary and secondary learning, further and higher education, special education learning, adult learning courses and extracurricular activities. Access to all types of education is a fundamental factor in achieving a high level of qualifications and skills. Concerns have been raised in the past that the education achievement levels of most school leavers is inadequate for the needs of business. The built environment's role in helping the education system is to ensure that the necessary facilities for academic, technical, vocational and adult training programmes are provided within a healthy learning environment.

In 2016, there were 28 private and government schools with a student population of approximately 8,078, with 788 teachers, across the three islands. An inventory of the existing facilities and their future needs will need to be conducted in order to properly plan for future development. Locating school facilities and their associated amenities (i.e. recreational playing fields, libraries) within easy access of residential neighbourhoods also provides an opportunity for shared community access to these valuable resources, and can reduce the need for excessive travel.

Goal 1:

Support future education development at all types and levels as demanded by population growth, in consultation with the Ministry of Education.

Objective 1: Ensure that all students have access to education facilities.

- Work with Ministry of Education to assess what facilities are required including school buildings and accessory facilities such as sports and recreational facilities.
- Conduct a needs analysis for additional education facilities
- Inventory existing facilities.
- Provide facilities that meet minimum design standards to promote good health and learning abilities in students.
- In conjunction with architects, work with parents, teachers and students to assess the type of facilities that are required.
- Utilise school sites to anchor neighbourhood activity centres, maximising accessibility for students and contributing to neighbourhood vitality.
- Allow for the dedication of land, or a collection of fees in lieu, exclusively for the development of future public school sites.



Figure 10.1: Clifton Hunter High School.

10.2 Health Care Facilities

There are three main hospitals on the Island. The government operated George Town Hospital (124 beds) and the privately run CTMH Doctor's Hospital (18 beds) in George Town and Health City (104 beds) in the East End. There are also a number of private practitioners and health clinics throughout the Island. This plan aims to support any future health care development that may be required, including nursing homes, senior healthcare facilities, and specially designed facilities for mental health patients, victims of domestic abuse and support centres for young people.

As the baby-boomer era enters into retirement age, many may require some form of extended care and support services whether it is within their homes or in public facilities. It is crucial to ensure that the necessary policies are in place to cope with these new demands and their associated facility requirement.

Goal 1:

Provide sites for future facilities including neighbourhood clinics and senior health care facilities, in consultation with the Ministry of Health.

Objective 1: Ensure medical service availability to all residents of Grand Cayman.

Action Items

- Identify long-range medical facility needs and identify potential locations for these facilities.
- An inventory should be conducted to ensure adequate supply and potential sites identified to plan for future demand.
- In consultation with the HSA, identify a suitable location for mental health and rehabilitation facilities.
- Ensure that senior healthcare facilities are provided in a range of accessible locations throughout the Island.

Objective 2: Provide a suitable facility as a "Place of Safety" for victims of domestic violence and their children in consultation with the Department of Children and Family Services, Women's Resource Centre, Cayman Islands Crisis Centre, Family Support Unit.

Action Items

 Conduct an inventory and needs assessment to ensure adequate supply and potential sites identified to plan for future demand.





Figures 10.2 and 10.3: The privately run Health City in the East End.

10.3 Multi-Purpose Facilities

Multi purpose facilities allow for a number of leisure and recreational facilities to be made available within one building in order to make efficient use of buildings and land. These facilities are considered to be important as they act as a focal point for community events and provide essential facilities close to residents. Multi-purpose facilities may also be designed to enable them to be used as hurricane shelters.

Goal 1:

Provide suitable multi-purpose facilities that act as community focal points.

Objective 1: Provide sites for the development of multi-purpose facilities and / or youth activity centres that engage the communities in which they are located, and can also be used as hurricane shelters.

Action Items

- The Institutional Zone should be amended to allow for the development of multi-purpose facilities, provided that it would not have an adverse impact on neighbouring properties.
- This can include and is not limited to provide for after school programmes, hurricane shelters and health care facilities.
- Siting of these facilities should contribute to the creation of local neighbourhood centres.

10.4 Public Safety Facilities

Public safety facilities include the fire fighting and policing services as well as correctional/prison facilities. According to the Economics and Statistics Office, 819 domestic incidents relating to fire were reported in 2016, 4,278 crimes were reported in 2016 and there was an average daily population of 218 inmates at the Northward prison. Facilities such as these are deemed necessary for public safety should be located in accessible locations that are compatible with the surrounding uses.

Goal 1:

Provide adequate sites to meet the need for future Public Safety Facilities.

Objective 1: Increase the level of public safety and welfare through the provision and placement of public safety facilities, and ensure that these facilities are sited in suitable locations.

- In consultation with the Fire Department, conduct an inventory of existing fire fighting facilities in order to provide adequate sites to meet their future needs, including but not limited to fire halls, emergency reservoirs, and emergency access routes.
- In consultation with the Royal Cayman Islands Police Service, conduct an inventory of existing policing facilities in order to provide adequate sites to meet their future needs, including but not limited to police stations, a domestic violence unit, and emergency access routes.
- Identify locations for future correctional facilities, as needed, in consultation with the Prison Service
- Ensure that the location of future correctional facilities is compatible with surrounding uses.



Figures 10.4: Kings Sport Centre - an example of a multi-purpose facility.

89





11. PARKS, RECREATION & OPEN SPACE

Parks, trails, recreation facilities, and natural open spaces are important parts of urban design, helping define the characteristic of a community. These facilities can link neighbourhoods, provide spaces for public gatherings, encourage physical fitness, and enhance the Island's natural environment.

An interconnected system of trails, parks, and beaches can provide the Island's residents and visitors with a diverse selection of developed and undeveloped recreation spaces, contributing to the overall health and aesthetics of the land. These amenities, activities parks, trails, and beaches can also enhance the value and desirability of a community. The following section will help define the future development, maintenance, and funding of these facilities.

11.1 Comprehensive Parks, Recreation and Open Space Plan

Grand Cayman offers a wide variety of active and passive recreation options, provided by both private and government entities. However, most of these facilities are constructed or run independently, with a lack of a comprehensive long-range plan or vision that would take into consideration the Island's needs and demands for such amenities.

There is no comprehensive plan to coordinate the use and activities of the existing facilities, nor is there a document outlining the future plans of the Island's park system. There is also no accurately documented inventory of the Island's open space and park facilities. These issues should be addressed to help plan for the future of the Island's park, trail, recreation, and open space network.

There are several types of recreation and open space facilities that should be addressed in the Comprehensive Parks, Recreation, and Open Space Plan. They include both private and public owned and maintained facilities that contribute to the Island's recreation and parks network.

Goal 1:

Ensure that there is proper planning for the future of the Island's recreation facilities and open spaces.

Objective 1: Identify the Island's short- and long-term demands and needs for recreation and open space facilities while developing a plan that addresses these needs.

- Develop a Comprehensive Parks, Recreation, and Open Space Plan.
- Elements should include:
 - Public and stakeholder participation programme
 - Short-term plan
 - Long-term plan
 - Land acquisition plan
 - Maintenance plan
 - Funding source identification



Figure 11.1: Golf courses, such as North Sound, would be included in a Comprehensive Parks, Recreation and Open Space Plan.

- The Plan should address all types of recreation and open space features, including:
 - Natural preserves
 - Passive open space
 - Parks and Playgrounds
 - Ball fields and courts
 - Pools
 - Picnic areas
 - Nature and urban trails
 - Running, walking and cycling paths
 - Boat launches and docks
 - Beaches and beach access points
 - Golf courses
 - Gyms
 - Water sport facilities
 - Land for Public Purposes
- Facilities should address a range of scales, including:
 - National
 - Regional
 - Neighbourhood/local
 - Private facilities
 - Networks (i.e. for trails, linear parks, and marine facilities).

Objective 2: Ensure an adequate supply of the Island's recreation facilities to meet the community's needs and demands.

Action Items

- Conduct an inventory of public and private recreation, open space, and LPP sites on the Island.
- Identify and map type of facility, size, location, amenities, and ownership (private/public).
- Conduct a needs analysis for additional recreation facilities.
- Evaluate existing inventory and identify "holes" in relation to population bases.
- Conduct a public outreach programme to determine communities' needs as well as "wish-lists" while identifying funding options.
- With stakeholder group input, identify their specific facility needs (sports leagues and clubs, water sports operators, etc.)
- Utilise the findings of the previous two action items to guide the development of a Comprehensive Recreation and Open Space Plan.

Objective 3: Encourage adequate distribution and accessibility of recreational and open space facilities.

- Distribute recreation facilities throughout the Island based on location of population densities and needs.
- All residential communities should have access to some recreation facilities such as playgrounds, pocket parks, sports fields and courts, etc.
- The amount of these facilities should be relatively proportionate to the area's population.
- Sites should be accessible and linked by open space and/or trails when possible.
- Develop neighbourhood scale parks with safe bicycle and pedestrian access to the surrounding residences.
- To the best extent possible, link the Island's park system with linear foot and bike paths.
- All parks should have access plans for pedestrians, bicycles and vehicles.



Figure 11.2: Tennis facilities at Cayman International School.

11.2 Funding

Planning for recreation and open space facilities is the obvious first step in establishing a first-class network. However, the most important part of implementing a recreation and open space master plan is identifying the funding for the acquisition, construction, and maintenance of these facilities.

In order for the Island to develop a high quality park, recreation, and open space network, adequate funding measures must be identified and implemented for all costs associated with acquiring, developing, and maintaining the facilities.

Goal 1:

Ensure adequate funding for the implementation of a Comprehensive Recreation and Open Space Plan.

Objective 1: Establish the appropriate funding source for development and maintenance of the Island's recreation and open space facilities.

Action Items

- Establish a dedicated funding source for the development and maintenance of an expanded public park system.
- Collect impact fees from new developments and subdivisions to contribute to recreation facility development.
- Allocate funds from Environmental fees towards the purchase of open space property.
- Establish incentive programmes for private donations of recreation facilities such as the Dart parks.
- Identify other long-range funding mechanisms for the continued land acquisition, construction, and maintenance of an Island-wide parks, recreation, and open space network.

11.3 Lands for Public Purpose (LPP)

Developers of major subdivisions are required to dedicate up to 5% of a project site as Lands for Public Purpose. This land remains in private ownership but there is a restriction that prohibits development on the sites for anything except uses such as parks, playgrounds, or sports fields. However, there are no requirements for developers to construct these amenities, so quite often the LPP sites are simply left as vacant parcels with no improvements. In addition, many of the sites that have been dedicated are either too small or odd-shaped to be utilised for amenities such as playgrounds or playing fields. There are 312 LPP sites on the Island, totalling 218 acres. The majority of these parcels are under 1/2 an acre.

Goal 1:

Improve Land for Public Purposes (LPP) requirements to create more neighbourhood parks within subdivisions and residential developments.

Objective 1: Utilise LPP dedications for active recreation facilities or the protection of valuable natural resources.

- Review and revise the Land for Public Purpose section of the Planning Regulations.
- Allow development on existing LPP parcels that are not being utilised for parks and recover revenues through appropriate mechanisms. This may only occur with permission from surrounding property owners.
- Require a minimum parcel size for future LPP dedication.
- If the dedication requirement does not meet the minimum acreage, require an in-lieu fee payment.
- Use of in-lieu LPP fees and revenue generated from the sale of LPP development rights shall be dedicated to land acquisition, recreation facility construction, and maintenance of recreation facilities in the general area of the project site.
- Require developers to include recreation facilities on LPP park sites.
- If environmentally sensitive lands are identified on a project site, the CPA may require these lands to be dedicated as LPP, even if the property does not meet the minimum required acreage.
- All new LPP lands shall be deeded to the Crown.
- All LPP parks shall be accessible for use by the general public. Certain environmentally protected areas may be exempt from this requirement.

11.4 Performance and Design Standards

Quality design and performance standards are important aspects to the Comprehensive Parks, Recreation, and Open Space Plan. They assure that the resources spent on these facilities, improvements, and maintenance are used to create functional, long-lasting and, most importantly, well used amenities for the residents and visitors of the Island.

The following section addresses several areas to help ensure the Comprehensive Parks, Recreation, and Open Space Plan is implemented with high quality, functional, and conveniently located amenities. Design and performance issues addressed should include:

- Minimum types of facilities based on population figures;
- Distance standards from established and planned neighbourhoods for a variety of types of facilities and amenities, which are identified in a hierarchical list developed for the Plan;
- Non-residential open space and trail requirements, encouraging the incorporation of green spaces Island-wide; and
- Design standards and minimum facility requirements for specific recreation amenities, to ensure they are developed to functional and safety minimums.



Figure 11.3: Field of Dreams' baseball complex in George Town.

Goal 1:

Ensure adequate recreation, trail, and open space performance and design standards.

Objective 1: Apply consistent requirements while enhancing the overall park, recreation, and open space network's design and amenities.

Action Items

- Develop performance standards to define the required recreation and open space contribution for all developments.
- Establish a minimum target ratio for recreation facilities and parks per person.
- Establish a hierarchy of park, trail, and open space types.
- Establish a minimum distance standard for recreation facilities in relationship to established and new neighbourhoods.
- Establish minimum open space/recreation facility requirements for all
 major developments, including multi-family residential, subdivisions,
 commercial, and industrial. The latter two would typically consist of
 items such as pedestrian trail links and green spaces for lunch or
 breaks.

Objective 2: Develop design standards to define minimum requirements for recreation development projects.

- Standards shall address, at a minimum, the following elements:
 - Signage and access requirements for coastal projects;
 - Playground, ball court, and athletic field minimum standards;
 - Trail requirements and specifications;
 - Accessibility standards;
 - Signage standards;
 - Amenity requirements (including cabanas, benches, lighting, drinking water, restrooms and dining & picnic areas);
 - Landscaping and irrigation standards;
 - Aesthetic requirements;
 - Material, structural, plumbing, and electrical standards;
 - Relationship to surrounding community (Flying objects, lights, noise, etc.);
 - Parking; and
 - Pedestrian and bicycle access.





12. ECONOMIC ELEMENT

The Economic Element addresses policies that support economic development while protecting the environmental landscape, natural resources and ensuring that all facilities are easily accessible to the public. A spatial planning approach is used to integrate land use policies with other policies and programs. This aims to secure the most efficient and effective land use in the public's interest. It acts as a mediator between demands for land from industry, housing, transport, agriculture, leisure etc. and takes into consideration the changing trends such as globalisation, climate change, lifestyle change, demographic change and the ease of mobility.

All stakeholders - the private sector, non-profit organisations, the civic community and local government - and not just professional planners should be involved in the planning process in order for it to be effective and representative. The planning system, by taking a pro-active role in facilitating and promoting the implementation of high quality development, is crucial to ensuring that the tourism, retail, commerce, finance and industrial industries develop and thrive, to maximise economic, social and environmental benefits.

Employment

Economic growth and a high quality built environment have to be pursued concurrently. It is the Authority's responsibility to weigh the importance of industrial and commercial developments that contribute to maintaining and improving the built environmental quality. It is important to make provision for the future needs of local businesses; locate employment activity in areas that are best served by public transport; and maintain and enhance the variety of economic activities and employment opportunities. Furthermore, it is important that the necessary infrastructure such as telecommunication, is in place to support these economic activities.

12.1 Employment Facilities

According to the Economics and Statistics Office, the unemployment rate fell to 2.6 percent in 2006 resulting in the lowest rate since 1994. This improvement was mainly due to the demand for labour, particularly for construction, to repair damaged buildings after hurricane Ivan. However the unemployment rate has subsequently risen to 4.9% in 2017, and previously reached as high as 6.3% in 2013.

According to the Labour Force survey report of Fall 2017 and as of December 2017 the population of the Cayman Islands was 63,415 with a labour force (i.e. members of the non-institutional population 15 years of age and over) of 42,941. Of those in the labour force, 40,856 were employed and 2,085 unemployed, i.e. 4.9 percent unemployed.

From Certificate of Occupancy statistics, houses have been the main developments on the Island with commercial development overtaking apartment / condominium development since 2009. A great deal of this commercial growth has taken place in Camana Bay, which is continuing to expand, and along the commercial corridor of Elgin Avenue with developments such as Cricket Square.

The Grand Cayman office space rental market is one of the strongest in the Caribbean region with high demand for all classes of office space. Some Class B properties in George Town however have high vacancy rates as many large corporate tenants have relocated in recent years to high-quality purpose-built spaces elsewhere. George Town therefore offers far lower rental rates which may encourage tenants seeking more cost-effective commercial premises in the future.

In order to reduce commuting and traffic congestion at peak hours there is a need for additional neighbourhood commercial nodes outside of George Town which could accommodate a range of tenancy types. There is also a need for the creation of mixed use zones, particularly in George Town to prevent the downtown core from becoming deserted after 5pm daily. Combined with infill and brownfield development (i.e. the redevelopment or reuse of previously developed land that is not in use), this could be an important step towards minimising development sprawl and retaining economic and social vitality and viability downtown. Creating these uses and zones will help to:

- Protect existing commercial land and safeguard employment opportunities:
- Strengthen and diversify the economy and provide a range of job opportunities across the Island;
- Maintain Cayman's reputation as one of the leading Financial Centres of the world; and,
- Provide local merchants with sites that allow them to meet the needs
 of the consumers (i.e. areas for local small scale convenience stores in
 neighbourhoods).

The review of the Development Plan provides a key opportunity to support the local economy by the identification of a variety of sites and locations - through the Area Plan process - that are suitable for the growth of local businesses and by ensuring that policies are sufficiently flexible to adapt to the likely changes in the economy.



Figure 12.1: Elgin Avenue is a commercial corridor with a number of large office buildings.

Goal 1:

Support the development of employment facilities considering aspects such as comfort, convenience, compatibility and safety.

Objective 1: Encourage infill and brownfield development on vacant parcels within existing developed areas to minimise development sprawl and minimise the negative effects of neglected and empty properties.

Action Items

- Support the reuse or conversion of existing buildings to help retain or create employment opportunities within existing commercial zones.
- Applicants should conduct a market analysis for all applications for major developments outside the town centre or main commercial zones.
- Allow mixed uses in infill development projects.
- Applicants to demonstrate that development proposals for new shopping centres will not adversely affect the vitality and viability of other shopping centres.

Objective 2: Encourage economic diversification and new types of business activity.

Action Items

- Adopt flexible and adaptable commercial land use policies that accommodate for new types of future businesses.
- Create the appropriate regulatory mechanism to allow for Mixed-Use developments within appropriate zones and locations.
- Ensure that a range of unit sizes are created in order to cater for small businesses.

Objective 3: Support proposals that enhance local shopping centres and provide better facilities for shoppers.

Action Items

- Review and revise, if necessary, accessibility design standards for people with disabilities.
- Ensure that all new buildings have disabled access and encourage the retrofitting to incorporate them in existing buildings.
- Ensure parking standards meet the demands for the uses.
- Undertake a parking demand study for larger commercial developments.

Goal 2:

Ensure commercial and economic growth occurs in tandem with the provision of adequate infrastructure.

Objective 1: Provide the necessary communication infrastructure and technology to meet the demands of industries such as finance and banking.

- Facilitate the growth of new and existing telecommunication systems whilst keeping the environmental impact and visual intrusion to a minimum.
- Sympathetic design and camouflage should be used to minimise the impact of infrastructure on the visual environment, with the aim being for it to blend into the landscape.



Figure 12.2: Proposals for new shopping centres should not adversely affect existing centres.

Tourism

The Seven Mile Beach (SMB) corridor is a prominent feature on Grand Cayman and a long term corridor plan is required to ensure that mechanisms are in place to plan, manage and monitor development. Tourism should not be viewed solely as an industry, but more as a collection of activities, or as a system. Therefore, all the various parts of the system have to work in unison for tourism to work. For example, attractions may not be able to entertain tourists without an integrated transport system to transport them to the attraction.

However, the tourism system should go beyond demand and supply to look at the interaction with other sectors, the local community, the natural environment and other parts that may be directly or indirectly affected by tourism. In order for tourism to have a greater economic impact, it must be properly planned with the following goals in mind; visitor satisfaction, community integration, resource protection and greater economic spin-offs to the local community.

12.2 Tourism Land Use Policies

Visitor numbers to the Cayman Islands have risen steadily since Hurricane Ivan in 2004 and more recent figures for air arrivals in 2016 (385,500 visitors) are close to the peak that was achieved in the late 1990's (404,200 in 1998). Tourist accommodation capacity has grown steadily also, particularly apartment accommodation.

The growth of tourism in the Cayman Islands, particularly the development of large hotels and condos along Seven Mile Beach can appear to dominate the streetscape and create a perception that over development is occurring. As a result, there is a need for design guidelines to ensure that future development is compatible with neighbouring properties and the Seven Mile Beach corridor.

A long range plan is therefore required to ensure that tourism growth is managed, that sustainable growth occurs in the districts away from Seven Mile Beach and that the visitor experience is enhanced. The Department of Tourism are currently preparing a National Tourism Plan (2018—2022) which will set out the key objectives and goals for this.

Goal 1:

Ensure that appropriate land use policies are in place to facilitate the Island's sustainable tourism policies.

Objective 1: Work with the Ministry of Tourism to facilitate the tourism strategy of a sustainable, more inclusive, better managed, and more balanced and vibrant tourism industry and ensure that future developments meet the policies outlined in the National Tourism Plan (NTP).

Action Items

- Ensure that future tourist accommodation is deemed necessary and designed with long term goals in mind.
- Create design standards to ensure that future development is appropriately and sustainably designed and scaled to coordinate with the character of the area.
- Applications should be accompanied with a market analysis that illustrates demand for the proposed development.
- Support the reuse of existing buildings.
- Create a strategic approach within the tourism industry to conserve resources as well as deal with waste materials.

Objective 2: Create a central George Town Tourism master plan to ensure the compatibility, quality and diversity of tourism related facilities in relation to the every day uses of residents.

- Work together with DoT, DoE, PWD and NRA to regenerate George Town in a "take pride" initiative.
- Support reinvestment of existing facilities and encourage where appropriate new buildings to be of Caymanian Architecture.
- Address pedestrian and traffic flow to ensure safe and efficient movement of people.
- Facilitate the provision of shade trees, street furniture and public art to be placed strategically around the town centre. This could be in conjunction with the tourism master plan.
- Create a town square or public park in the town centre with appropriate street and park furniture.

Objective 3: Allow for small-scale tourist related developments in suitable locations across the Island that complement the character of the area and would not have any adverse environmental or social impacts.

Action Items

- Create the land use policies necessary to support this new development type.
- Create urban design guidelines that reflect the unique characteristics of East End, North Side and Bodden Town.

Objective 4: Ensure Green Globe environmental and social performance standards at all stages of development for tourism related facilities.

- Develop the necessary guidelines (such as relaunching the Cayman Islands Environmental Project for the Tourism Sector (CEPTS) certification programme) and land use policies to support businesses that adopt Green Globe standards.
- Promote Best Management Practices in tourism by encouraging the
 industry to comply with environmental legislation; observe industry code
 of practice; develop in-house environmental policies to manage waste,
 conserve freshwater and energy resources, reduce environmentally
 unfriendly products (e.g. pesticides, herbicides and toxic materials);
 properly maintain facilities and develop staff training programmes
 toward environmental awareness.
- Encourage reinvestment and renovations in accommodations that do not meet minimum standards set by the Department of Tourism.



Figure 12.3: Harbour Drive could be improved with more shade trees and street furniture.



Figure 12.4: Centennial Park in central George Town. More of these would help to add character to the town centre.

12.3 Cruise Ship Facilities

Cruise arrivals have increased since 1996 rising from 0.8m to 1.7m in 2016, although growth in the past couple of years has still not reached the peak of 1.9m cruise visitors in 2006. Cruise tourists are a vital resource as they introduce the Island to visitors and help to encourage a return to the Island as a stay over visitor. The 2017 Visitor Exit Survey shows that 91 percent of cruise visitors would return on a stay over vacation and 46 percent (the highest proportion) would do so within 1 to 2 years. Therefore a good first impression, particularly around the cruise terminal, is required in order to encourage return visitors.

Goal 1:

Ensure that the necessary facilities are provided to enhance the experience for cruise ship passengers.

Objective 1: Ensure that development in and around cruise berthing locations is done in a comfortable and attractive manner.

- Identify potential improvements for the cruise passenger experience to help turn these visitors into future stay-over visitors.
- Improve ground transportation and pedestrian amenities for cruise passengers. This should be part of the Comprehensive Transportation Plan.
- Develop a master plan for the secondary Spotts Terminal.
- Encourage multi-purpose tourist information centres throughout the Island.



Figure 12.5: George Town Port North Terminal

12.4 Tourism Attractions & Facilities

The standard of most attractions such as the Botanic Park, Pedro St James and diving activities is considered to be high; however there is room for improvement for other sites such as Hell, Stingray City, public beaches and general upgrading of more facilities for things such as disabled access and sales of local produce.

In 2017 Seven Mile Beach and Stingray City were amongst the chief attractions for visitors and they require sensitive management to ensure that the number of tourists do not harm the environment that they came to visit. Additional attractions should be provided away from these key sites in order to reduce peak season problems.

Goal 1:

Ensure that a mix of facilities is provided for stay over and cruise ship tourists, as well as residents.

Objective 1: Improve terminal at Owen Roberts International Airport and support the necessary facilities and services in the airport area.

Action Items

 Provide improved transportation options to and from the Airport. This should become part of the Comprehensive Transportation Plan.

Objective 2: Ensure stay-over visitors have an adequate range of entertainment and recreation options.

Action Items

- Encourage further development of nature-tourism attractions such as Barkers National Park, the protection of the Central Mangrove Wetland, Mastic Reserve and the Botanic Park.
- Safeguard coastal areas to create more public open space and trails.

Objective 3: Encourage new and / or improved amenities for the use of tourists and residents.

Action Items

- Consider appropriate activities, such as a SCUBA diving hall of fame, artificial reefs, heritage trail, farmers' and craft markets, fishing, bird watching and horse riding locations.
- Consider location, traffic, environmental, social and economic impacts.

Objective 4: Encourage the development of conference, function, and international sporting facilities.

Action Items

• Determine the scale and identify the most appropriate locations.

Objective 5: Establish legal protection for historic buildings or sites of heritage interest.

- Work with the National Trust to safeguard and enhance outstanding buildings and structures that contribute to Cayman's distinct character.
- Support the National Trust in providing information and signage for tourists regarding the location of historical structures and locations.
- Support legislation that legally protects historic buildings.



Figure 12.6: The popular tourist attraction; Pedro St James.





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