

ARIMA BOROUGH CORPORATION

**Final Draft Spatial Development
Plan of the Arima Borough
(2010-2020)**



2010

Arima Borough Draft Spatial Development Plan: 2010 – 2020

Arima Borough Corporation

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Foreword

Mayor, Arima Borough Corporation

The Arima Draft Spatial Development Plan has been prepared in collaboration with the following partners:

Member of Parliament for D’abadie/O’meara
Representative of Minister Nunez Tesheira

• **Non-Government Organisations/Agencies:**

Agape Training Centre
Arima Business Association
Arima Government/Central Secondary School
Arima North Secondary School
Arima Open Market
Brava International Limited
Christians Primary Academy
Disciples of Christ
Eastern Women’s Welfare Association
God’s Word Outreach Centre
Greater Malabar Christian Centre
Harmony D’or Safety and Enhancement Committee
International Wages for Housework Campaign
King of Kings Lite Centre
Mausica Lands Action Committee
Memisa Centre
Mt. Pleasant Village Council
New Testament Sovereign Grace BC
People of Praise Committee
Route 2 Maxi Taxi Association
Santa Rosa Carib Community
Santa Rosa RC Church
The Family
TTARP
Unemployment Relief Programme
Wesleman Church
Young Americas Business Trust

• **State Government Ministries and Statutory Agencies:**

Environmental Management Authority
Evolving TecKnologies and Enterprise Development Company Limited
Housing Development Corporation
Ministry of Agriculture, Land and Marine Resources – Head Office, Land Administration Division, Land and Surveys Division, Forestry Division, Regional Administration North, Grow Box Project,
Ministry of Education
Ministry of Energy and Energy Industries - Minerals Division and Energy Planning and Research
Ministry of Health
Ministry of Public Utilities
Ministry of Tourism
Ministry of Works and Transport, Traffic Management Branch, Highways Division, Drainage Division - Head Office, Eastern Sub-Division,
National Reforestation and Watershed Rehabilitation Programme
Office of Disaster Preparedness and Management
Telecommunications Services of Trinidad and Tobago
Tourism Development Company of Trinidad and Tobago
Town and Country Planning Division
Trinidad and Tobago Electricity Commission
Trinidad and Tobago Solid Waste Management Company Limited
Water and Sewerage Authority



Contents

CHAPTER 1: INTRODUCTION 1

1.1	Local Government Planning Programme	1
1.2	Purpose and Scope of the Arima Plan	2
1.3	Methodology	3
1.3.1	Stakeholder Participation	4
	<i>Public Consultations</i>	4
1.4	Related Planning Initiatives	5
1.4.1	Tunapuna/Piarco Regional Development Plan	6
1.4.2	Sangre Grande Regional Development Plan	7
1.5	Structure of the Plan	9

CHAPTER 2: CONTEXT AND STRATEGIC ANALYSIS 10

2.1	Overview of Existing Conditions and Trends	10
2.1.1	Legislative and Institutional Framework	10
2.1.2	Planning Framework	11
2.1.3	Geographic Dimensions	11
2.1.4	Physical and Natural Characteristics	11
	<i>Topography and Drainage</i>	11
	<i>Soil and Land Capability</i>	13
	<i>Hazard Susceptibility</i>	13
2.1.5	Population	13
2.1.6	Land Use and Land Tenure	15
2.1.7	Economy	17
2.2	Swot Analysis	17
2.3	Key Development Issues	20

CHAPTER 3: STRATEGIC FRAMEWORK 23

3.1	The Role of Arima in National Spatial Development	23
3.2	Strategic Vision and Direction	25
3.3	Alternative Development Scenarios	26
3.3.1	Service Centre Concept	27

3.3.2	Eco-Cultural City Concept	28
3.3.3	Growth Pole/ Development Magnet Concept	32
3.3.4	Evaluation of Scenarios	34
3.4	Development Strategy for Arima	35
3.4.1	Development Theme	35
	<i>Making Arima the Eco-cultural City of Trinidad and Tobago</i>	35
3.4.2	Overarching Policies	36
3.4.3	Population Size and Distribution	37
3.4.4	Spatial Development Framework	39
CHAPTER 4: THEMATIC POLICIES AND PROPOSALS		41
4.1	Urban Design	41
	Objective A:	44
	<i>Policy A1:</i>	45
	<i>Policy A2:</i>	45
	<i>Policy A3:</i>	46
4.2	ENVIRONMENTAL MANAGEMENT	50
	Objective B:	51
	<i>Policy B1:</i>	51
	<i>Policy B2:</i>	52
	<i>Policy B3:</i>	53
	<i>Policy B4:</i>	57
	<i>Policy B5:</i>	57
4.3	ECONOMIC DEVELOPMENT	59
	Objective C:	61
	<i>Policy C1:</i>	61
	<i>Policy C2:</i>	67
4.4	HOUSING	67
	Objective D:	68
	<i>Policy D1:</i>	68
4.5	SOCIAL AND PHYSICAL INFRASTRUCTURE	70
	Objective E:	70
	<i>Policy E1:</i>	70
	<i>Policy E2:</i>	73

4.6	TRANSPORTATION	80
	Objective F:	80
	<i>Policy F1:</i>	80
4.7	MUNICIPAL MANAGEMENT	86
	Objective G:	87
	<i>Policy G1:</i>	87
CHAPTER 5: DISTRICT POLICIES AND PROPOSALS		88
5.1	Arima North	88
5.2	Arima Central	90
5.3	Arima South	95
CHAPTER 6: IMPLEMENTATION		99
6.1	Implementation Mechanisms	99
6.1.1	Management of Development	99
6.1.2	Funding	100
6.1.3	Community Participation in the Development Process	100
6.2	Programmes and Projects	101
6.3	Monitoring and Review	101

Tables

Table 2.1:	Population of Communities of Arima, 2000	13
Table 2.2:	SWOT Analysis of Arima	18
Table 3.1:	Distribution of the 2020 Population by Communities for all Scenarios	27
Table 3.2:	Population Distribution by Communities, 2000 and 2020	37
Table 4.1:	Population and Housing Projections by Community	69
Table 4.2:	Sources of Water Supply to Arima	73
Table 4.3:	Wastewater Treatment Plants in Arima	75
Table 4.4:	Telecommunication Facilities in Arima	79
Table 4.5:	Traffic Volumes and Distribution, 2004	81
Table 6.1:	Action Programme – Major Development Projects	102

Figures

Figure 1.1:	Stages of the Spatial development Planning Process	4
Figure 2.1:	Location and Boundaries of Arima	12
Figure 2.2:	Distribution of Population in Communities, 2000	14
Figure 2.3:	Generalised Land Use	16
Figure 3.1:	Service Centre Concept	30
Figure 3.2	Eco-Cultural Concept	31
Figure 3.3	Growth Pole/Development Magnet Concept	33
Figure 3.4	Distribution of Population in Communities, 2020	38
Figure 3.5:	Arima Borough development Strategy	40
Figure 4.1:	Urban Form	42
Figure 4.2:	Queen Street Design Concept	48
Figure 4.3:	Traffic Volumes and Destination, 2004	81
Figure 5.1:	Arima North Development Zone	89
Figure 5.2:	Arima Central Development Zone	92
Figure 5.3	Arima South Development Zone	96



Acronyms and Abbreviations

CEC	Certificate of Environmental
CISL	Community Improvement Services Limited
CNTS	Comprehensive National Transportation Study
CRH	Churchill Roosevelt Highway
CSO	Central Statistical Office
EMA	Environmental Management Authority
EMR	Eastern Main Road
e Teck	Evolving Tecknologies and Enterprise Development Company Limited
HDC	Housing Development Corporation
MLG	Ministry of Local Government
MPHE	Ministry of Planning, Housing and the Environment
MOE	Ministry of Education
MOWT	Ministry of Works and Transport
NCDP	National Conceptual Development Plan
NEP	National Environment Policy
NIB	National Insurance Board
NPDP	National Physical Development Plan Trinidad and Tobago
NSS	National Spatial Strategy
ODPM	Office of Disaster Preparedness and Management
PBR	Priority Bus Route
PSIP	Public Sector Investment Programme
PTSC	Public Transport Service Corporation
SDP	Spatial Development Plan
SWMCOL	Trinidad and Tobago Solid Waste Management Company Limited
TCP	Town and Country Planning
TCPD	Town and Country Planning Division
T&TEC	Trinidad and Tobago Electricity Commission
TSTT	Telecommunications Services of Trinidad and Tobago
UFW	Unaccounted For Water
UTT	University of Trinidad and Tobago
UWI	The University of the West Indies
WASA	Water and Sewerage Authority
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

Introduction

1.1 Local Government Planning Programme



Trinidad and Tobago has embarked on national physical planning and local area planning against the backdrop of Local Government Reform that has been inspired by Vision 2020. Effective and participatory governance is one of the five development priorities of Vision 2020. The Green Paper on Local Government Reform seeks to:

“Facilitate the transformation and modernisation of local communities by empowering citizens to participate in the decision-making process.”

Spatial planning for the Borough of Arima for the next ten years has to be underpinned by the five development priorities of Vision 2020, contextualised in the Green Paper, and elaborated in

the deliberations that have taken place thereon in the respective Municipal Corporations. In the devolved governance structure which is the fundamental thrust of the Green Paper, regional corporations will play a major role in the achievement of the other priorities. Thus, the Arima Borough Council has a vested interest in the promotion of innovativeness among the burgesses, since this is the base, in the final analysis, in the creation of a competitive business environment in a world with declining borders.

Much of the potential that exists will remain unexploited in the absence of careful physical planning. Hence a decision was taken by the Ministry of Local Government (MLG) to have a Spatial Development Plan (SDP) formulated for the Borough of Arima as part of a programme to cover the landscape of Trinidad with physical development plans to treat with the issues which the various Corporations need to handle in the discharge of their functions.



1.2 Purpose and Scope of the Arima Plan

The Plan is intended to provide a regional development framework for the development of land in the Borough of Arima over the next 10 years, accommodating and guiding the spatial distribution of social, economic, and cultural activities of the burgesses of the Municipality. It will set the framework for the formulation of detailed policies and local area plans for areas that require more detailed treatment.

The Plan is to be utilised as a strategic planning tool to channel resources into addressing identified development challenges and emerging socioeconomic issues in the region. It will, therefore, present concrete projects that will be

included in the annual budgetary allocations of the Arima Borough Corporation and the implementing agencies established under the MLG including the CISL, and in the Public Sector Investment Programme (PSIP).

The draft Plan indicates the distribution of the population over the Borough in 2020, and broad land-use allocations including the general location of land to accommodate population increases expected over the next decade, as well as social and economic activities to be undertaken in the Municipality. Mechanisms through which the Plan is to be implemented are also included.



1.3 Methodology

The methodology followed to date for the preparation of the draft Plan involved the following five phases summarised in Figure 1.1:

1. Orientation which consists of discussions between the ABC and the Regional Planning Consultant, a rapid reconnaissance survey of the Arima Borough (including the review of relevant secondary information and field visits), and finalisation of the spatial development planning process;
2. Data Collection and Survey involving an extensive review of information and data; the conduct of several studies, including a limited 'windscreen' land and building use survey; and consultations with public sector agencies;
3. Analysis and synthesis of data, at the end of which key development planning issues and problems were identified;
4. Generation of alternative development scenarios with potential to address the issues, and selection of the preferred option; and
5. Preparation of the draft SDP based upon the scenario preferred by the stakeholders. A public consultation is to be held to present and review the plan and to gain feedback on its contents. The results of this review process will be used to finalise the Draft Final Plan.

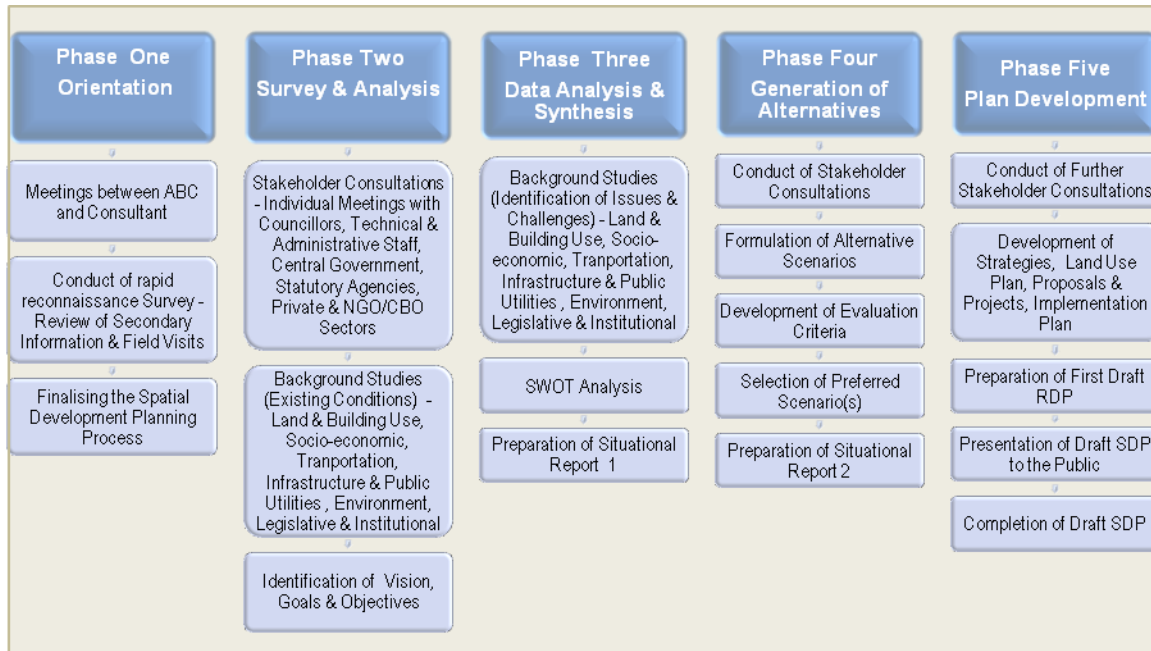


Figure 1.1: Stages of the Spatial Development Planning Process

1.3.1 Stakeholder Participation

Stakeholder participation was an integral part of the process, and involved discussions with individual Local Government Councillors, the administrative and technical heads of sections at the ABC, government departments and statutory agencies, public sector and non-government organisation (NGO) and community sector agencies and individuals on the challenges and future development of Tunapuna/Piarco. Also included was the conduct of public consultations at which burgesses of Tunapuna/Piarco were able to discuss and agree on the manner in which the Municipality was to develop over the long term.

Public Consultations

Three public consultations were held. The first public consultation was held to formulate a Vision for future development of the Borough, to identify the key challenges which must be addressed and possible strategies which should be implemented in order to realise this shared Vision for the Municipality. The consultation which was attended by 52 persons included representatives of business enterprises, faith-based organisations, community organisations, women's groups, youth and sport associations, educational institutions, Councillors and staff of the Borough Corporation. Also participating was the Member of Parliament (MP) for Arima, Ms Penelope Beckles and a representative of the MP for D'abadie/O'Meara (Minister Karen Nunez Tesheira).

The second consultation, which was attended by 27 persons, focused on the presentation, evaluation and selection of the option for future development of the Borough. The third upcoming consultation will be held to present and obtain feedback on the Draft SDP which will be used for its finalisation.

Policies and proposals are formulated at the level of four 'zones' into which the

Municipality was divided for the purpose of preparing the Plan.

Minor necessary changes were made to the methodology as the process advanced, the chief of which was a re-grouping of communities from the scenario formulation stage to plan formulation stage.



1.4 Related Planning Initiatives

Development activity, existing and proposed in the nation as a whole and in adjacent regions, would impact the development and use of land in Arima and *vice versa*. The Borough of Arima is completely surrounded by the

Municipality of Tunapuna/Piarco and is mere minutes away from Couva/Tabaquite/Talparo and Sangre Grande.

The national context is described in various planning instruments including the statutory National Physical Development Plan (NPDP) for Trinidad and Tobago. Regional planning initiatives currently underway for the City of Port-of-Spain; and the Municipalities of Tunapuna/Piarco, Sangre Grande, San Juan/Laventille, and Couva/Tabaquite/Talparo are also relevant.

Relevant information is currently available only for Tunapuna/Piarco and Sangre Grande based upon plans that are being drafted for those regions¹.

1.4.1 Tunapuna/Piarco Regional Development Plan

The Boundaries Review Exercise recommends the shifting of a number of communities from Tunapuna/Piarco into Arima, *viz.*, Cleaver Road, D'Abadie, La Florisante, La Resource, Maturita, Mausica, Olton Road, Pinto Road, Samaroo Village, Santa Rosa Heights, Sherwood Park, and the southern portion of Wallerfield.

The portion of Wallerfield that would fall within the boundaries of a new Arima City contains the 416.5-hectare site of the Tamana InTech Park, a light industrial estate with an academic and research component that includes the main campus of the University of

Trinidad and Tobago (UTT). The completely built-out Park is projected to contain a population of around 12,000 persons in addition to a university population of 8,000. Another approximately 2,500 to 3,000 persons are expected to be engaged in providing services to the Park.² This development will exert a tremendous influence upon Arima whether or not Wallerfield is incorporated into the area to be managed by an Arima City Corporation.

Other major development proposals in Tunapuna/Piarco that would impact the spatial development of Arima include HDC plans for an extension to the La Horquetta residential development; and proposals by Home Construction Limited (HCL) to continue the implementation of the Millennium Vision development at Trincity to include multiple-family residential development on sites totalling approximately 24 hectares.

The broad spatial development framework for Tunapuna/Piarco as proposed in the draft SDP involves the allocation of the land in the Municipality to 2020 as follows:

- Conservation Forestry over the entire Northern Range system within with the possible exception of low-impact forms of agriculture in limited areas, and

¹ Outlines of the other draft municipal plans will be included in the final draft Plan.

² Tamana InTech Park Community Development Plan and Transportation Report, Volume 1, All-Inclusive Project Development Services Limited (APDSL).

- infilling and limited expansion of existing settlements;
- Agriculture on all of the undeveloped land between the CRH and the southern boundary of the Municipality, new development within this area being restricted to consolidation and limited expansion of the settlements to the south of the Caroni River;
 - Intensified urban development in the East West Corridor;
 - Mixed development in the southern portion of the Wallerfield community to include the Tamana InTech Park, housing and support activities, and agriculture; and
 - A hierarchy of centres at the apex of which is Tunapuna as Regional Centre; and including Trincity and Wallerfield as Sub-Regional Centres.

The strategy of Dispersed Concentration on which the SDP is based will see economic activity dispersed to the smaller centres within the region including Blanchisseuse, La Laja, Aripo and Brasso Seco which currently are more oriented to Arima than they are to the centres in Tunapuna/Piarco.

Road improvements proposed in the Plan include the upgrade of the Arima-Blanchisseuse Road.



1.4.2 Sangre Grande Regional Development Plan

The RDP is based in part upon the Integrated Development Plan for Sustainable Development of the Sangre Grande Region (IDPSG) developed by the Sangre Grande Regional Corporation (SGRC) with the aim of having the Municipality fulfill its role as a Regional Growth Centre.

Among stated developmental priorities are:

- Redevelopment of the town of Sangre Grande to support and complement the development of the Tamana InTech Park, which includes the main campus of the UTT, through providing housing, entertainment and services for faculty and students, and to become the hub of a new development axis for the east and northeast of Trinidad;
- Development of the region as the Premier Eco-tourism Centre of the Caribbean; and
- Development of the agricultural and fishing sectors of the region.



Public sector projects listed in the Plan that would impact the Borough of Arima are the extension of the Churchill Roosevelt Highway (CRH) from Wallerfield to Manzanilla via Sangre Grande³; construction of an Eco-Highway to link Matelot with Blanchisseuse; establishment of a port on the north east coast and a Toco to Tobago ferry service; establishment of a major stadium; and housing

development by the Housing Development Company (HDC). Private sector projects mentioned involve the development of a Sangre Grande Town Centre and Vision City which will include a 100-bed hotel, residential and office development, and a shopping mall.

A very important natural resource in the Municipality of Sangre Grande is the Aripo Savannas⁴, which adjoins the eastern boundary of Tunapuna/Piarco at Wallerfield. The Savannas is considered to be one component of a larger cluster of ecotourism and knowledge based attractions in the northeast. A Resource Management Plan developed to guide its management and protection includes the establishment of a Visitor Centre from which an interpretive trail will go into the Savannas. Visitation to the Savannas is projected to rise significantly from the current level over the period of the SDP.

³ This extension is indicated, in the Tamana InTech Park Community Development Plan and Transportation Report (TPCDP) as being essential to the full implementation of the proposals for the development of the Park.

⁴ The Aripo Savannas was declared an Environmentally Sensitive Area in 2007 under the Environmentally Sensitive Areas (ESA) Rules of 2001, and designated a Strict Nature Reserve based on its high scientific value.

1.5 Structure of the Plan

The Draft Development Plan comprises this Written Statement and a series of Appendices and Maps. This document set the context out of which the Draft Arima Borough Spatial Development Plan has been prepared, providing proposals and projects for implementation over the next ten years.

Appendix One provides a detailed analysis of the current situation existing within the Municipality, including account of its natural assets, socioeconomic conditions, local government administration structure

and challenges currently affecting and likely to affect its future development.

Appendix Two outlines the three scenarios for future development, the results of evaluation of the alternative scenarios and a future description of the selected development alternative.

Appendix Three describes the stakeholder consultation process, what stakeholders said and provides recommendations for future participatory development planning activities in the Municipality.

Context and Strategic Analysis

2.1 Overview of Existing Conditions and Trends



2.1.1 Legislative and Institutional Framework

Land use planning guidance is provided by the Town and Country Planning (TCP) Act, Chapter 35:01 which is the enactment utilized by the Minister through the Town and Country Planning Division to regulate and control land use and land development in Trinidad and Tobago. The Act makes provision for the orderly and progressive development of land in the

country and requires the Minister (with responsibility for town and country planning) to carry out a survey of the entire country and to submit for the approval of Parliament a development plan indicating the manner in which it is proposed to utilise the land.

The Environmental Management Act (Act No 3 of 2000) is the principal enactment regulating and controlling environmental management by the Environmental Management Authority. The main link between environmental management and development planning is via the Certificate of Environmental Clearance (CEC) Rules, 2001 which guide the assessment of development projects which are anticipated to have a significant impact upon the environment.

The Municipal Corporations Act (MCA) No. 21 of 1990 makes provision for regional planning and physical development, and provides the basis for devolution of authority to the Corporations. Several of the responsibilities assigned to the municipalities under this legislation have not been assumed, including the

responsibility for physical planning which is still that of the Minister.

The non-governmental organisation (NGO) and community sector are also significant elements in promoting sound environmental management at local, regional, and national levels.

2.1.2 Planning Framework

The plan is being prepared within the context of a number of plans and policy instruments the most significant of which are:

- National Physical Development Plan, which is the only statutory guide to land use and development at the national level, and which designated Arima as a Sub-Regional Centre;
- Vision 2020 Draft National Strategic Plan, which is based upon an overarching vision for Trinidad and Tobago for “successful national development resulting in a high quality of life for all our citizens”; and
- National Spatial Strategy – NSS (2007) a strategy for the spatial development of the country to 2020 based upon Government’s plans to achieve developed country status by that year.



2.1.3 Geographic Dimensions

The Borough of Arima is situated in north-central Trinidad and is surrounded by the Tunapuna/Piarco Municipality. It is situated 26 kilometres from Port of Spain and just 8 kilometres from Piarco International Airport. Figure 2.1 indicates the location and boundaries of Arima.

The Borough covers approximately 1115.4 hectares and holds a roughly rectangular shape with an average north-south length of 5 kilometres and an average east-west width of 2.2 kilometres.

2.1.4 Physical and Natural Characteristics

Topography and Drainage

The topography of the area is generally flat to gently sloping and by far most of the land lies between 30 metres and 90 metres above mean sea level. The region is drained by the Arima Mausica Rivers.

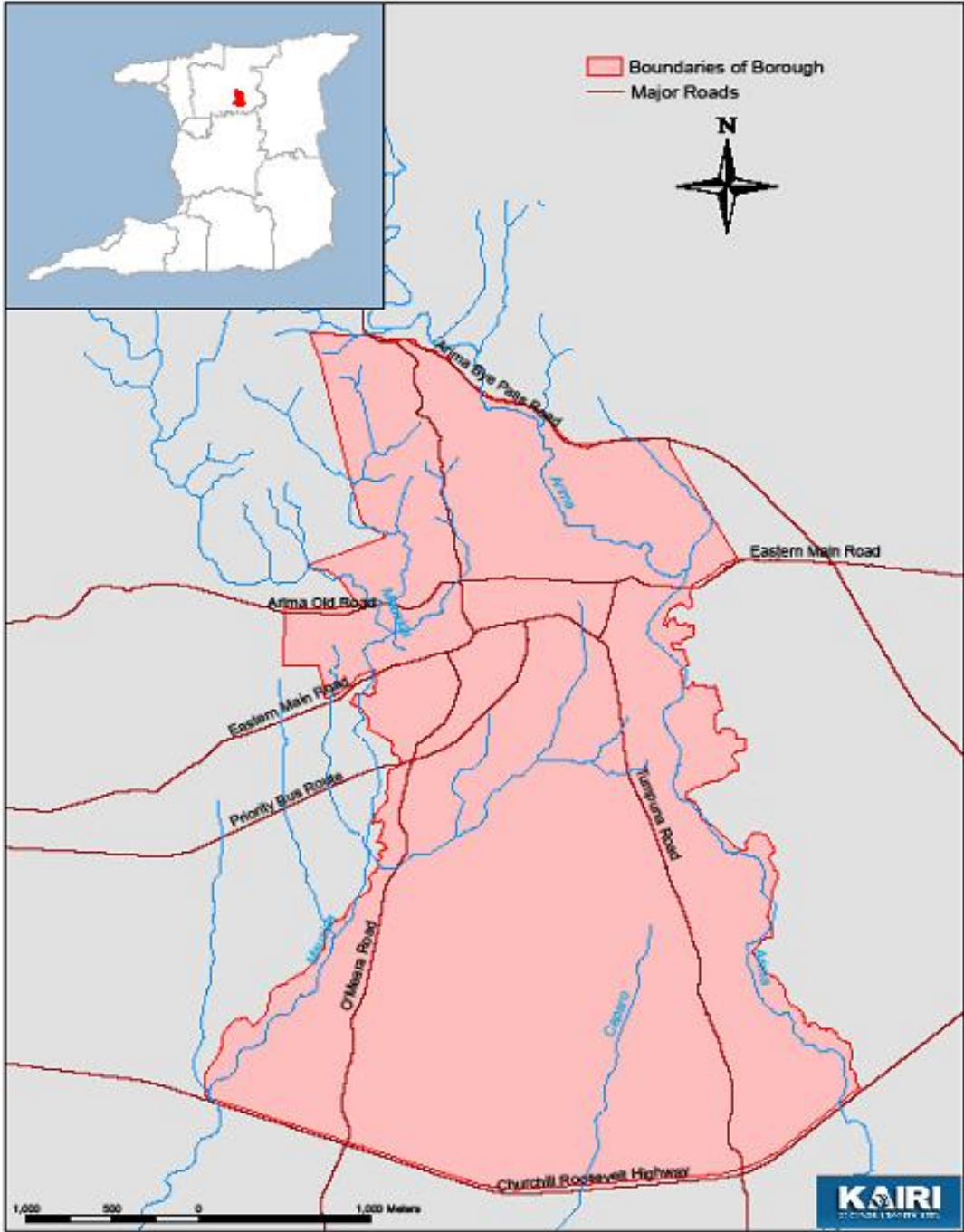


Figure 2.1: Location and Boundaries of Arima

Soil and Land Capability

Most of the lands in Arima belong to the Class V and VI categories and are, therefore, not suitable for agricultural production. There are Class III soils along the Arima and Mausica Rivers.

There is a risk of erosion in areas such as Calvary Hill, Mount Pleasant, Carib Homes and Maturita, where Maracas/Matelot series and Cleaver series are found.

Hazard Susceptibility

Arima is vulnerable to flash flooding and landslides. Areas along the Mausica and Arima Rivers are most prone to flooding, while landslide

damage has occurred in Jonestown/Mausica Lands, Mount Pleasant and elsewhere in the Borough.

2.1.5 Population

According to the 2000 Housing and Population Census the population of the Borough grew by 12.8 percent, from 28,612 in 1990 to 32,278, in 2000, due mainly to migration. This population was contained in 8,400 households. The structure of the population in 2000 can be seen in Table 2.1 and reflected in Figure 2.2.

Table 2.1: Population of Communities of Arima, 2000

Community	Number of Households	Community Share of Total Borough Population* (%)	Population			Share of Population		No. Of Dwelling Units	Ratio of Households to Dwelling Units*
			Both Sexes	Male	Female	% Male	% Female		
Arima Proper	2,775	32.53%	10,499	5,217	5,282	49.69%	50.31%	2,812	98.68
Calvary Hill	295	4.18%	1,348	715	633	53.04%	46.96%	296	99.66
Carib Homes	151	1.76%	567	286	281	50.44%	49.56%	155	97.42
Malabar	2,383	28.32%	9,141	4,635	4,506	50.71%	49.29%	2,481	96.05
Maturita	311	3.76%	1,215	614	601	50.53%	49.47%	314	99.04
Mount Pleasant	404	4.88%	1,576	797	779	50.57%	49.43%	412	98.06
O'Meara Road	726	8.54%	2,755	1,378	1,377	50.02%	49.98%	734	98.91
Tumpuna Road	1,355	15.98%	5,159	2,601	2,558	50.42%	49.58%	1,366	99.19
Other Residents	0	0.06%	18	17	1	94.44%	5.56%	0	0.00

Source: Central Statistics Office (CSO)

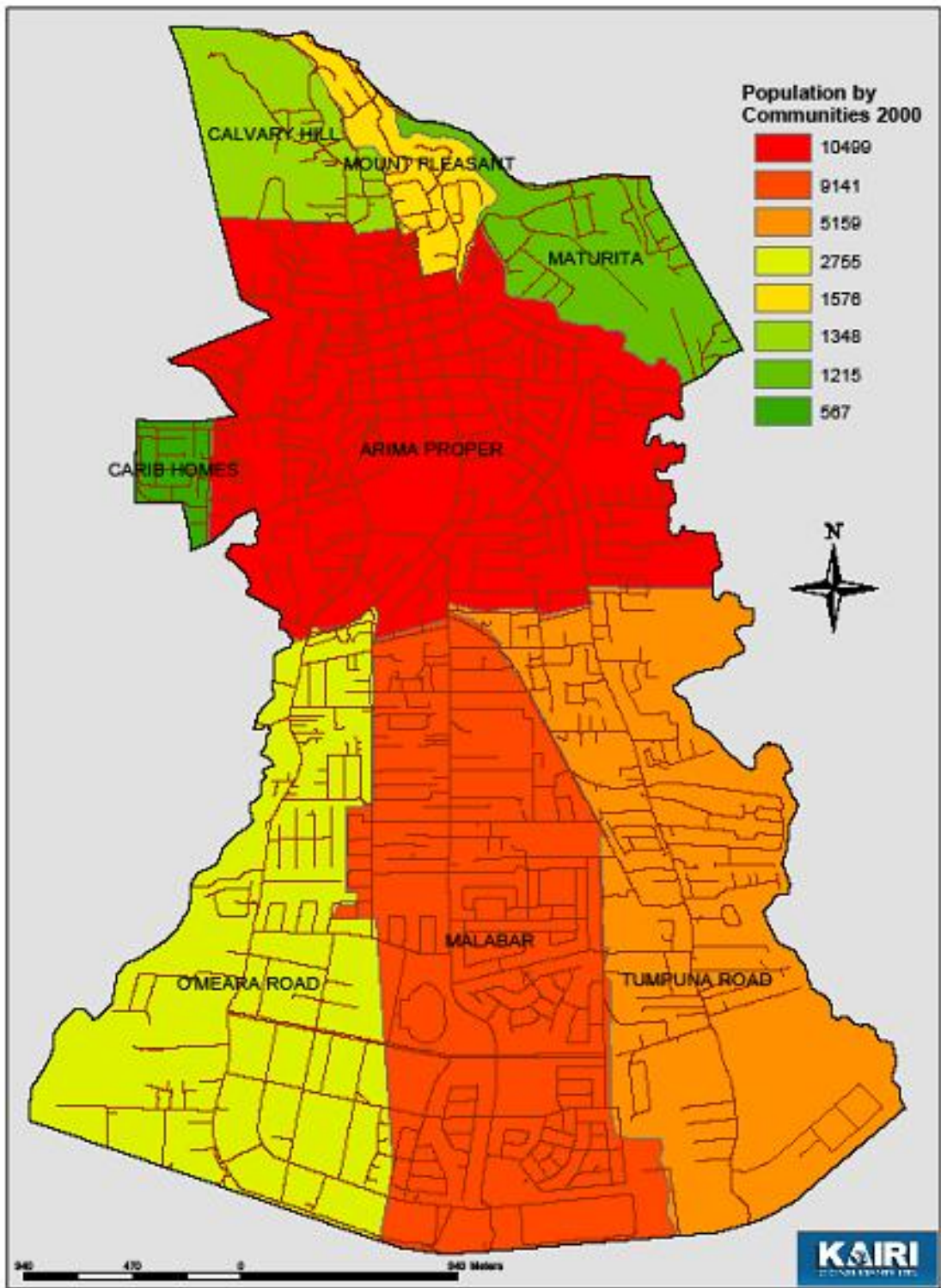


Figure 2.2: Distribution of Population in Communities, 2000

The current population is estimated to be approximately 41,000 contained in 10,800 households, and a population of between 56,000 to 70,000 is projected in 2020. Historically, a large percentage of the active population of Arima works outside of the Borough. This is likely to continue with the new residents migrating into the Borough.



2.1.6 Land Use and Land Tenure

Almost all of the land in the municipality is under built development, forest vegetation being confined largely to the north-western corner, and agriculture being practised on a small scale in the vicinity of the Arima River (Figure 2.3).

The pattern of built development is generally characterised by the concentration of office activities as well as retail and wholesale trade in the original core; the concentration of industrial activity in the south western section; the spread of residential development throughout the remainder of the town; and the scattering of community and institutional uses, protective health and welfare services, and recreational facilities in the various communities. Other significant elements of the land use pattern are the location of Princess Royal Park as a major open space feature in the core of the town; development of commercial strips along certain sections of O'Meara Road, Tumpuna Road, and Malabar Road; and the prevalence of mixed use sites.

Most of the land in the Borough is in private ownership. There is some squatting and informal settlements in areas such as Calvary Hill, Jones Town, Malabar, and Printeryville.



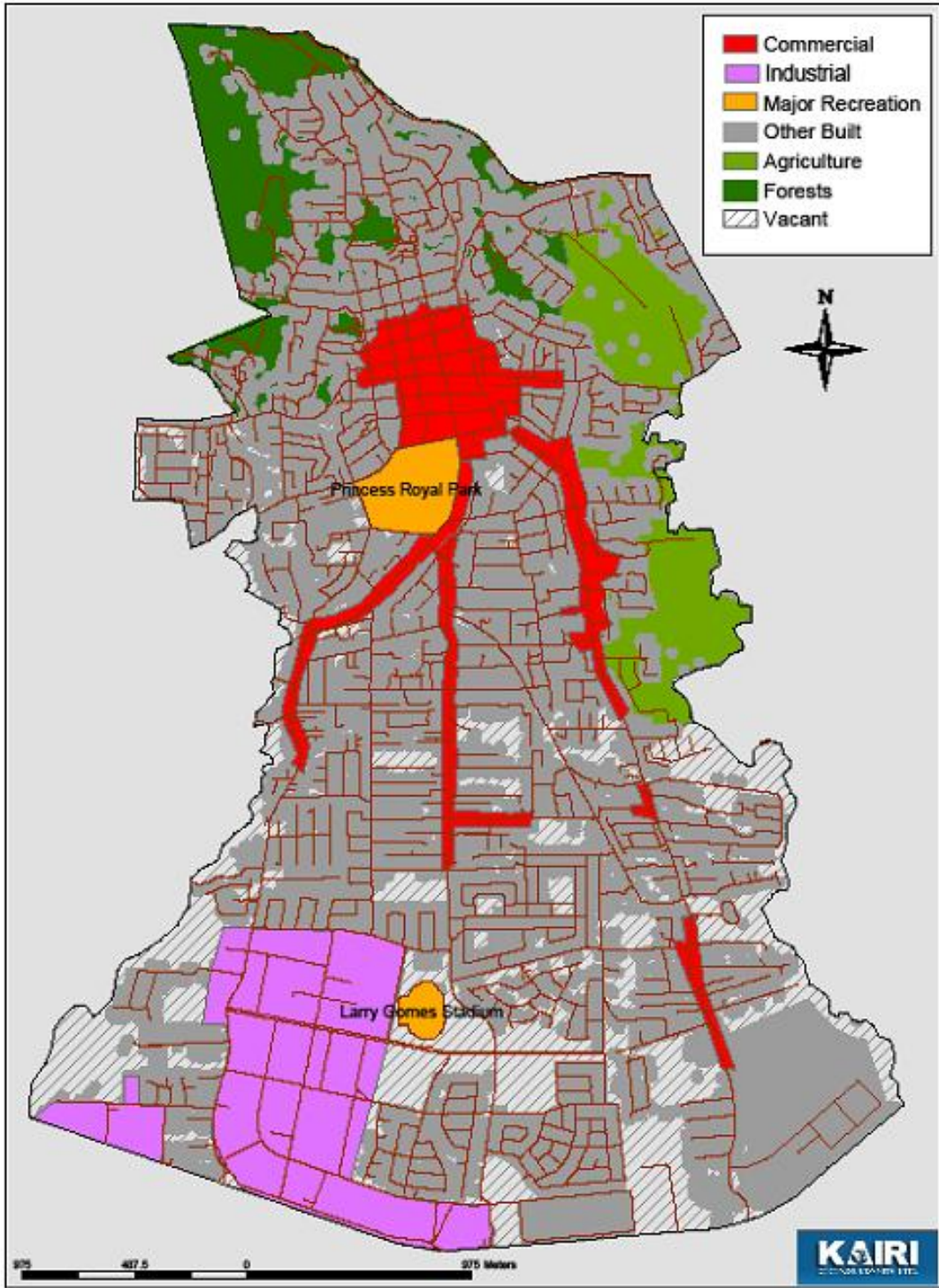


Figure 2.3: Generalised Land Use

2.1.7 Economy

The Borough is the locus of some long standing public services, including the Borough Council and its Administrative staff. There are branch offices of the commercial banks, major insurance companies and a few of the larger credit unions in the country. As a regional centre, there are wholesale and retail establishments, distribution and transportation services serving the resident population and the commuter traffic that uses the town as a hub.

Industrial activity is centred on the 95-hectare O'Meara Industrial Estate. The recent siting of a Campus of the UTT in

the Borough in close proximity to the Estate offers the possibility of Knowledge driven industries, and its proximity to the Airport provides an opportunity for the estate to become involved in export oriented production.

Arima is not deemed to be well endowed with the kind of physical artefacts and historical sites appropriate for tourism development. There is little left of its Carib past, and there are just a few of the old gingerbread houses, some located in the northern part of Arima Proper, and the Town Hall, that are structures worthy of preservation. There are only two registered hotels in the Borough.



2.2 Swot Analysis

The SWOT Analysis was informed by the survey as well as by consultations with stakeholders including the administrative and political arms of the Arima Borough Corporation. Key

documents reviewed in carrying out the analysis were as follows:

Report on the Planning Workshop on the Regional Plan Preparation Process prepared by Tracy Wilson and Timothy Mooleedhar, April 28, 2008 -

Participants at the Workshop, including representatives of the ABC, carried out a Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis of their regions.

Arima Borough Corporation Strategic Plan 2004-2007 – A SWOT Analysis was undertaken as part of the strategic planning exercise for the Corporation.

The results of the SWOT Analysis are summarised in Table 2.2.

In order to come up with a development concept that is sustainable and appropriate to the needs of the people of the region the Plan would need to build upon the strengths and opportunities and convert them into development potential, at the same time as it addresses the weaknesses and threats.

Table 2.2: SWOT Analysis of Arima

INTERNAL ENVIRONMENT	
STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ Strategic location on national transportation grid ▪ Proximity to Airport, Tamana Park, UTT Main Campus, Eco-centres ▪ Royal Borough status ▪ Rich cultural heritage and resources ▪ Borough celebrations (Santa Rosa Festival, Carnival, Arima Fest Street Parade, etc.) ▪ Skilled disciplined workforce ▪ Compact town environment, easy to manage ▪ Tranquil and serene environment ▪ Attractive and legible urban form ▪ UTT O'Meara Campus located within the Borough ▪ Valuable real estate ▪ Hub of industrial activity at O'Meara Industrial Estate ▪ Good basic infrastructure facilities ▪ Good transportation system 	<ul style="list-style-type: none"> ▪ Landlocked within Tunapuna/Piarco Regional Municipality ▪ Need for new administrative building ▪ Lack of adequate health care facility (hospital) and other social infrastructure ▪ Limited employment opportunities ▪ Increasing levels of crime ▪ Limited amount of developable land ▪ Traffic congestion, particularly in the town centre, and the need for taxi hub and parking facilities ▪ No exploitable natural resources ▪ Presence of dilapidated residential buildings and undeveloped sites ▪ Incidents of squatting and unauthorised development ▪ Inadequate road and drainage infrastructure ▪ Sewage pollution in river at Tumpuna Gardens ▪ Meeting increasing infrastructure and utility needs for new development ▪ Vulnerability to natural hazards – tropical storms, landslides, flooding, earthquakes

EXTERNAL ENVIRONMENT	
STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ Expansion of town boundaries and annexation of additional land within the Borough ▪ New developments bring enhancement to infrastructure ▪ Downstream benefits from proposed Tamana Park and UTT at Wallerfield ▪ Downstream benefits from development of regional ecotourism ▪ Revitalisation of agriculture in the wider region and development of agro based industries in Arima ▪ Introduction of high level facilities (hospital, multicultural complex, science park, etc.) in the Borough ▪ Introduction of planning policies to facilitate expansion of town centre and development of commercial centre at Malabar ▪ Development of proposed rapid rail system in East West Urban Corridor ▪ Enhancement of regional coordinating system between the Borough Corporation and national agencies 	<ul style="list-style-type: none"> ▪ Competition from Sangre Grande, Valencia, and other centres in the wider region for downstream benefits from proposed Tamana Park and UTT at Wallerfield ▪ Competition from other growth centres in Trinidad for employment opportunities and resources ▪ Pressure from communities outside the Borough for services (e.g. La Horquetta) ▪ Competition from continued commercial development in Trincity ▪ Downturn in global economy ▪ Archaic legislation ▪ Lack of clear cut policy emanating from central government on future of local government ▪ Insufficient autonomy and funding granted to Borough Corporation ▪ Spiralling national crime rate and impact on Arima ▪ Breakdown of societal values ▪ Delays in the dualing of CRH between O'Meara Road and Wallerfield





2.3 Key Development Issues

From consultations with the ABC and other stakeholders and based on the SWOT Analysis undertaken for the area, certain development issues have been identified at this stage. Further consultation with stakeholders would allow for the review and refinement of these issues and the formulation of strategic goals and objectives aimed at resolving the issues.

Key issues identified at this stage may be summarised as follows:

- a. The Borough of Arima has grown substantially in recent years and is set to continue growing. There are problems of sustainability especially against the backdrop of undersupply of certain critical services to areas like health, cultural and civic facilities in the Borough. The Borough has experienced a level of densification much beyond the capacity of its infrastructure, both in terms of its physical and social infrastructure. Further increases in its population within its existing boundaries without a major investment in infrastructure is a recipe for disaster. The problems that afflict its town centre are already patent evidence of the slide. There are also problems of urban blight, drug-running, other crime and violence, and vagrancy in the Borough, that depreciate the location as a locus for living and the conduct of business.
- b. A major challenge in the approach to spatial development will be the complementary institutional and cultural shift that will be necessary to treat with exiguous land resources that already evoke the image of limits to growth and strained

carrying capacity. This challenge will be evidenced in:

- The need for changing attitudes and modes of transport within the Borough, given traffic problems and possible need for pedestrianising some areas;
- Waste disposal and moving from trash to cash;
- Multiple dwellings and mixed mode use;
- Provision of social services or involvement in social services by the Borough Council;
- Management of communications between burgesses and Council and staff in the virtual town hall;
- Promotion of environmental sensitivity among burgesses and other citizens commuting through the Borough;
- Empowering burgesses and enlisting participation in sustainable organisational structures.
- Problems of waste disposal including

c. The Borough is facing certain environmental management challenges which pose implications for public health and safety, expansion of business activity, and the identity and image of the Borough. These issues include:

- Limited land space for future development.
- Urban congestion and decay, particularly in the town centre, and the resultant implications for pedestrian comfort and safety, free flow and parking of vehicles, and expansion of business activity.
- Environmental impacts of squatting.



littering, indiscriminate dumping of garbage, and unauthorised dump sites.

- d. From a regional perspective as well, Arima must be positioned to secure benefits from mega projects being implemented at Wallerfield (Tamana Park and UTT Main Campus). Prospects for employment, commercial activity, and linkages between industrial enterprises at O'Meara and Tamana must be explored.
- e. Key prospects for economic development of Arima are anchored in the historic and cultural resources of the town and the natural resource base of its hinterland. The Region holds good potential for development of nature and cultural tourism, with Arima functioning as the nucleus, or staging area, for such activities. The challenge however lies in achieving balanced development in order to ensure sustainable use of the resources.
- f. Private sector development would represent an important component of the overall development thrust in Arima. There would be need however to

provide greater support for private sector activities through incentives and other institutional measures. Opportunities must also be created for public-private sector collaboration and partnerships in the process of economic development.

There will be need for these issues to be addressed or contextualised in any spatial planning exercise that seeks to raise the bar in having the Borough fulfil on its role in Vision 2020.



Strategic Framework

3.1 The Role of Arima in National Spatial Development



The main framework for the spatial development of Arima is contained in the NPDP which was prepared in the early 1980s and is the only statutory guide to development of land at the national level. A National Conceptual Development Plan (NCDP) prepared in 1999 ostensibly to update the planning framework of the NPDP is also relevant. More recently, a NSS was developed to guide the spatial development of Trinidad and Tobago to the year 2020. These provide guidance to the role of Arima in the national spatial system.

The NPDP proposed some degree of decentralisation of activity outside of

the Capital Region, and adopted a spatial development strategy of “dispersed concentration” that involved consolidation of existing urban centres while promoting a more balanced allocation of activities over the national territory.

The Plan designated Arima as one of twelve Sub-regional Centres in the country on the same level with Tunapuna and Sangre Grande. In this role Arima was seen as becoming important as a place of employment as well as for service facilities, and was expected to serve not only the local community but its sub-regional

hinterland. Employment opportunities were proposed to be generated through a policy of selective incentives to private entrepreneurs to locate in the Sub-regional centres.

The NCDP also adopted a strategy of balanced growth, which provided for comprehensive and coordinated growth opportunities throughout Trinidad and Tobago. A local area concept plan prepared for the Urban Corridor Barataria to Arima within the framework of the NCDP also designated Arima as a Regional Centre. Details of proposals for the East West Urban

Corridor, including Arima included urban enhancement and local infrastructure improvements; and development of low and medium cost housing on available urban sites close to employment areas to reduce long distance commuting.

The NSS classified Arima as a City that is intended to provide government, administrative and financial services to surrounding communities, as well as a range of social and community services, facilities, and some employment opportunities.



3.2 Strategic Vision and Direction



The goal of the Arima Spatial Development Plan is to ensure successful regional development resulting in the *creation of sustainable communities and a high quality of life for all burgesses*. It is derived from the Vision 2020 Draft National Strategic Plan which provides the framework for the development of Trinidad and Tobago to 2020.

The strategic vision on which the Plan is to be based was determined from the Visioning Exercise carried out specifically for the purpose of determining the manner in which the stakeholders see the Region developing in the future. The agreed vision is outlined below:

Arima is the city with a special identity and image, based on its status as the remaining official home of the First Peoples of Trinidad, and its status as a Royal Borough, built on a sustainable economy in an ecologically sensitive and culturally rich environment, and supported by the commitment of all of its burgesses to leave a fitting bequest to 'Gens Arime' of tomorrow.

The main development objectives of Arima for the next 10 years are as follows:

1. Environmental and cultural sustainability.
2. Meaningful and secure jobs.
3. Functional efficiency and aesthetic appeal.
4. Accessibility and permeability.
5. Equitable distribution of social and physical infrastructure.
6. Housing adequate to meet the needs of all.
7. Effective municipal management.

3.3 Alternative Development Scenarios



The following three alternatives to the current development trend were considered:

1. Service Centre Concept;
2. Eco-Cultural City Concept; and
3. Growth Pole/Development Magnet Concept.

The principal distinguishing feature among the options is the level and scale of development to be pursued over the plan period. The options represent increasing levels of development

activity, ranging from modest development in the Service Centre Concept, to moderate development activity in the Eco-Cultural City Concept, and more substantial levels of development in the Growth Pole/Development Magnet Concept. Summaries of the scenarios which would emerge from these development options are presented in the following sections, and the projected distribution of the population across the communities is indicated in Table 3.1.

Table 3.1: Distribution of the 2020 Population by Communities for all Scenarios

Community	2000 Population		2020 Population					
			Service Centre		Eco-Cultural City		Growth Pole/ Development Magnet	
	No	%	No	%	No	%	No	%
Arima Proper	10,499	32.5	17,920	32.0	17,450	25.0	14,350	20.5
Calvary Hill	1,348	4.2	2,240	4.0	2,200	3.1	1,750	2.5
Carib Homes	567	1.8	840	1.5	800	1.1	700	1.0
Malabar	9,141	28.3	16,800	30.0	16,800	24.0	14,350	20.5
Maturita	1,215	3.8	2,240	4.0	5,750	8.2	4,200	6.0
Mount Pleasant	1,576	4.9	2,240	4.0	2,500	3.6	2,100	3.0
O'Meara Road	2,755	8.5	4,760	8.5	4,500	6.4	3,500	5.0
Tumpuna Road	5,159	16.0	8,960	16.0	8,500	12.1	6,300	9.0
Santa Rosa Heights	-	-	-	-	6,000	8.6	4,900	7.0
Pinto Road	-	-	-	-	-	-	6,650	9.5
Wallerfield	-	-	-	-	-	-	3,850	5.5
Olton Road	-	-	-	-	2,500	3.6	2,100	3.0
Samaroo Village	-	-	-	-	3,000	4.3	2,100	3.0
Sherwood Park	-	-	-	-	-	-	3,150	4.5
(Expanded) Arima Borough	32,260	100.0	56,000	100.0	70,000	100.00	70,000	100.0

3.3.1 Service Centre Concept

This concept is largely shaped by increased public sector funding of social facilities and physical infrastructure so that Arima will better serve its population and region of influence. 'Service function' is the development theme of this option.

Key activities to be undertaken as part of Concept include the following:

- Upgrade of schools, recreation facilities, and other community facilities.
- Introduction of high level social and administrative facilities -
- hospital, performing arts centre, administrative complex.
- Enhancement of environmental quality in central town area, viz. Princess Royal Park, and other key public spaces.
- Institution of appropriate traffic management measures (traffic flow, parking, taxi stands, bus stations, etcetera) and upgrade of road infrastructure.
- Upgrade of other physical infrastructure - water supply, sewerage, drainage, solid waste management, electricity, telecommunications.

- Establishment of a district shopping centre at Malabar to complement the existing commercial core in the centre, and comprising such facilities as a supermarket, bank, drugstore, variety shops, personal services (barber, laundry, etcetera), and professional offices (medical, dental, etcetera).
- Greater level of autonomy and funding granted to the Arima Borough Corporation.
- Greater levels of participatory governance will be encouraged.

This option projected Arima's share of the national population to increase from 2.7 percent in 2000 to four percent of the projected 2020 national population of 1,400,000 persons based on past immigration trends, ongoing housing developments, and the service function upgrading proposals of this scenario. A population of 56,000 persons was therefore projected for the town by 2020 (Table 3.1).

The expected growth in population would be accommodated through infilling and intensification of development within the existing boundaries of the town. Each community would more or less maintain its share of the town's population from the 2000 distribution pattern. Also, it was assumed that the average household size would remain at 3.8 persons, and that a household to dwelling unit ratio of 1:1 would be a desirable target.

The ratio of the number of business places to population size was used as a measure of service function, with a higher ratio denoting a greater level of service. In keeping with the strategy of upgrading the service function of Arima, the overall ratio of business places to population in the town was therefore projected to increase.

3.3.2 Eco-Cultural City Concept

This concept goes beyond increased public sector funding of social and physical infrastructure and places emphasis on encouraging investment in nature and cultural tourism, based on the resources of the town and its environs. A 'resource-oriented and ecological' theme is adopted in this option.

Key activities to be undertaken as part of Concept include the following:

- Implementation of infrastructure upgrades and other activities outlined in Option 1.
- Upgrade of Arima-Blanchisseuse Road while maintaining its scenic qualities.
- Introduction of incentives for private sector investment in tourism facilities and services, viz. hotels, guesthouses, vehicle rental, tour guiding, picnic sites, restaurants, night clubs, etcetera.

- Community-oriented development and small business activity will be encouraged.
- Special emphasis will be placed on conservation of the ecological and socio-cultural integrity of the town and its environs through the pursuit of environmentally sensitive activities.

This option assumed that Arima's share of the national population of 1,400,000 persons would increase to 5 percent by 2020 based on past in-migration trends, ongoing housing developments, and expected increase in business and employment opportunities under this scenario. A population of 70,000 persons was therefore projected for the town by 2020.

The expected growth in population would be accommodated through

infilling and intensification of development within the existing communities in the town as well as within the neighbouring communities of Santa Rosa Heights and that section of Maturita which currently falls outside of the Borough in the east and Olton Road and Samaroo Village in the west. It is proposed that the boundaries of the Borough be extended to include these communities.

On the basis of the proposed expansion of economic activity and substantial increase in population under this scenario, the overall ratio of business places to population in the town is projected to increase over the 2000 ratio. At the community level, the most significant increase in business activity would take place in Malabar, with the proposal to introduce a higher level of service to that part of the town.

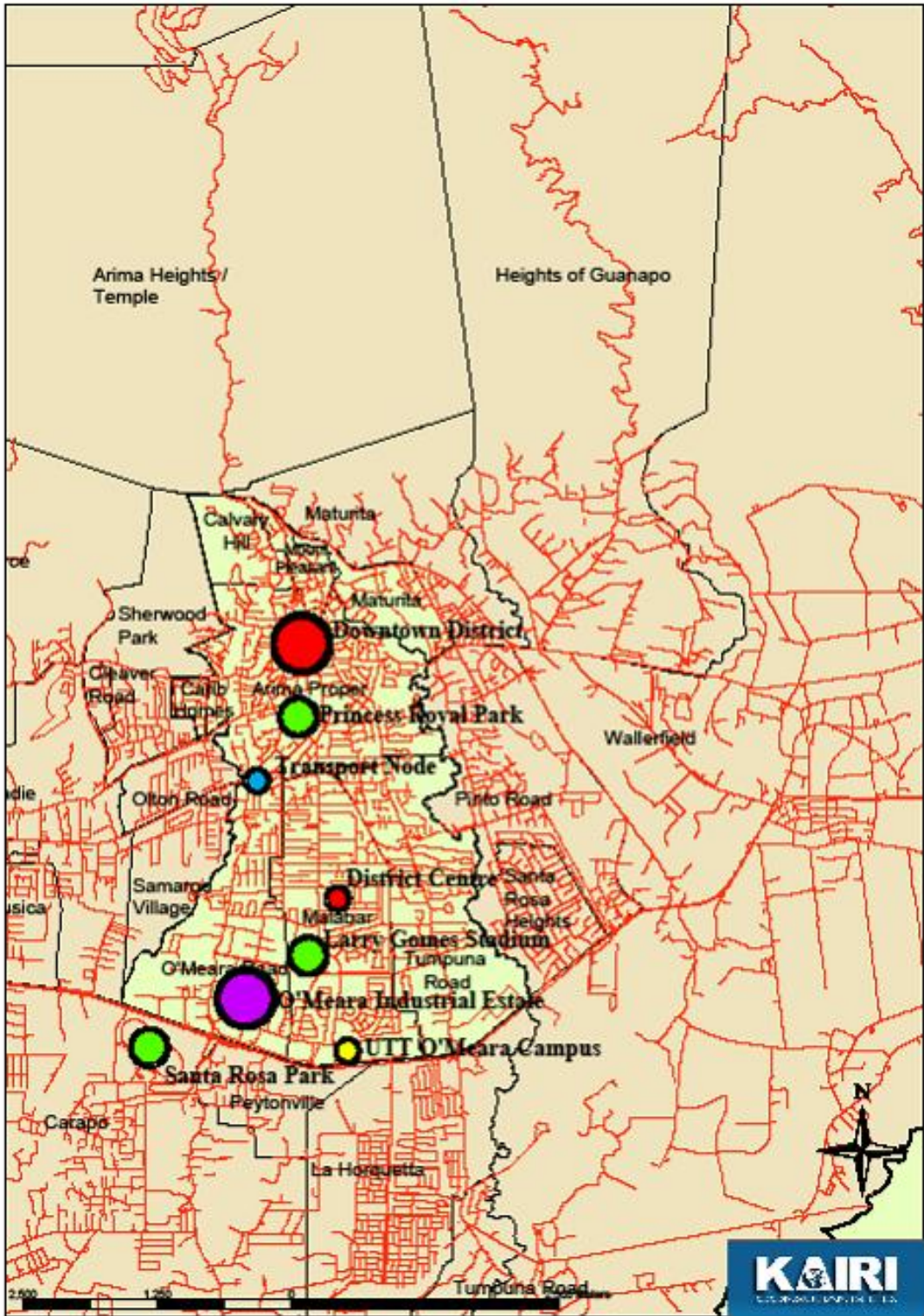


Figure 3.1: Service Centre Concept

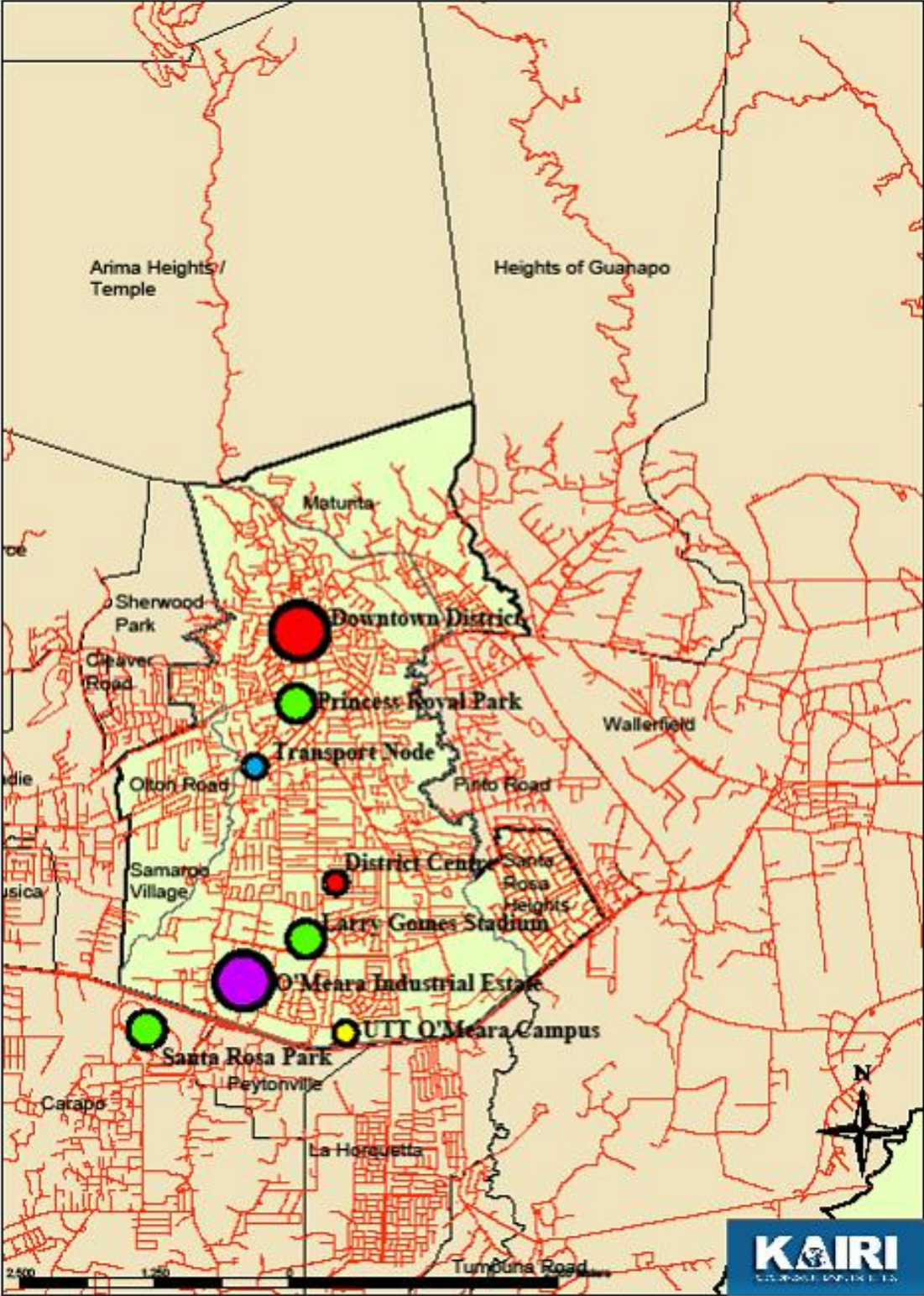


Figure 3.2: Eco-Cultural City Concept

3.3.3 Growth Pole/ Development Magnet Concept

This concept goes beyond investment in basic social and physical facilities and assumes heavy investment in administrative, financial, industrial, and other business services in order to increase the service function and status of Arima as the major urban and regional centre in east Trinidad. Arima will act as a strong counter magnet to Port-of-Spain at the eastern end of the East West Urban Corridor, and as the 'new town' to service proposed industrial (Tamana Park) and institutional (UTT's Main Campus) activity at Wallerfield and the rest of east Trinidad. This option adopts a 'growth pole' theme that would involve:

- Implementation of infrastructure upgrading programme and other activities outlined in Option 1.
- Introduction of incentives for private sector investment in financial, industrial, and tourism activities and other business services.

- Decentralisation of relevant central government services to Arima.
- Positioning Arima as the service town for proposed major industrial and institutional development at Wallerfield.
- Establishment of a new town centre at Wallerfield, which would be complementary to the existing town centre and to a proposed district centre at Malabar.
- Annexation of vast expanses of land for urban expansion - housing, commercial, industrial, etcetera.
- Expansion of infrastructure systems and facilities to support development activity in new areas of growth.

The scale of development proposed under this scenario would require a longer period for implementation. Hence, the plan period for this option was extended to 2030. An ultimate population of 90,000 persons was projected to 2030, but at the intermediate stage of 2020 the population was expected to reach 70,000 persons.

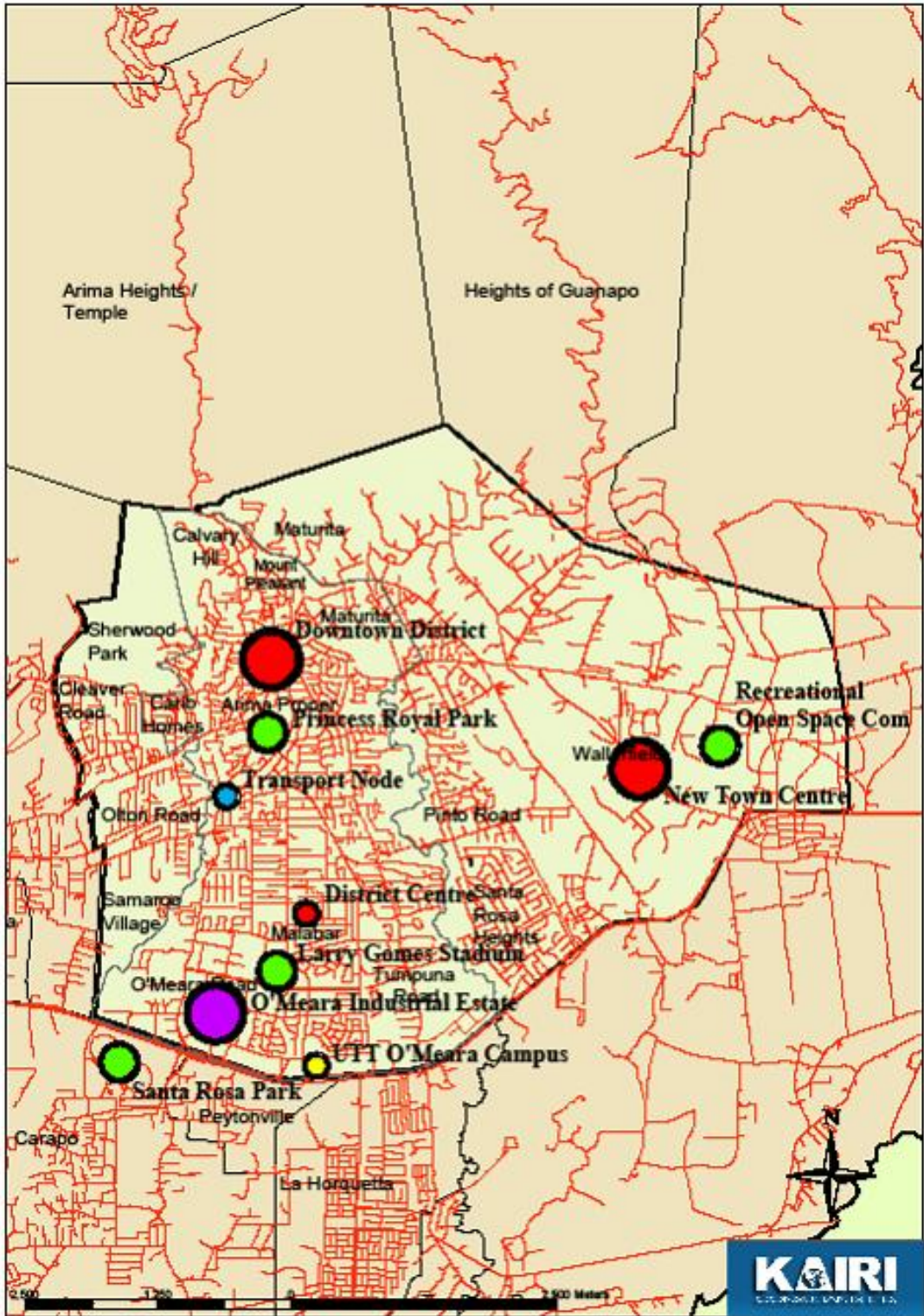


Figure 3.3: Growth Pole/Development Magnet Concept

The expected growth in population would be accommodated through infilling and intensification of development within the existing town and in the neighbouring communities of Olton Road, Samaroo Village and Sherwood Park in the west and Santa Rosa Heights, Pinto Road, and that section of Maturita which falls outside of the existing boundaries of the Borough in the east. In particular however, substantial areas in Wallerfield, especially lands immediately north and south of the Eastern Main Road, would be developed to accommodate a population of over 10,000 persons as well as large-scale commercial and business activities.

3.3.4 Evaluation of Scenarios

The ABC hosted a consultation on June 02, 2009 attended by major stakeholders. The participants agreed on the Vision and the Development Objectives that would guide development of the Borough to the year 2020.

The process involved essentially, comparing the options in terms of social, economic, environmental and traffic/transportation impacts, and ease of implementation, each of which was assigned a numerical weight by the stakeholders. The weighted scores for each criterion were summed to arrive at a total score for each.

At the end of the process the Eco-Cultural City Concept was found to have scored highest, and was determined to be the option based on which the plan would be drafted.



3.4 Development Strategy for Arima



3.4.1 Development Theme

Making Arima the Eco-cultural City of Trinidad and Tobago

Arima has pride in its culture and traditions. It is the official home of the First Peoples of Trinidad. Its Catholic Church and the square in front of it reflect the traditional manner of settlement by the Spaniards, and of the Missionaries who came to bring Catholicism to the First Peoples. The acceptance of the Santa Rosa of Lima attests to the religious syncretism or two cultures, that of the First Peoples and that of the Spaniards.

The Cedula of population brought a substantial number of immigrants from the colonies of France in the late 18th century who came with their slaves; they were joined subsequently by

peones from Venezuela who provided a labour force to replace emancipated Africans who had left sugar plantation on the plains.

Indian workers were to join the work subsequently after the end of the indentureship as employees on cocoa estates, and in other activities, and new settlements grew up around the town over time as it was constantly fed with new immigrants at various stages in its development from throughout the 19th and 20th centuries.

World War II marked another interesting episode as the American base at Wallerfield attracted new residents seeking employment there. In the post-independence period, the town became the locus of additional settlements as Government and the

private sector sought to fill the demand for housing.

Arima is therefore a place of cultural mixing, with various waves of immigrants entering the location that was first identified for living by the First Peoples of Trinidad, who gave the settlement its name.

There is unanimity in the view that the town has to recover the serenity and the pristine beauty of its past, and while cherishing its roots that are distinctively of the First Peoples, Arima has to present all the cultural influences that have converged in this one place, from Europe, Africa, and Asia.

A resource-oriented and ecological approach to development has been selected as the underlying theme of the Spatial Development Plan, based on the rich natural and cultural resources of the Borough and its environs. Further, certain initiatives have been cited in the Plan (Environmental Management Policy B3) aimed at specifically shaping Arima into the Eco-cultural City of Trinidad. Paramount to the success of these initiatives is the branding and marketing of Arima as the Eco-cultural City, which should start from the onset of the Plan period.

3.4.2 Overarching Policies

The selected strategy involves rationalisation and upgrading of the service function of the town, strengthening and diversifying the

economic base, increasing employment choices, enhancing the quality of the physical environment and the integrity of the natural and cultural environment. Strategic policy measures of the strategy involve:

- a. Improvement of the social and physical infrastructure systems and facilities to serve the residents of the town and to strengthen the traditional role of Arima as an important regional service centre in north-east Trinidad.
- b. Encouragement of investment in nature and cultural tourism and other sustainable economic activities such as would promote and conserve the natural and cultural assets of the town and its environs and broaden the economic base.
- c. Conservation of the natural and cultural assets of the town and its environs, and upgrading of the functional efficiency and aesthetic appeal of the key public spaces and routes in the town such as the Downtown District and other commercial nodes.
- d. Revitalisation of the industrial estate with industrial activities better geared to attract high level tertiary personnel.
- e. Accommodation of a projected population of 70,000 persons by the year 2020 within the existing

Borough and three neighbouring communities.

The strategy assumes a high level of investment and participation in the development process on the part of the private sector. Community-oriented development and small business activity will also be encouraged. As well, local government reform is expected to provide the Arima Borough Corporation with a greater level of autonomy and funding to coordinate the development process.

3.4.3 Population Size and Distribution

The selected scenario projected a population of 70,000 persons by the year

2020 to be accommodated within the existing Borough and three neighbouring communities. The Spatial Development Plan however, only covers the existing Borough and as such, the projected population has been adjusted accordingly. A population of 60,000 persons is projected for the Borough by itself to the year 2020.

The distribution of the projected population among the eight communities in the Borough approximates the distribution pattern that obtained in 2000 (Table 3.2 and Figure 3.4). Most significant is that the communities of Arima Proper (29.0%), Malabar (27.8%), Tumpuna Road (17.3%), and O'Meara Road (10.0%) will continue to accommodate the largest shares of the population.

Table 3.2: Population Distribution by Communities, 2000 and 2020

Community	Population			
	2000		2020	
Arima Proper	10,499	32.5%	17,400	29.0%
Calvary Hill	1,348	4.2%	2,100	3.5%
Carib Homes	567	1.8%	720	1.2%
Malabar	9,141	28.3%	16,680	27.8%
Maturita	1,215	3.8%	4,200	7.0%
Mount Pleasant	1,576	4.9%	2,520	4.2%
O'Meara Road	2,755	8.5%	6,000	10.0%
Tumpuna Road	5,159	16.0%	10,380	17.3%
Arima Borough	32,260	100%	60,000	100%

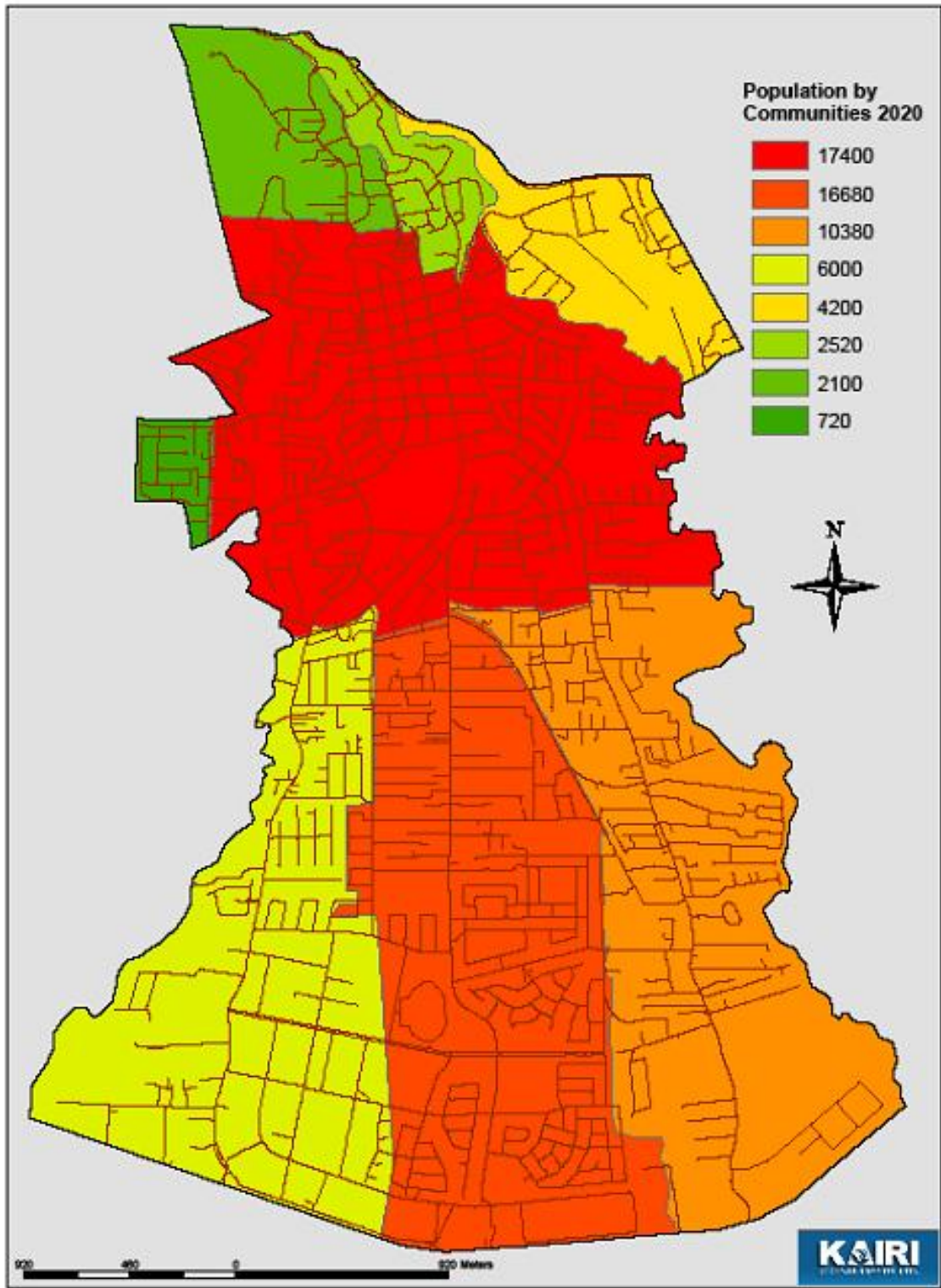


Figure 3.4: Distribution of Population in Communities, 2020

3.4.4 Spatial Development Framework

The policies shape the broad spatial development framework shown in Figure 3.5. The framework gives a guide to the allocation of the land in the Borough and the treatment of major features to 2020 as follows:

- Continued residential development in most of the region to accommodate the 60,000 persons who are expected to reside there by 2020, with significant expansion and/or consolidation in Malabar and Arima Proper;
- Upgrading and development of the open spaces, natural areas, and cultural assets of the Borough;
- Enhancement of the Downtown area including the Princess Royal Park;
- Development of a District Centre in Malabar and Local Centres in Calvary Hill, Maturita, O'Meara Road, and Arima Proper on Tumpuna Road;
- Upgrading and improvement of social and physical infrastructure, including public and protective services, throughout the Borough; and
- Development of a Transit Hub at the O'Meara Road/Priority Bus Route intersection.

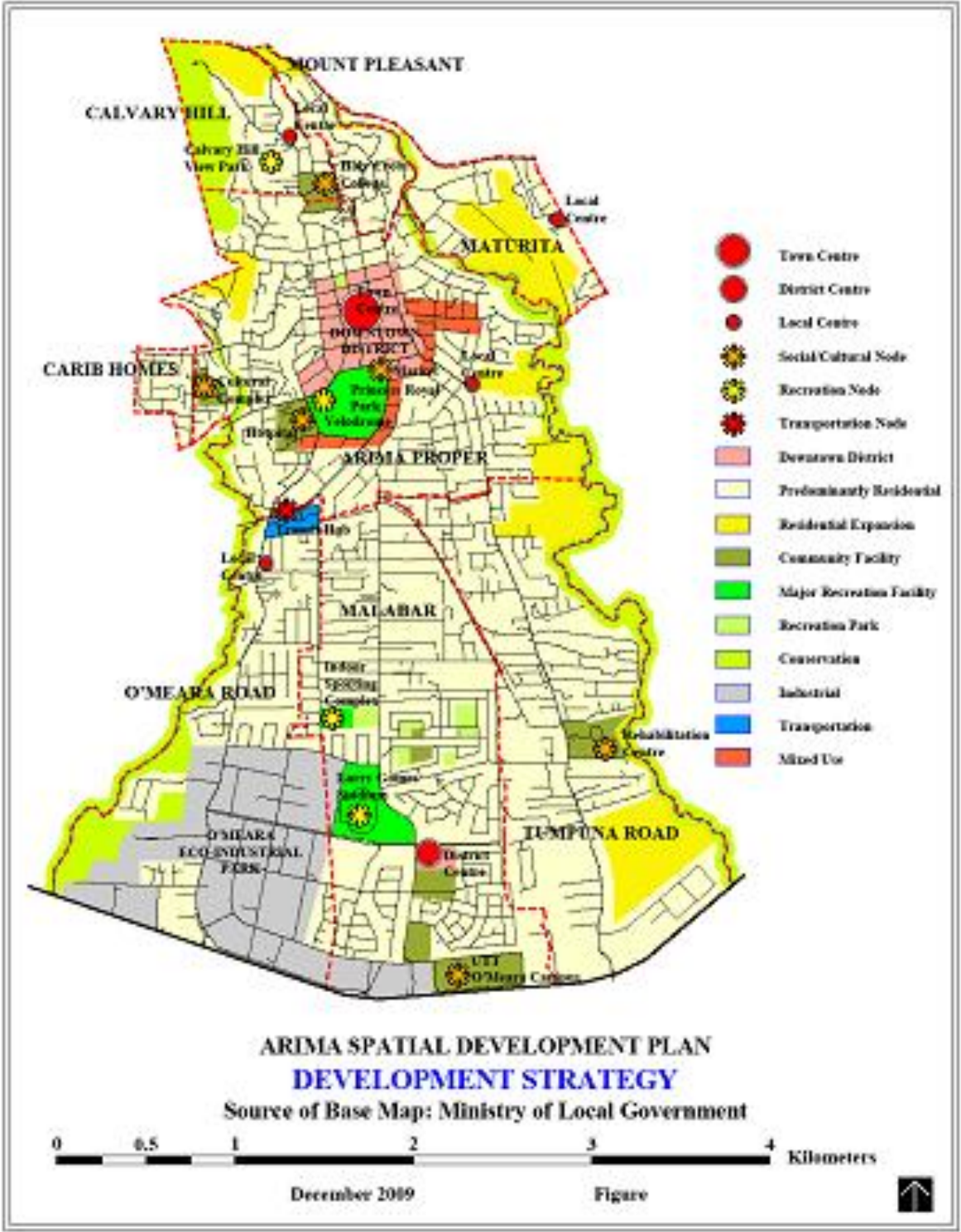


Figure 3.5: Arima Borough Development Strategy

Thematic Policies and Proposals

4.1 Urban Design



4.1.1 Urban Character

Existing Form

Arima is an urban centre whose form is structured by elements of its environmental context, landscape framework, architectural forms, and street environment. The town has a compact development form which is framed by distinct boundaries comprising the Arima River in the east, Mausica River in the west, the foothills of the Northern Range in the north, and Churchill Roosevelt Highway in the south.

Distinctive Places

The primary district in the spatial form of Arima (Figure 4.1) is the Downtown District, which is located at the heart of the original town and functions as the highest level commercial centre. The Downtown District is complemented by another original landmark feature in the town - Princess Royal Park - which is situated on the southern boundary of the Downtown District and serves as a major focal point for recreation and entertainment activities. Together, the Downtown District and the Park represent the nucleus of Arima, notwithstanding that they hold an eccentric off-centre location in the northern half of the town.

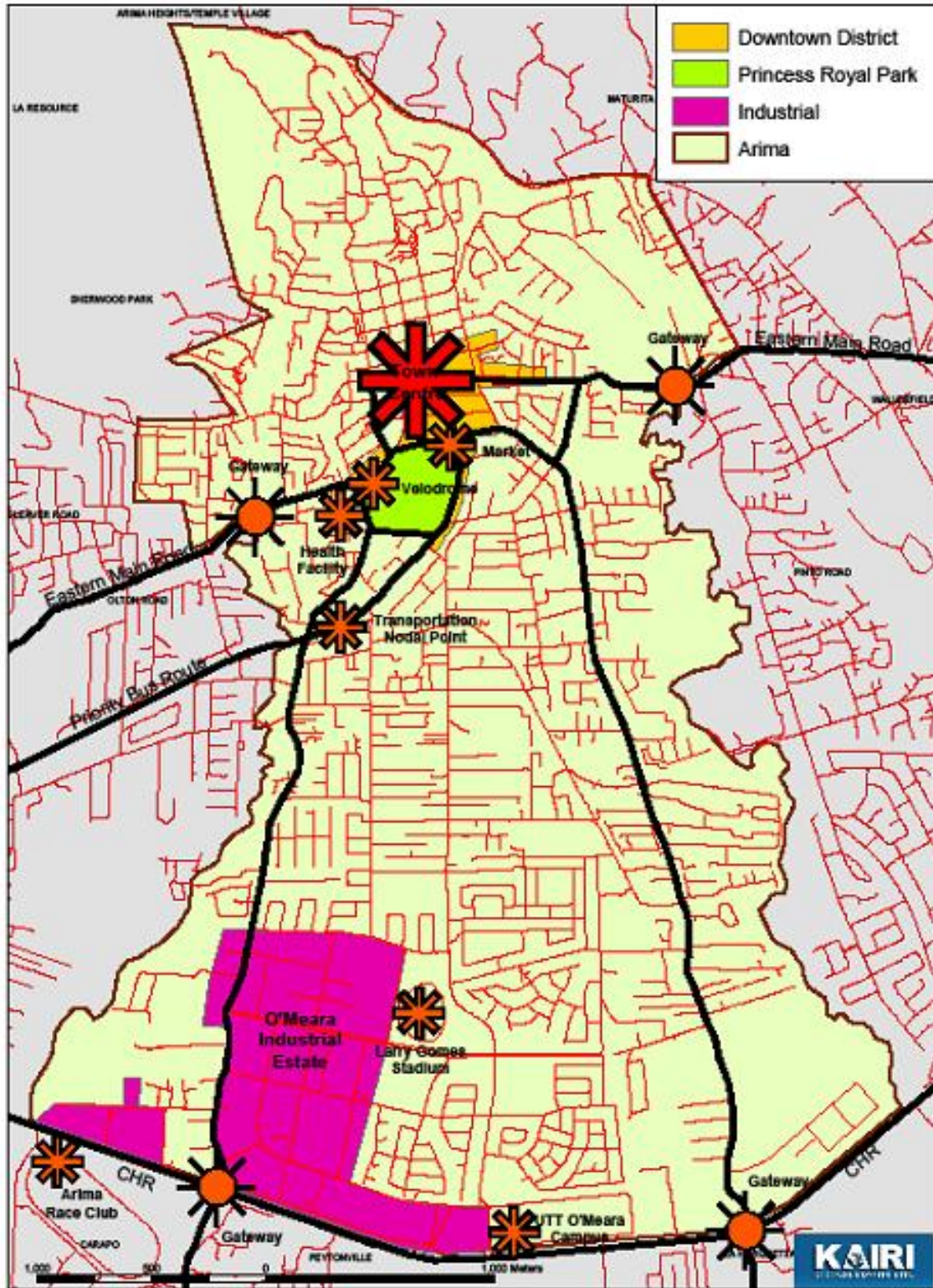


Figure 4.1: Urban Form

Other key focal points in Arima are the O'Meara Industrial Estate, which is the main employment centre in the town; the Larry Gomes Stadium; and the O'Meara Campus of the University of Trinidad and Tobago. All of these facilities are located in the southern section of the town.

Functionality and Safety

While the main employment centre and new housing developments are located in the southern section of the town, the nucleus of the town, as represented by the Downtown District and Princess Royal Park, holds an off-centre location in the northern section of the Borough. This represents a discordant spatial system, which could affect the functioning of Arima.

Connectivity between the original town in the north and the newer development areas in the south is in fact restricted by the limited capacities of the two main north-south arterials – O'Meara Road and Tumpuna Road. Further, the Downtown District itself is characterised by traffic congestion and pedestrian and vehicular conflicts.

As is the case with many other urban centres in the country, Arima is experiencing social safety problems, particularly crime and the dangers and conflicts arising from traffic congestion in the Downtown District.

Adaptability

While the conversion of residential uses to commercial activity has been occurring in Arima Central, the buildings in the area are generally unsuited for efficient adaptation. New development projects must be encouraged to be more flexible in design in order to meet changing circumstances and needs.

Environmental Quality

Arima is facing a number of issues relating to the quality of the urban environment. Such issues include limited land space for future development; urban congestion and decay particularly in the Downtown District; environmental impacts of squatting; and indiscriminate waste disposal practices.

Design Models

Certain places and features in Arima represent examples of good urban design. Aspects of such prototypes could be taken into consideration in the structuring and design of other urban places and features. The prototypes and their special design qualities include the following:

- *Downtown District* – represents a compact district with an efficient grid street pattern.
- *The Dial* – a key historic landmark feature (clock tower) at the intersection of the main shopping

streets (Broadway and Queen Street) in the Downtown District.

- *The Market* - historic structure and major activity centre which acts as a counter magnet to the Dial along Queen Street.
- *The Town Hall* - Historic structure built in 1949 on Sorzano Street and accommodating the office of the Mayor and the chamber of the Borough Council.
- *Santa Rosa RC Church* - important landmark located on Woodford Street in the original town. Santa Rosa is the second oldest parish in the diocese of Port of Spain.
- *Lord Harris Square* - a key open space feature associated with and situated opposite to Santa Rosa RC Church.
- *Princess Royal Park* - a large open space feature and recreation focal point located in the heart of the original town and which together with the Downtown District form the nucleus of Arima.
- *Hyarima Statue* - statue of the Carib Chief Hyarima located at the western side of the Velodrome.
- *Calvary Hill View Park* - located on the foothills to the north of the town, this park has tremendous potential for development as a historic feature and scenic park offering spectacular views to the lower town.

- *Malabar South* - well laid out housing community with a mix of housing types and adequate provision for community facilities.

4.1.2 Design Policies and Strategies

This Section outlines the basic urban design objective for Arima as well as policies and strategies aimed at establishing an overall design framework for the town.

Strategic projects are also identified which will contribute to the improvement of the quality of life in the town and act as catalysts for the development of other public and private sector projects. It is expected that subsequent local area and action area planning activities would include the formulation of more detailed design policies and development control standards to guide future development activity.

Objective A:

Within the context of the existing urban form and with a view to developing appropriate design policies and strategies for Arima, the basic urban design objective for the town is to secure functional efficiency and aesthetic appeal.

Policy A1:

Provision will be made for a legible townscape and efficient spatial relationships and connectivity among the various districts and activity centres in the town.

Key strategies to achieve the appropriate urban design framework for the town involve the following:

- a. Maintaining the compact development form of the town within its defined boundaries by pursuing a strategy of consolidation and rationalisation of development in areas of piecemeal, low intensity development. Opportunities for rationalisation and consolidation of development would need to be investigated in further detail in such places as Malabar, Tumpuna Road, and Maturita in a local area plan for the town.
- b. Establishing a more balanced spatial system by developing a district centre and other community facilities in the southern section of the town at Malabar to meet the basic needs of residents in the area and to complement the Downtown District.
- c. Establishing a complementary transportation system and clear street hierarchy network consistent with the distribution of key activity centres and community facilities.

- d. Highlighting the key activity nodes, landmarks, landscape framework, and vehicular and pedestrian routes in order to establish a legible environment.

Overall, the type, location, scale, and sequence of development activity must also be coordinated such as to secure the most sustainable and efficient use of land, to facilitate ease of access to community facilities and employment centres, and to conserve the ecological integrity and cultural identity of the town.

Policy A2:

As a key component of the overall design framework for the town, an underlying and coherent landscape framework comprising recreation parks, riverside parks, hillside areas, and an enhanced street environment will be established in the town and merged into the northern foothills.

This policy will be pursued by means of the following measures:

- a. Upgrading and developing parks, recreation grounds, and other open spaces as key elements of the landscape framework.

- b. Optimising the conservation and use of such key natural resources as the Arima and Mausica River Systems and the hillsides to the north of town through such measures as re-vegetation and erosion control where necessary and introduction of nature trails, interpretive stations, picnic sites and shelters, and bathing pools.
- c. Enhancing the environmental quality of the road network, including:
 - Highlighting the main gateways to the town along the CRH and the EMR.
 - Establishing appropriate aesthetic measures along the major routes and local streets to increase their scenic value and facilitate safe and pleasurable circulation.

The landscape framework is intended to serve a wide range of purposes, including enhancement of the identity and image of the town, provision of recreational opportunities, conservation of biodiversity, storm water management and flood control, and contribution to climate change adaptation and mitigation.

Policy A3:

- d. *Within the context of the proposed urban design framework, the key activity centres and points of interest will be developed as safe, comfortable, adaptable, and vibrant public spaces which reflect or conform to the special identity and image of Arima.*

Downtown District

The Downtown District represents the primary district in Arima and, together with Princess Royal Park, forms the nucleus of the town. Street life is particularly intense in the Downtown District. Land use and intensity of activity have contributed to the deterioration of the street environment which is now characterised by a cluttering of signs, advertisements, and overhead utility wiring; traffic congestion and pedestrian and vehicular conflicts; and a lack of basic street furniture and fixtures for weather protection, general comfort, and orientation.

With a view to enhancing the quality of the environment, it is recommended that an action plan be prepared for the Downtown District that includes provision for a safe, comfortable, and vibrant pedestrian realm, and efficient traffic circulation, as follows:

- a. Introducing ‘partial pedestrianisation’ along that section of Queen Street between

Broadway (The Dial) and Hollis Avenue (The Market) as the main shopping street (Figure 4.2). The concept of 'partial pedestrianisation' would involve widened, barrier-free sidewalks; sidewalk extensions at crosswalks; clearly defined crosswalks; weather protection canopies and street trees; street furniture (benches, lighting, etcetera); and access for public transport vehicles (buses, maxi taxis). Access for public transport vehicles is being proposed for reasons of convenience and security and to maintain a vibrant street environment. Introducing measures for pedestrian comfort and safety, and providing for a stimulating sequence of movement, vistas, and activity (shopping, etcetera) along routes of high pedestrian activity in order to enhance the urban experience and the vitality of Downtown.

- b. Placing utility cables underground and instituting consistency in the placement and form of business signs.
- c. Instituting appropriate traffic management measures including directional and street signs.

Enhancement activities in the public realm would need to be complemented by appropriately designed building facades and courtyards to increase the overall attraction of the Downtown District.

Malabar District Centre

With a view to increasing the level of commercial service in Malabar and as a complementary feature to the Downtown District, a District Centre is proposed to be established in Malabar in the vicinity of Larry Gomes Stadium. A site at the south-eastern corner of the intersection of Lennox Yearwood Boulevard and Flamingo Boulevard has been earmarked for commercial use by the HDC. That site had been previously identified for the establishment of a District Centre by the Town and Country Planning Division (TCPD, 1991). It is therefore recommended that the site be used for the proposed District Centre subject to an assessment of the traffic implications of placing the facility at that location.

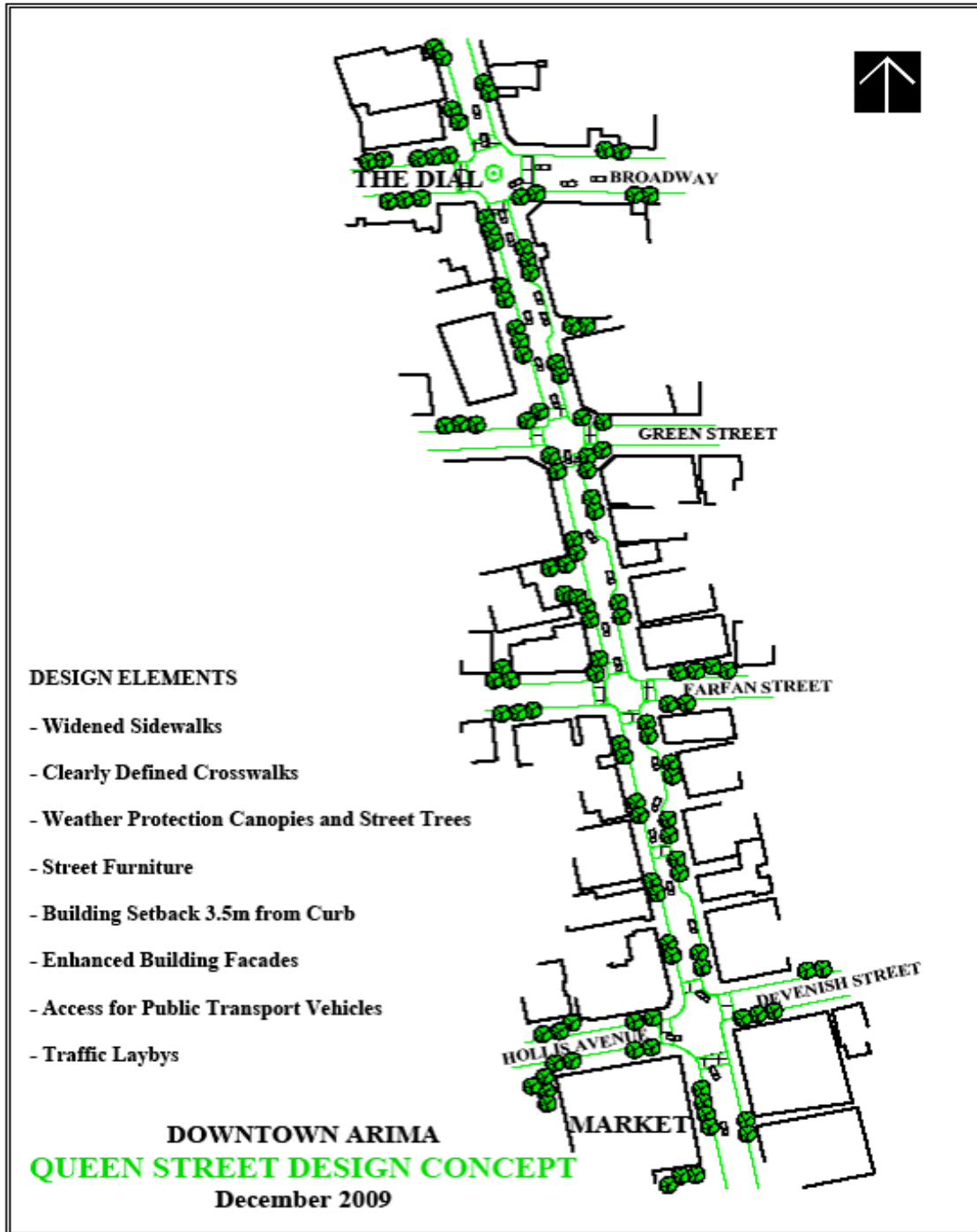


Figure 4.2: Queen Street Design Concept

The District Centre would comprise convenience and entertainment facilities such as a supermarket, drugstore,

restaurant, bank, variety shops, personal services (barber, laundry, etcetera), and professional offices (medical, dental,

etcetera). Adequate parking, landscaping, and a public plaza are also to be included in the complex in order to create a convenient, comfortable, and vibrant service facility. An area of between 1.2 and 2 hectares would be required for development of the complex.

Local Commercial Centres

Existing commercial strips along O'Meara Road and Tumpuna Road would need to be rationalised and consolidated into more compact local centres with appropriate landscaping and parking provision.

Other Points of Interest

Other points of interest are proposed for development as follows:

- a. Rationalisation of the functional and aesthetic aspects of Princess Royal Park in keeping with its status as a primary open space facility in the heart of the town.
- b. Establishment of a landscape system at O'Meara Industrial Estate as part of the process of transforming the estate into an Eco-Industrial Park (See Policy B).
- c. Providing individual residential districts with their own identity and aesthetic appeal through landscaping and accentuation of gateways and landmarks in the districts.
- d. Introduction of artefacts and public art, representative of the cultural base of Arima, at landmark buildings and key public spaces in the town.
- e. Restoration of significant historic resources (structures, sites, districts) and utilisation of other important renewable urban resources such as derelict sites and buildings.
- f. Designing new development projects in harmony with the natural and cultural environment.

4.2 ENVIRONMENTAL MANAGEMENT



The environmental and cultural assets of Arima are expected to play a significant role in its future development. Human settlements, commerce and industry ultimately depend on its natural resources, such as its climate, land resources, forests, water resources, and its historical and cultural resources. Key among its resources is its people including their attitudes, behaviours and activities towards the environment.

Environmental sustainability is the ability to maintain the qualities that are valued in the physical environment. Through the planning consultation process, the people of Arima have indicated that environmental sustainability should be the cornerstone of future development efforts in the town and have articulated what it means to them, as follows:

- Maintaining a high quality of life for burgesses.
- Restoring and uplifting the liveability and beauty of the main Commercial Centre.
- Greening Arima and reducing its carbon footprint.
- Preserving and recognition of the history and cultural traditions of Arima including the First Peoples heritage of the Borough.
- Operation of settlements, industry and commercial entities without resulting in pollution.
- Changing the attitude and behaviour of burgesses toward the environment.

- Restoring the pride of place of Arima in the development of Trinidad and Tobago.

Objective B:

Consistent with the selected Eco-Cultural City Concept and its 'resource-oriented and ecological' development theme, a key objective of the Arima Spatial Development Plan is to secure environmental and cultural sustainability in the Greater Arima Area.

Policy B1:

Promote the principle of wise use and management of key natural resources and other environmental assets.

Smart Living Project - Increasing Environmental Awareness and Responsibility

Much of the environmental conservation and protection required to bring about sustainable development of the Arima Borough depends on the commitment and behavioural change of its burgesses, both corporate and individuals. The Vision 2020 draft National Strategic Plan lists as one of its goals, increased public awareness and development efforts by private sector groups, and community-based activities in the maintenance and enhancement of the environment. The Cabinet-approved 2007 National Action Programme to Combat Land Degradation also

reiterates this goal and outlines the Land-related Education and Awareness Programme (LEAP) listed as a Priority One Project 'meant to raise the importance of land resources in all levels of the education system and to increase general awareness of the socio-economic, cultural and ecological functions of land to bring about a change towards sustainable management and wise use.'

The **Smart Living Project** to be championed and implemented by the ABC is in keeping with the LEAP. The project, a long-term one, is geared to:

- Fostering positive environmental behavioural change among burgesses
- Allowing people to examine and adjust their consumption patterns
- Actively promote environmental responsibility
- Increasing awareness of sustainability issues
- Supporting and strengthening community groups and networks.

The project which will first be undertaken as a pilot, will involve the ABC's working closely with the Ministries of Local Government; Planning, Housing and the Environment (MPHE); Agriculture, Land and Marine Resources (MALMR); and Community Development, Culture and Gender Affairs (MCDCGA) in addition to the Environmental Management Authority

and the UTT. Specific objectives will be developed for the programme.

The programme represents a unique opportunity for the ABC and the burgesses to define what Living Smart means to the Arimians and to encapsulate and promote this through public sensitisation and training programmes. A website will be developed which would provide information on a number of important lifestyle topics such as energy, waste, wise purchasing and conservation in homes and business. Interactive training activities geared to increasing awareness, information sharing and social interaction will also be developed, targeting groups and organisations working in the city.

While most of the Programme activities will be voluntary, consideration will be given to developing a programme which can form part of the certification for ABC contractors.

Conservation of Environmental Assets

It will be important to optimise the conservation and use of the environmental assets of Arima and its environs. Key features of ecological importance include the Mausica River, Arima River, and the foothills of the Northern Range, while features of landscape and amenity value include the Cleaver Woods Recreation Park, the Arima-Blanchisseuse Road, the Princess Royal Park, and the Calvary Hill View Park.

Riverside parks are proposed along the Mausica River and Arima River in order to maintain the integrity of these river systems and for purposes of education, recreation, and flood protection.

Policy B2:

Ensure minimisation of energy usage, effective management of municipal waste, and reduction of noise, air, water, and land pollution.

Integrated Waste Management

The National Action Programme to Combat Land Degradation (2006-2020) has as one of its short-term objectives, the need to improve municipal solid waste collection and disposal systems as well as to explore the adoption of new technologies in waste disposal. The Arima Borough Corporation in collaboration with the Solid Waste Management Company Limited (SWMCOL) and the MLG is to adopt an integrated municipal waste management system which supports the following:

- a. Greater responsibility by individual and corporate burgesses for the waste they generate.
- b. A reduction in the amount of waste generated at the household and institutional levels.

- c. Sorting waste at source.
- d. Increasing recycling and re-use of waste.
- e. Proper handling, transport and disposal of hazardous waste including medical and industrial waste.
- f. Developing a system within the Borough for composting of waste.

The ABC will formulate and implement an action plan which sets out its proposals for reducing the amount of waste reaching the disposal facilities and for improving its waste collection and disposal systems. The action plan must also address the establishment of municipal recycling programmes to encourage greater recycling and reuse by their residents. It will also be important for the Corporation to strengthen its system for waste collection and disposal.

Eco-Industrial Park Concept

For purposes of pollution reduction and other benefits, it is proposed that O'Meara Industrial Estate be transformed into an **Eco-Industrial Park (EIP)** in which businesses will seek "enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues" (Eco-Industrial Park Handbook). Key elements of the EIP concept involve:

- Improvement of the economic performance of the participating companies while minimising their environmental impacts.
- Green design of park infrastructure and plants (new or retrofitted).
- Cleaner production, pollution prevention, and energy efficiency.
- Provision of benefits to the local community in terms of a cleaner, healthier environment; business and job development; attraction for recruitment; and an end to conflict between the economy and the environment.

As far as possible and as a general principle, only environmentally sensitive and energy efficient activities should be introduced into the town.

Policy B3:

A key aspect of the Eco-Cultural City Concept will involve restoration and conservation of important aspects of the cultural heritage of Arima.

Certain features representative of the cultural heritage of the town will be established in keeping with the selected concept and development theme. These features are a **Carib Village** to honour the First Peoples of Trinidad; a **Museum**

of the **Living Cultures of Arima** to highlight the cultural distinctiveness of the town; a **Biological Museum** to document traditional knowledge of the use of medicinal plants; and a **Cultural Centre for the Arts** to allow for expression of the cultural heritage. An inventory of sites, structures, and other artefacts of historical and cultural significance in Arima will also be carried out as another aspect of the restoration and conservation process.

Carib Village

There is the need to give recognition to the First Peoples of Trinidad with a fitting site on which will be re-created a village reminiscent of life prior to the coming of Europeans. Members of the Carib Community of Arima have already completed substantial background work and have approached the Government seeking the allocation of State lands in the vicinity of Calvary Hill for establishing the village. As the only such endeavour in the country, it should secure full support and, in turn, honour the First Peoples with a fitting tribute. The village is expected to consist of the following:

- Site of approximately 10 hectares in close proximity to Calvary Hill.
- Replicas of living accommodation in which would reside ten to fifteen families of Carib ancestry, who are

committed to celebrating some aspects of the Carib way of life.

- Museum of Carib art, culture and artefacts.

There will be need for collaboration with academic institutions, especially initially in Spain on areas of mutual interest. Indeed, Spain might be the source of replicas and records relating to the First Peoples of Trinidad.

Museum of Living Cultures of Arima

The retention of the cultural distinctiveness in the future will depend on the extent to which there are initiatives to instil in every generation an understanding and appreciation of the history and culture of the place. There is need to have the history fully documented. All materials of the past will be archived for posterity.

There is need for the collation and preservation of any artefacts, documents and other records that could be secured on the various stages of its development. This will be done through the establishment of a Museum of the Living Cultures of Arima, whose architecture will depict the past in the contemporary; and through other measures that constantly remind and reinforce the idea of Arima as a place steeped in its cultural distinctiveness. The Heritage Centre will document the contribution of all who have joined the First Peoples of Arima in making the place what it is today.

There are many people from Arima who have risen to prominence at the national, regional and international level and their life histories and their contributions need to be noted. The first Speaker of Parliament in an independent Trinidad and Tobago, Mr. Arnold Thomasos, was from Arima. One of the most celebrated Calypsonians, and the 'Road March King' of the latter half of the 20th Century was Aldwyn Roberts (Lord Kitchener). There are athletes who became Olympians and other sports personalities who have made their mark on the world. The documentation of all of this with appropriate artefacts will be necessary for the Museum or Heritage Centre of Arima.

The Heritage Centre will require:

- Design and construction on an appropriate site;
- Collation of materials, artefacts, and memorabilia;
- Development and implementation of activities, including the conduct of seminars on local history, development of educational materials, documenting of craft, music, dance, etcetera;
- Establishment of collaborative arrangements with local and foreign academic and research institutions with comparable interest.

Biological Museum

There is a significant amount of traditional knowledge of the use of medicinal plants used by the various peoples of Trinidad and Tobago. Given Arima's thrust to be the country's Eco-cultural City it may be important at this stage to look into the feasibility of developing a biological museum which focuses on the medicinal herbal traditions of the country's and/or Caribbean region various cultures.

Honouring the Contributors to Arima's Development

The ABC will honour people who make a contribution to the town or excel in some way that brings credit to the City, by conferring the title of 'Gens Arime' on such worthy contributors. This is one way of retaining the sense of positive difference that born and bred Arimians have had about themselves.

Cultural Centre for the Arts

By way of promoting the eco-cultural concept, the plan includes proposals for the establishment of a Cultural Centre for the Arts as a visual and performing arts facility (see Section on Cultural Complex below).

The Arima Municipal Heritage Inventory

There are several places and structures within Arima that are of cultural

heritage significance to its burgesses. Notwithstanding the national inventory of sites of historical and cultural heritage significance, the ABC will work with the Historical Heritage Unit of the MOWT and the Historical Society of Trinidad and Tobago in developing the **Arima's Register and Inventory of Significant Cultural Heritage Sites** which will include historical sites, structures and other artefacts within Arima. The home of this Inventory will be the Arima Heritage Centre.

As part of the initial assessment undertaken in preparation of the Spatial Development Plan a number of sites has been listed which should be considered of cultural heritage value. The sites are as follows:

- a. *The Dial* - Located at the intersection of Queen Street and Broadway. The original dial was donated by then standing Mayor John Francis Wallen in 1898 in commemoration of the 10th Anniversary of the chartering of Arima as a Royal Borough.
- b. *The Santa Rosa Roman Catholic Church* - Located on Woodford Street, the church was established April 20, 1786 as the Indian Mission of Santa Rosa de Arima on the foundations of a Capuchin Mission previously established in 1749. Santa Rosa is the second oldest parish in the diocese of Port-of-Spain.
- c. *The statue of the Carib Chief, Hyarima* - Located at the western side of the Velodrome in Arima, facing the Eastern Main Road.
- d. *Santa Rosa Park/Lord Harris Square* - Situated opposite the Santa Rosa RC Church, first named by the Amerindians as Lord Harris Square who it was said was the British Governor at the time (in the mid-1800s) who had developed a "special" relationship with the Amerindians.
- e. *Calvary Hill* - Is the location where, each Easter, the procession of the Stations of the Cross takes place. The area is also home to the Carib descendants.
- f. *Old Textile Factory* - now being considered as a potential site for the establishment of a comprehensive cultural complex.
- g. *The Town Hall* - Situated on Sorzano Street, the Hall was built in 1949. Housed within it is the office of the Mayor, the second floor is used as the meeting chamber of the Arima Borough Council.
- h. *The Arima Velodrome* - Considered one of Arima's modern landmarks, the Velodrome has the only cycling track of its kind in the country.

- i. *Cleaver Woods Recreation Park* – Known for its nature trails and a thatched hut containing a display of the artefacts of the Amerindian presence in Trinidad and Tobago.

Further, collaborative arrangements will be established with the UTT and other academic and research institutions with an interest in carrying out research on the cultural heritage of Arima for educational purposes and to support the eco-tourism thrust.

Cultural Complex

For reasons of convenience and by way of establishing a major cultural node in Arima, it is recommended that the old textile mill site be re-developed as a cultural complex to include a library and proposed cultural heritage features such as the Museum of the Living Cultures of Arima, the Biological Museum, and the Cultural Centre for the Arts. A robust feasibility analysis of this proposal must, however, be undertaken prior to development, particularly with regard to access to the site, its size and condition and placement of existing structures.

Policy B4:

Protect natural resources, population, property, economic activity, and infrastructure facilities from the effects of environmental hazards and the impacts of climate change.

Land Use Policies and Construction Standards

As part of the environmental management programme for Arima, it will be important to institute measures to protect natural resources, population, property, economic activity, and infrastructure facilities from the effects of environmental hazards and the impacts of climate change. In that regard there will be need to formulate and enforce appropriate land use policies and construction standards to minimise the effects of such hazards as flooding, earthquakes, and storms.

Green Infrastructure

A green infrastructure⁵ system (landscape and bio-engineering framework) will be established in and around the City to manage stormwater runoff and to reduce the impact of climate change.

Policy B5:

Strengthening the municipal disaster management system, by identifying and reducing risk to disaster and adopting a proactive approach to disaster preparedness

⁵ A term used to describe a products, technologies, and practices that utilise natural systems and/or bio-engineered systems that mimic natural processes in order to enhance overall environmental quality and provide utility services. Generally, green infrastructure techniques use soils and vegetation to infiltrate, and/or recycle stormwater runoff and for evapo-transpiration.

Municipal Disaster Management Plan

Recognising the importance of the ABC taking the lead in developing a strong municipal disaster management system in the Borough, the Corporation will coordinate the effort to develop a disaster management plan for the Borough which will be guided by the national disaster management plan and system. Inclusion of this will also be an evacuation plan for downtown Arima, an early warning system for floods and other relevant disasters, community emergency responses, and communication strategy for informing burgesses during upset times.

The ABC has responsibility for shelter management and will take a proactive approach in ensuring that these facilities meet required international and national standards for such facilities. Effective collaboration will be required between the ABC and the MLG, ODPM and disaster response agencies, such as the Red Cross, Trinidad and Tobago Fire Service, Trinidad and Tobago Police Service, among others.

4.3 ECONOMIC DEVELOPMENT



The discussions with various stakeholders in the Borough, the examination of the physical landscape and the existing infrastructure and the review of the plans and perspectives enunciated in the Vision 2020 exercise, have led to the identification of a number of projects that would contribute to the economic and social development of Arima over the next ten years.

For much of the latter half of the 20th century, as the economy of Trinidad evolved from primary production of the earlier past, Arima participated minimally in the new economic activity. Primary agriculture by way of cocoa production went into decline even before political independence. The strategy of economic diversification around light manufacturing resulted in the establishment of industrial estates, and the O'Meara Industrial Estate was

to be established subsequently to others in the East West Corridor.

With the growth of Government and the expansion of public services, much of the emerging employment was centred on Port-of-Spain. Thus, for many Arimians, employment required daily commuting outside of the town to other locations along the East West Corridor. The town became largely a dormitory community. However, as the Industrial Estate became fully occupied and with the influx of new residents from other parts of the country, as a result of substantial housing estates in Arima and in its immediate environs, the confluence position that the City has long occupied, rose into sharper prominence.

By the end of the 20th century, the town had become again a hub but now for a much larger population in surrounding

communities and, with the expansion of its own resident population, there emerged the threshold for commerce and distribution that has made the town an area of substantial activity. Arima has ceased being a dormitory community, and while large numbers of its people still need to go outside of the community to work, there is also a substantial number who journey to work to Arima from elsewhere.

The devolution of responsibility and control to the ABC over a wide range of planning activities, will allow it to exercise greater influence on the pattern and structure of development of the town, and create conditions for focused and coherent approaches to economic and social transformation over the next ten years. The ABC's role is largely in the laying of the infrastructure - physical and social - on which the private sector and other agents of economic and social activity can build the kind of economy and society that Arimians seek to develop. Clearly, given the reach of its responsibilities in the new paradigm, there will be need for a different complement of staff and, most importantly, Councillors or Members of Council have to be prepared for the new remit.

The economy of the area has already achieved some degree of diversification. However, it has seldom been seen as an economy, in itself, but rather as an area in which large numbers of people live or have come to live and settle, and where there are a number of businesses. Over the period of the last thirty years, there

has been some amount of new economic activity in the area. These have been in the areas of the Services Sector, with the establishment of branch offices of financial and insurance institutions, to cater to a burgeoning population in Arima and environs, as well as in production on the industrial estate, as the available sites attracted occupants across a range of sectors, including printing and packaging, engineering and fabrications works, building materials, and automotive components and service.

There are also new economic activities that can be encouraged in the municipality, which, under the right conditions, can contribute to the development and transformation of the community, or at the very least, allow for greater diversification of activity, leading to its contributing more directly to employment and income growth of the country, and also to the creation of opportunities to residents in the community in which they live.

The development of Arima in the new dispensation will depend on the initiatives taken by the Borough Corporation in stimulating economic activity in Arima, let alone the decisions by the private sector in response to profit maximising and opportunities for income generation that may be emerge. The discussions among the key stakeholders suggested areas in which Arima might thrive with sustainable industry. The Economic Sectors identified are as follows:

- New Industry on the O'Meara Industrial Estate, some of it geared to markets abroad.
- Tourism related services.
- Financial Services, Commerce and Distribution, including micro and small businesses, in the central business district and in Malabar.
- Upgraded Public Services - Administration, Court House, Policing, Fire Service, Hospital, and Education.

Objective C:

With a view to achieving sustainable employment and reduced travel to work outside of Arima, the Spatial Development Plan seeks to generate meaningful and secure jobs in the town.

Policy C1:

Provision will be made for the expansion of traditional economic activities (retail, finance, industrial, insurance, public services, etcetera) and the emergence of new growth sectors, including nature and cultural tourism, sport, and information and communications technology.

Industrial Strategy

The industrial strategy of the country provides the framework within which the Borough Council charged with the responsibility for economic

development will need to cooperate with other key stakeholders in the stimulation of industry and business in Arima. There are three phases in industrial strategy that can be identified, since the country achieved political independence.

- a. The early industrialisation phase with the thrust on import-substitution with export-led growth becoming a possibility when the 'infant industry' would have grown enough on the basis of the domestic market to be able to venture out into the regional and international economy.
- b. The heavy industry thrust, with the Government leading the way through state-owned enterprises involved in the use of resources from the oil and gas sector in the development of primary inputs into international industrial production, but with the expectation of eventually going down-stream into higher values added goods for export markets. This phase relates to the period of the latter half of the 1970s.
- c. The current phase of the early 21st century, in which there has been an attempt to deepen the presence of the country in heavy industry, but with much more participation of the international private sector. This renewed thrust at heavy industry is complemented by an attempt to invigorate the first players from

the days of import-substitution industrialisation to face international competitions, and the development of a number of targeted sectors outside of the energy sector. These industries are as follows:

- Information and Communications Technology;
- Yatching;
- Fish and Fish Processing;
- Merchant Marine;
- Printing and Publishing;
- Music and Entertainment;
- Film; and
- Food and Beverage.

O'Meara Industrial Estate: The O'Meara Industrial Estate was developed in the context of the earlier industrialisation strategy of import-substitution, and is classed as a light manufacturing industrial site, managed by e Teck. An examination of the range of activities currently conducted at the O'Meara Industrial Park suggests that it is still cast largely in that mode, with very few of the activities oriented to the export-market. Thus, if the estate is to contribute to the building of an economy founded on advanced technology, there will be need for a radical restructuring.

However, the presence of a campus of the University of Trinidad and Tobago contiguous to the O'Meara Industrial

Estate presents Arima with a major opportunity to become involved in knowledge industries of the future, once the right policy framework is put in place. The initial programme of UTT is on:

- Upstream Technologies;
- Process and Utility Engineering;
- Maritime Industry;
- Information and Communications Technology;
- Industrial Innovation, Entrepreneurship and Management; and
- The Construction Industry.

Clearly, there are areas of convergence in the interest of the Borough Corporation and the emerging academic community. There is a major firm on the estate that is involved in Printing and Packaging. The estate could conceivably become involved in Information and Communications Technology, Film, and Music and Entertainment, and depending on circumstances, Food and Beverage. The presence of UTT on the estate creates conditions propitious for O'Meara becoming an industrial node which is driven by knowledge-based industry.

According to personnel at e Teck which is responsible for the management of the estate, the lease arrangements with current leaseholders and tenants, do not include any provision that allows the agency to require firms on the estate to adopt and adapt to new technology.

It is likely that some current activities at the O'Meara Industrial Estate may cease to be appropriate. Given the thrust of UTT and of the possibility of start-ups and of dynamic links between UTT and the industrial estate, there may be need for rationalising of space. Industry engaged in the application of high-level technology, research and development (R&D) and the like may potentially render some of the current activities redundant.

In the absence of any new green field site - a major challenge in the very restricted land area of the estate and of Arima generally - there will be need to examine ways in which the O'Meara Industrial Estate can be made to play a role in Arima's embrace of industrial production based on new and technology advanced production systems.

The Council in association with e Teck will have to institute measures that seek to encourage firms that are not likely to be able to enter technologically driven paths of industrial development, to relocate to other places. This will require negotiation with the tenants and leaseholders. It may take several years to make the transition.

The establishment of close links between tenants on the estate and the academic community will need to be institutionalised and the Borough Corporation will need to ensure sustainable links between academia and industry, given its vested interest in industrial development and the thrust

to create an economy based on advanced technology.

The obverse of this is the need to create the institutional arrangements such that firms that are involved in low technology operations are encouraged and facilitated in leaving the estate for other locations.

The Borough Corporation would have an interest in facilitating close links between the firms on the industrial estate and the Airports Authority, given that the estate is likely to rely on ease of transport for inputs from abroad and exports to the rest of the world, to the extent that air cargo will be a factor in the links with the rest of the world.

Consistent with the selected strategy and development theme for Arima, O'Meara Industrial Estate will be transformed into an Eco-Industrial Park (EIP) in order to gain important economic, environmental and community benefits (Policy B2). Within the EIP context, the overarching theme of the Park would involve operating the facility as an industrial node which is driven by knowledge based industry.

Tourism

At the present time, Arima has little presence in the Tourism Sector of the country. However, its ecological and cultural distinctiveness has provided it with amenity resources that can redound to the creation of a sustainable tourism product. A critical factor in the

realisation of the objective of tourism-oriented participation is a wide social recognition of the various cultural contributions of the peoples who have made the place their abode over the centuries, starting with the First Peoples.

Much of the material that would support the eco-tourism thrust has to be developed and would require collaboration among historians and persons involved in documenting cultural and other historical materials of the town. This includes photographic records, buildings with architecture of the past, artefacts and equipment used in the past, and, additionally, clothing and other items used by residents in earlier periods.

Letters received by residents, deeds of transfer for particular sites and other legal documents of residents in the 19th century and in the early 20th century can provide insights into the life of the period if properly annotated. There is substantial material that can be recovered and can become the stock of the Arima Museum of Living Cultures.

The development of the areas to the north of Arima as focus of eco-tourism should prompt the provision of small hotels and guest houses and related services in some parts of the Borough. Calvary Hill might be a location at which a hotel operator can be encouraged to establish. Asa Wright has become well known internationally, almost without much marketing. There

are other similar sites that can provide visitors with rewarding and memorable experiences. Arima is the closest settlement that can offer accommodation on the entrance to the mountain fastness of this part of the Northern Range.

While most of the visitors to Arima are likely to be day-trippers, there is clearly an accommodation market to be tapped that it is well placed to provide. There are also a few ancillary services to tourism might be located in the central business district and other parts of the town. These include motor-car rentals, and tour guiding services as well as restaurants and beverage bars.

Over the next ten years, Arima will need to build its tourism infrastructure quickly to realise the potential that exists. However, much of this has to do with the rediscovery of itself and its self-affirmation as a location of distinct culture and history, which have been reflected in the self-designation of its earlier residents as 'Gens Arime'.

Financial Services, Commerce, Distribution and Personal Services

With the increase in the population, there are certain areas of the Services Sector that will expand to serve the community. Over the last twenty years, such institutions as the Unit Trust and a number of credit unions have established branch offices in Arima. As the population expands over the next ten years, the demand and supply of

such services as banking, insurance and real estate are set to expand and the businesses providing such services are likely to grow and to need to engage in physical expansion of the space they occupy in the municipality.

The Government of Trinidad and Tobago (GORTT) is seeking to develop the Financial Services Sector such that the country will come to be regarded as a financial services centre with international standing attracting funds from the rest of the world and as a source for funding for clients from the Caribbean, Central America and even the rest of Latin America. While Port-of-Spain might come to be seen as the headquarters of operations that eventually seek to establish themselves in the country, with good telecommunications, there is no reason why some of the entering institutions might not be attracted to locate physically in Arima. Marketing of the location may well land Arima with an important international player in the Financial Services Sector.

Then there is the stock in trade Commerce, Distribution and Personal Services, that provide the range of goods and services required by a population in modern market economy. These include:

- Supermarkets and small groceries
- Fresh produce and vegetable and fruit supply neighbourhood stores

- Arima Market
- Department stores and dry good suppliers
- Restaurants
- Pharmacies and health food stores
- Furniture and household equipment supply stores
- Medical and Dental Services
- Legal Services
- Other personal services – fitness trainers, launderers, barbers, hairdressers, tailors, seamstresses, and beauticians
- Funeral parlours.

All of these are likely to see expansion in the demand for their services over the next ten years. Some firms in the area will expand, and/or new firms will spring up to supply the needed services.

Area Clustering: The various stakeholders that have been involved in this exercise are acutely aware of the level of concentration that already exists in terms of the presence of various activities in certain parts of the town. Most are agreed on the need for some degree of balance in the distribution of economic activity. Moreover, the pattern that has emerged over the years is characterised by a relative absence of any attempt to create synergy and coherence.

Because of the concentration of facilities in the central district, there are also some communities that are not well

served with some basic services. The population of Malabar which represents the area with the largest increase in population over the last 30 years, has to travel outside the area to secure almost all services required. There will be need to examine possibilities in the clustering of certain commerce and distribution activities. The Corporation will need to address the issue not only of distributional balance of activities, but also of raising standards and improving the aesthetics on what exists and what is to come, given the absence of any thematic in the existing built development of the town.

Arima Proper: Public-private cooperation will be needed in the upgrading and re-building of the Downtown District, with close collaboration on the matter of aesthetics, colours and use of materials, compatibility of design, and commitment to retrofitting as part of renovation and maintenance. Historic themes and earlier presence of First Peoples and subsequent populations might be reflected in some of the architecture and infrastructure projects within the Downtown District.

The increase in the population of the town, in addition to its importance as a hub serving a number of communities in the environs of Arima, guarantees a fair amount of business activity in the town. An effort has to be made to develop and/or retrofit certain areas to allow for symmetry and synergistic relationships to be created. Restaurants, personal services, legal services, and

recreation clubs might be grouped, each in its own sphere.

Malabar: The building of a commercial centre in Malabar would relieve the Downtown District of some of the present congestion. With a view to increasing the level of commercial service in Malabar, a District Centre is therefore proposed to be established in the vicinity of Larry Gomes Stadium on a site at the south eastern corner of the intersection of Lennox Yearwood Boulevard and Flamingo Avenue. The District Centre would comprise convenience and entertainment facilities such as a supermarket, drugstore, restaurant, bank, variety shops, personal services (barber, laundry, etcetera), and professional offices (medical, dental, etcetera). Adequate parking, landscaping, and a public plaza are also proposed to be included in the complex in order to create a convenient, comfortable, and vibrant service facility.

Other Centres: There are other minor centres that are already emerging as significant business locations. There will be need to set aside land areas for commercial use in other parts of the town. These should be selected or reserved with the larger communities, in addition to Arima Proper and Malabar. Such areas as Maturita and Calvary Hill will be early candidates in this regard.

Micro and Small Business

As the economy of Arima picks up momentum, there is a host of

opportunities for the development of micro and small businesses. These drive and will be driven by the economy of Arima. There will be need to create facilities where small scale producers and operators can access the public, in an environment that is safe and sound.

The rebuilding of the market will allow for the accommodation of some of these new entrepreneurs within the Downtown District. However, there are other locations in the town where provision has to be made for their participation.

Policy C2:

Research and development activities will be promoted in order to create and refine new technologies and products and to generate meaningful jobs.

In particular, a relationship will be developed between the UTT and e Teck regarding the introduction of structured research activities at O'Meara Eco-Industrial Park. Functional links and complementary research and development activities will also be encouraged between O'Meara Eco-Industrial Park and Tamana Park at Wallerfield.

Also, in keeping with the overall development strategy for the town, research will be encouraged at UTT (O'Meara or Wallerfield Campus) in environmental systems (solid and liquid waste management), hazard management (building codes and standards, construction techniques), and green infrastructure development.

4.4 HOUSING



Objective D:

The primary objective of this sector is to provide housing adequate to meet the needs of existing and future residents of Arima.

Policy D1:

Housing choices will be increased in terms of the location, type, cost, and environment of the housing stock.

The process of increasing housing choices will involve determining the housing needs and demands of the population and identifying opportunities for the development of safe and appropriate housing forms and environments. At this stage a preliminary estimate of housing requirements has been determined. It is expected that a more detailed assessment of the housing sector would be carried out at the local area planning level.

Based on the population projection for the Borough of 70,000 persons to the year 2020, a rough estimate of housing requirements was determined. It was assumed that the 2000 household size of 3.8 persons per household would remain constant to 2020. The projected population of 60,000 persons would therefore comprise 15,654 households. A household to dwelling unit ratio of 1:1 was assumed to be a desirable target, and thus 15,654 units would be required by 2020. In 2000 there were 8,570 dwelling units in the Borough. A total of

7,084 new dwelling units would have been required between 2000 and 2020. This estimate however does not take into account the need to replace poor quality units in the existing housing stock. The housing requirement would also include the need to provide support for the renovation and upgrading of the existing housing stock as required and for the regularisation or relocation of squatter communities.

Housing expansion in Arima is expected to assume various forms including mixed use developments; downtown housing; and consolidation and intensification of existing communities. Most of the proposed housing expansion will occur in Malabar and Arima Proper. Malabar is already experiencing very significant development in the form of medium density housing (apartments, townhouses, duplexes) being constructed by the HDC. Significant opportunities also exist in north Malabar for infilling and intensification of development. Provision will be made to encourage housing expansion in Arima Proper to take the form of redevelopment and intensification of development through the conversion of single family residences into multiple family units and the amalgamation and redevelopment of older properties into medium and high density developments. The opportunity also exists for housing expansion on vacant lands on the eastern side of Arima Proper.

There will be need to promote the efficient development of liveable and sustainable residential environments. This will require timely and cost effective development of new housing, renovation of substandard housing, and regularisation or relocation of squatter

communities. Residential environments must be high quality sustainable communities in terms of design, safety, development standards, availability of social and physical infrastructure, and proximity to employment centres.

Table 4.1: Population and Housing Projections by Community

Community	2000				2020				2000 - 2020	
	Popn	Ave Hhold Size	No. of House-holds	No. of Dwelling Units	Projected Popn	Proj. Ave Hhold Size	Proj No. of House-holds	Proj No. of Dwelling Units	Add. Dwelling Units Required ¹	Annual Housing Require-ment ²
Arima Proper	10,499 (32.5%)	3.8	2,775	2,812	17,400 (29.0%)	3.8	4,579	4,579	1,767	88
Calvary Hill	1,348 (4.2%)	4.6	295	296	2,100 (3.5%)	4.6	456	456	160	8
Carib Homes	567 (1.8%)	3.8	151	155	720 (1.2%)	3.8	190	190	35	2
Malabar	9,141 (28.3%)	3.8	2383	2481	16,680 (27.8%)	3.8	4,390	4,390	1,909	95
Maturita	1,215 (3.8%)	3.9	311	314	4,200 (7.0%)	3.9	1,077	1,077	763	38
Mount Pleasant	1,576 (4.9%)	3.9	404	412	2,520 (4.2%)	3.9	646	646	234	12
O'Meara Road	2,755 (8.5%)	3.8	726	734	6,000 (10.0%)	3.8	1,579	1,579	845	42
Tumpuna Road	5,159 (16.0%)	3.8	1,355	1,366	10,380 (17.3%)	3.8	2,732	2,732	1,366	68
Arima Borough	32,260 (100%)	3.8	8,400	8,570	60,000 (100%)	3.8	15,654	15,654	7,084	354

NOTES:

1. This estimate deals only with the housing demands of new households arising from population increase over the period 2000 to 2020. It is based on an assumed household to dwelling unit ratio of 1:1 in the year 2020. Additional provision will have to be made to relieve problems of overcrowding and for the replacement of substandard housing.
2. Annual housing requirement by community over the period 2000 to 2020.

4.5 SOCIAL AND PHYSICAL INFRASTRUCTURE



Objective E:

The selected development strategy seeks to provide for the equitable distribution of social and physical infrastructure to serve the population of Arima and environs and to support economic development activities.

Policy E1:

Consistent with the local and regional service functions of Arima, provision will be made for the level, range, and spatial distribution of facilities and services required to promote social advancement and human development.

The social facilities development programme will involve upgrading or establishment of facilities for educational advancement, healthcare, recreation, community organisation, cultural expression, and public and

protective services. The programme will include the following key elements:

- a. Provide for the upgrading or establishment of facilities required for educational advancement and skills development, including:
 - Repair and upgrading of existing schools.
 - Provision of early childhood educational facilities sited in the various neighbourhoods of the town, such that children will be within a short distance from their homes.
 - Provision of additional primary school places in the south east of the town to serve the Malabar-Tumpuna Road Area.

- There will be need for at least one new secondary school to cater for a larger population and for the gradual weaning of the population away from the notion that the delivery of quality education cannot take place outside of the schools currently deemed to be “first choice” schools. As this is achieved, more students would respond positively to attending school in the district. By the end of the ten year period, there may be need for an additional school, either in the south-east or the south-west of the town; this would need to be corroborated following an examination of population trends.
 - The UTT has already been engaged in the establishment of facilities in the area. The issue in the next ten years would be about the expansion of enrolments and the provision of new facilities that may come as a result of research and development activities that might be stimulated with the presence of an expanding academic community. In all likelihood, these can be contained on the existing site.
- b. Upgrade existing healthcare facilities and develop a new hospital comprising at least 150 beds at the site of the present health facility to serve the town and surrounding communities.
 - c. Provide for the upgrading or establishment of facilities required for recreation, community organisation, and cultural expression, including:
 - Upgrade and develop parks, recreation grounds, and other recreational open space facilities, with particular attention given to such key facilities as Princess Royal Park, Larry Gomes Stadium, Calvary Hill View Park, Santa Rosa Park, and the proposed indoor sport facility at Malabar.
 - Construct Community Recreation Centres at Arima Proper and Malabar comprising swimming pool, tennis courts, gymnasia, etcetera.
 - Establish basketball and netball courts in various neighbourhoods, and

develop an athletic track and football field at another location in addition to the facilities at Princess Royal Park and Larry Gomes Stadium.

- Upgrading of community centres at Anglican Street and Malabar Road and establishment of new centres at Tumpuna Road and Calvary Hill.
 - Establish a proposed Senior Activity Centre at Tumpuna Road for which a site has already been identified and funding is being sought for development.
 - By way of promoting the eco-cultural concept, the plan includes proposals for the establishment of a Cultural Centre for the Arts as a visual and performing arts facility and for the hosting of public fora that require the seating of large audiences. Consideration is being given to the old Textile Mill site as a possible location for the facility.
- d. Provide an adequate level of public and protective services

with particular consideration being given to:

- Development of a new Administrative Complex on premises adjacent to the present Town Hall.
- Establishment of a new Court House within the first half of the plan period.
- Redevelopment of the Public Market as a craft and fresh food market at its existing location and provide for farmers market activities at Malabar. The Market is the subject of a special study by consultants on behalf of the Corporation, and may be converted to a facility offering a small mall for craft and other small vendors. However, there will be avoidance of other buildings on the site to retain the sense of space and openness, retaining the aesthetics of the site, and with redesigned market building to be configured architecturally to complement Princess Royal Park and the new hospital on the other side of the Park.

- Improvement of facilities at both the Arima and Malabar Police Stations and establishment of Police Posts in particular hot spot areas.
- Placement of all streets and public places on central electronic grid, supported by an infrastructure of cameras and video-recording devices to provide for security and for monitoring of any violation or threats to the security of the public, and of any environmental and other challenges in real time.
- Relocation of the Fire Station to a site that will facilitate easier response to emergency situations. An appropriate alternative site should be identified in the local area planning process.

d. Locate facilities such as to facilitate convenient access by the population.

Policy E2:

Physical infrastructure facilities and services will be upgraded in a timely and cost effective manner in order to generate and support development

activity and to maintain sanitary and public health conditions in the town.

Water Supply

The Borough currently receives its water supply from several sources – the Guanapo Water Treatment Plant, North Oropouche Reservoir, Hollis Reservoir and Arima Wells. Truck borne water is also supplied to areas of high elevation and inadequate supply infrastructure. The breakdown of the sources of supply is as follows:

Table 4.2: Sources of Water Supply to Arima

Area	Source of Supply 2009
North of Dial	Guanapo Water Treatment Plant
South of Dial	Hollis Reservoir
O'Meara	North Oropouche
Calvary/Alenore Gardens	Guanapo Water Treatment Plant and Truck borne supplies
Other	Arima wells both WASA and Private

Source: Personal Communication with Raffie David-WASA March 05 2009

For the estimated increased demand of 11.32 million litres per day in 2020, the Water and Sewerage Authority (WASA) will have to produce more water from its present sources and may have to create new sources of supply.

At present WASA is reported to provide a piped water supply to 94.7 percent of Trinidad, however, only 16.6 percent is served with a 24-hour supply. Data for the status of supply for Arima is unavailable. However, customer feedback indicates that the supply is good to fair with diminished supplies in the dry season.

By 2020, the water demand for Arima is calculated at 27,721 litres per day. This figure may well be an underestimation of the demand in Arima given the high level of residential construction seen in municipality in recent years.

To meet the demand of 2020 and in the future, it is important that the following measures be instituted:

- a. Improve the quality of our watersheds and rivers by reducing pollutants i.e. sewage, solid waste, quarry wastes, toxic wastes.
- b. Reduce unaccounted for water (UFW)
 - Leakage In The System;
 - Unbilled Customers;
 - Illegal Connections; and
 - Retrofitting of fixtures.
- c. Reuse waste water for agriculture, aquifer recharge industry and construction etcetera;
- d. Construct storage reservoirs to balance supply and demand (capacity minimum 45 million litres);
- e. Harvesting of rainwater by households to supplement their water needs;
- f. Development of small dams wherever possible, for example Maturita; and

- g. Awareness programmes for householders to reduce waste.

Wastewater

In the early 1960's a sewerage system expansion program was completed which constructed sewers in Port-of-Spain, San Fernando and Arima. The Arima sewerage system remains one of the largest wastewater collection systems in the country and it has been expanded to include several private and public systems in residential developments.

Due to a lack of maintenance, many of the smaller private residential systems are not working efficiently. Raw or inadequately treated sewage is often put into the environment. These private systems and treatment facilities are slowly being adopted by WASA.

The main centre of Arima up to Henri Street and Cocorite Road is served by the original system from the 1960's. Sewage from this system together with other smaller systems in the vicinity is treated at the Arima wastewater treatment plant. Where gravity flow is not possible lift stations are used to pump the sewage via:

- Dundee Lift Station;
- Carib Homes Lift Station;
- Darceuil Lift Station; and
- Malabar Lift Station.

The effluent from the Arima Wastewater Treatment Plant discharge

into the Mausica River which is a tributary of the Caroni River upstream of the Caroni Arena Water Treatment Plant. The Malabar Wastewater Treatment Plant collects sewage from the southeast section of the Borough.

Table 4.3 shows the status of the Wastewater Treatment Plants in the Borough included are the Wastewater Treatment Plants in Tumpuna Gardens and Santa Rosa Heights.

Table 4.3: Wastewater Treatment Plants in Arima

Name of Facility	Plant ID	Owner	Feature	Overall Conditions			
				Structural	Mechanical	Electrical	Operation
Arima WWTP	2437	WASA	TF	Good	Adequate	Adequate	Adequate
Malabar WWTP	2436	WASA	EASS	Adequate	Adequate	Adequate	Adequate
Tumpuna Gardens	2439	Private	Lagoons	Poor	Poor	Poor	
Santa Rosa Heights	2441	Private	Contact Slab	Adequate	Poor	Poor	

Source: Water and Wastewater Master Plan – prepared by Genivar on behalf of WASA

The northern hilly areas Calvary, Mt. Pleasant and Maturita are not sewered and are served by septic tanks and seepage pits and to a much lesser extent by pit latrines. The same is true for squatter areas where there is unregulated development e.g. old railway line and Printeryville.

The draft water and wastewater master plan calls for upgraded wastewater services in the country. For Trinidad it is proposed that the island be divided into 25 catchment areas for which detailed wastewater systems will be designed. Arima falls within the East-West

Corridor catchment of this proposed system.

Draft Proposals for the Eco-Cultural Concept include:

- a. The capacity of the Arima Wastewater Treatment Plant and the Malabar Wastewater Treatment Plant needs to be expanded by 100%.
- b. Other Wastewater Treatment Plant's (WWTP) need to be refurbished and brought into effective use.

- c. The capacity of the existing lift stations will have to be increased to accommodate the greater number of houses due to infilling and diversification.
- d. New housing areas to be put into the sewerage system by gravity lift pumps or separate WWTP.
- e. Latrines to be replaced by septic tanks and seepage pits.
- f. Squatter sites and other un-regulated building sites are to be incorporated into the sewerage system or septic tanks and seepage pits.
- g. There is a need for specialised treatment facilities for toxic industrial and chemical wastes.
- h. Wastewater to be recycled for use in agriculture, aquifer recharge industry and construction.
- i. Public awareness programme as to the effects of littering, solid waste disposal etcetera and its effect on the environment.
- j. WASA needs to adopt all existing WWTP and maintain effectively.

Drainage

The Arima Borough is drained by the Mausica and Arima Rivers which originate in the Northern Range and generally travel in a southerly direction

to the Caroni River. As major water courses, they fall under the jurisdiction of the Drainage Division of the MOWT.

The drainage network within the Borough consists of tributaries to these rivers and a system of drains which carry storm water and grey-water from within the Borough. These tributaries and drains fall under the jurisdiction of the Corporation. There are no wetlands in the Borough. Increases in population and built infrastructure over the years had led to increased runoff and poses several challenges to the Corporation.

The number of local flooding events has increased with time, as drainage channels become blocked or their hydraulic capacity is reduced by siltation and the dumping of solid waste. The problem is further exacerbated by unplanned development in the flatter area which has increased the extent of hard surfaces and hence increased runoff. A number of affected areas along the Mausica and Arima Rivers have been identified and are listed in Section 4.8 of the Situational Report.

In order to reduce flooding, rivers and drains are to be cleared on a regular basis. It would be best that more holistic long term solutions are sought that would require less maintenance.

Arima is highly built up and with increasing pressure for land development has spread to the river banks and hillsides. Insufficient development control and lack of

adherence to planning regulations are partly responsible for persons taking liberties while constructing development.

Heavy runoff and poor construction practices have led to scouring of embankment, erosion and landslides on the major rivers. This has put lands and buildings at risk but also represents a potential loss of human life or injury, health hazards due to the overflowing of septic tanks and latrines have also been noted.

While it is important to undertake improvement works to mitigate risks of flooding, the larger problems of flooding along the east-west corridor needs to be addressed. Appropriate studies should be undertaken and a drainage plan developed for the corridor. Public Education, behavioural change and the need for people to take responsibility for management of their area are also critical.

To this end, the Plan endorses the Caroni River Basin Study which has been developed and is being procured through the National Infrastructure Development Company Limited (NIDCO). The Study, which is seen as a critical one, is expected to appropriately provide flood mitigation and prevention solutions, recommendations for watershed management and best management practices for flood prone areas in the Caroni Basin, and more so in the Borough. The development of retention pond in Maturita is expected to assist in

the management of stormwater runoff in the Borough. Drainage Division also proposes to undertake river improvement works in the Mausica and Arima Rivers which should reduce considerably flooding in the Borough.

Solid Waste

With the growing trend over the last 100 years of the use of more machines equipment, containers, packaging materials etcetera there is an increasing challenge to treat, bury, recycle, burn or otherwise dispose of these articles when they are no longer useful.

Increases in population from 32,000 persons to 70,000 persons as proposed by the Eco-Cultural Concept for the Borough will have a proportionate increase of solid waste. It is assumed that e TecK will continue to service the industrial estate.

Some of the problems that will have to be addressed are:

- The handling and management of hazardous waste;
- Littering and improper handling of waste by households and business owners;
- Illegal dump sites which include not only household garbage but large items e.g. old kitchen appliances, mattresses, construction debris etcetera; and

- Sorting of garbage into recyclable products by households into:
 - Compostable rubbish;
 - Glass;
 - Metal; and
 - Plastic, etcetera.

In an effort to set up a sustainable integrated solid waste management system in the country and to address garbage collection and disposal issues SWMCOL plans to establish waste transfer stations near strategic urban sites to which waste will be transported and compostable and recyclable waste removed prior to transfer to Forres Park Landfill, which would be the only landfill in Trinidad. It is not known when the Guanapo Landfill site will be closed down.

Also, as noted under Policy B2, the ABC in collaboration with the SWMCOL and the MLG is to adopt an integrated municipal waste management system for the Borough.

Electricity

The Arima Borough as foreseen in this Eco-cultural City Concept has the usual urban demand arising from domestic commercial, industrial and institutional customers. The area is well served by 66KV and 33KV lines running from

Port-of-Spain power station to Trincity, Piarco, Arima and San Raphael. Local distribution from the High Voltage network grid is done at the substations through transformers on poles to the customer.

At present, there are over 13,000 customers in the Arima area. Trinidad and Tobago Electricity Commission (T&TEC) is aware of the consumption patterns and growth rate in the area and is continually upgrading its facilities to meet future demands.

With the recent downturn in the world economy and the fall in industrial output T&TEC is confident that it can meet the additional domestic growth which is a shift in population and power will be redistributed within the grid.

T&TEC has also indicated the following:

- The new Tobago Power Plant is on stream.
- A new substation is being built at Wallerfield to serve Tamana Inteck Part and the UTT.
- Maintenance work to poles, HV pylons and replacement of old fixtures is ongoing.

Telecommunications

Arima like most of urban Trinidad and Tobago has access to all the telecommunication facilities available (Table 4.4).

Table 4.4: Telecommunication Facilities in Arima

Telephones Cell number & Landlines	Radio	Television	Computer
Telecommunications Services of Trinidad and Tobago (TSTT)	AM & FM programming (many providers)	Direct Television	Main Service Broadband and High Internet Providers Blink, Flow, Green Dot and D-Link
Digicel Mobile Phone Services		One Major Cable Television service provider Flow Local Television Stations	Internet supported devices (smart phones and other devices)
Other companies have expressed interest in providing services			Voice-over internet Protocol (VoIP) technologies and services (Some companies)

The sector is very dynamic with major improvements being constantly made. The population is increasingly involved in the use of new technologies as evidenced by the increase in cell phones and internet devices. However, the cost of some of the services and devices is a hindering factor for some and is exacerbated by the relatively short life span of the devices. Cyber crime is a cause for concern especially for banking and information security.

On the infrastructure side, there is an emerging trend to wireless communication and fibre optic cables which cables can transmit much more information than the traditional copper land lines. As a result telephone costs are coming down for both local and overseas calls and there is more reliability in service.

4.6 TRANSPORTATION



Objective F:

The basic objective regarding transportation is to improve accessibility and permeability in the town.

Policy F1:

A transportation system is to be established which will be complementary to the land use system and which will offer safe, convenient, and efficient access to and within the town.

Some of the traffic and transportation issues that arise in the current setting, and will persist with the implementation of the chosen scenario, have to do with the larger commuter traffic out of Arima to the West. Using the Comprehensive National Transportation Study (CNTS) data (2004), these volumes are described in the figure below. The diagram represents the relative number of person-trips in the sampled traffic from 7am to 12noon hours. Since then, there has been a large increase in the national private car population, and presumably in the absolute volumes considered here.

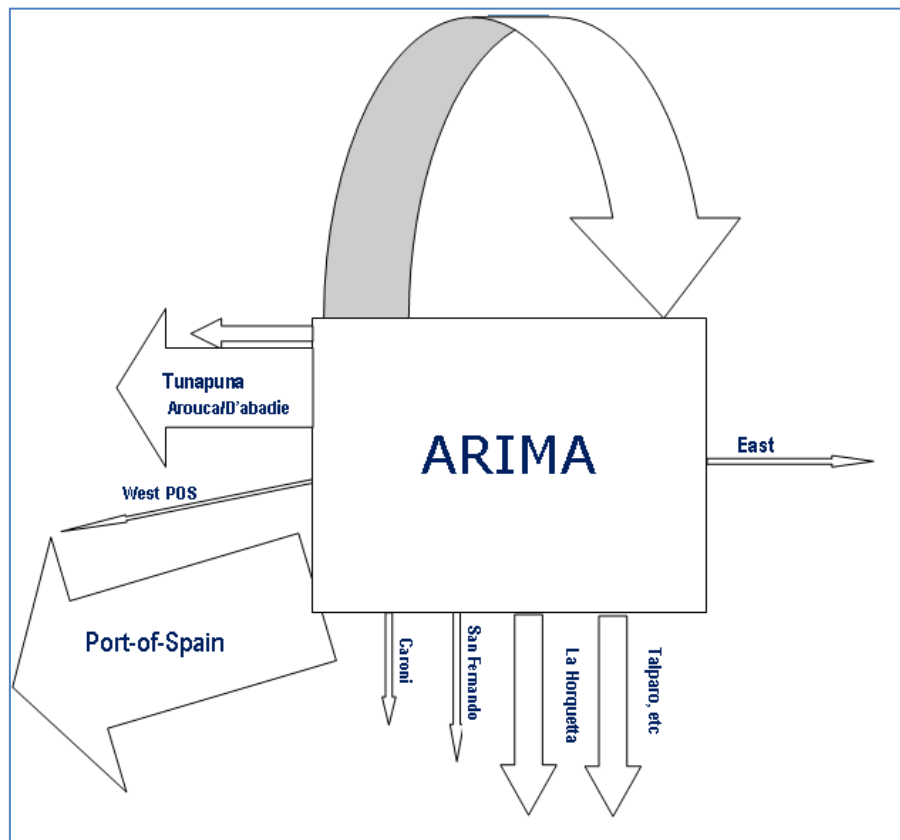


Figure 4.3: Traffic Volumes and Destination, 2004

Table 4.5: Traffic Volumes and Destination, 2004

Arima	1,210
Arouca/D'Abadie (to Golden Grove)	289
Tunapuna/Valsayn/Curepe	1,505
West POS (Carenage/Diego Martin)	66
Port-of-Spain (St. James, St. Ann's)	2,533
San Juan (Laventille, Morvant)	419
Caroni	121
San Fernando and further south	121
Talparo, Brazil	485
La Horquetta	1,102
Sangre Grande, Manzanilla, Toco	108

Source: CNTS (2005)

Most of this traffic has to use the EMR, the PBR or the CRH. In addition, Arima serves as a major hub, so that there are significant numbers of taxis and maxi-taxis which have to be accommodated in the town. Hence the main issues which arise are:

- Capacities of Tumpuna Road, O'Meara Road (and their junctions with CRH);
- Traffic management within downtown Arima;
- Accommodation for buses, taxis and maxi-taxis; and
- Pedestrianisation and parking.

Underlying these issues, there are important problems in institutional arrangements and in staffing which must first be addressed in any comprehensive plan.

Institutional Arrangements

A major factor in identifying, analysing and solving some of the problems lies in institutional arrangements. There is already in place a Traffic Committee of the Borough Council which identifies local problems. The Traffic Management Branch (TMB) of the MOWT provides a liaison person to work with this Committee, but the TMB currently does not have the capacity and resources to assist the Regions properly. What is required in support of the liaison officer, is a team of professionals with the requisite skills and adequate tools. For example, traffic schemes should first be tried on simulation software, instead of using expensive and dislocating ground trials.

In Arima, much of the congestion comes from illegal parking. The Municipal Police has no jurisdiction under the law to wreck vehicles. An amendment of the law to allow for either wrecking or clamping should make a very large difference to the congestion in the downtown area. In the meantime, the Municipal Police will collaborate and work closely with the Trinidad and Tobago Police Service in ensuring that visitors to Arima observe traffic laws currently in place.

The official strength of the Municipal Service is 42 officers, with an actual complement of 34. It is felt that by increasing the numbers of the Service to 50 officers this will allow for a great improvement in monitoring and controlling of traffic violations. A change from the current disorder and confusion in the streets - with haphazard parking, pedestrians crossing busy streets at all points, and drivers stopping indiscriminately to pick up passengers - to the kind of orderliness demanded by the Vision for the Borough, will require a better level of vehicle and pedestrian control than obtains at present. This is especially so since the planned growth of commerce in Malabar will mean a wider range for parking control. The Borough will assess the strength and composition of its force. Consideration will be given hiring teams of traffic wardens to assist in parking and pedestrian control.

Since the initial draft of this Plan, the Government has revisited a 1996 proposal for the establishment of Traffic Wardens. Traffic wardens are suited to static traffic problems, such as parking and assisting with the confusion and congestion at schools on afternoons. These are precisely some of the problems which beset the Borough.

Capacities of Tumpuna Road, O'Meara Road

These roads have current capacities of approximately 900 and 1000 vehicles per hour. For the approaches to the Malabar

region, the road capacity is adequate. The increasing importance of the Malabar area indicates that more importance needs to be given to the turning movements at the junction of O'Meara Rd and the Lennox Yearwood Boulevard. At the junction, there appears to be room for making changes in the geometry of the intersection, and that, possibly coupled with properly-timed traffic lights, should make a great difference. There are fewer opportunities at the junction of Tumpuna Road and Malabar Road.

North of these junctions on the approaches to the downtown there are more intersections and more properties abutting the roadway. Because the accepted scenario envisions continuing growth in the downtown area, the Borough will need to study the Tumpuna and O'Meara road sections to see what can be done. Expansion of the roadway width will probably be expensive. Other possibilities include the development of other routes, especially those going north from Lennox Yearwood Boulevard. This will require a more detailed analysis of the traffic circulation within the Borough.

Traffic Management within Downtown Arima

The traffic circulation within the downtown area is hampered by the operation of a number of key intersections. These are (i) John Shaw and Industry; (ii) Woodford and Sorzano; (iii) Hollis and Queen; (iv)

Queen and Broadway; (v) Pro Queen, PBR, O'Meara Road; (vi) Quesnel Street and Cocorite Road; and (vii) Gunapo Road and Quesnel Street. These intersections always appear to be congested during the heaviest peak hour. The analysis in Phase 1 shows that the combined traffic volumes along the major and minor roads exceed the potential capacities of the intersections during peak periods. In these circumstances, any downstream disturbances which might reduce capacity, such as improper stopping, illegal parking or heavy uncontrolled pedestrian movements will cause congestion.

Comprehensive traffic management measures need to be put in place and constantly monitored and refined. These measures should be based on up-to-date traffic data, thorough analysis and the application of all of the elements of traffic management i.e. including proper signage, education and information as well as regulation and enforcement and the application of low cost engineering solutions, for example channelisation and barriers.

Accommodation for Buses, Taxis and Maxi-taxis

Arima serves as a hub for traffic mainly to the west. The current plans, which see greater development for Sangre Grande, and the establishment of the Tamana Park, are unlikely to change this in the short to medium term. Traffic to the east may grow, but the "hub" characteristic of the Borough is likely to persist.

The PTSC is developing the area currently used by the Licensing Department, at the intersection of O'Meara Road and the Priority Bus Route, as a hub for its buses. At the moment, there does not appear to be any integrated planning to move passengers from this location to their final destinations.

The taxis and maxi-taxis need to be relocated from their current on-street sites. One possibility is a paratransit (taxi and maxi-taxi) hub or hubs, possibly multi-storied. One difficulty is the identification of suitable locations. Compared with bus termini, paratransit hubs require much more planning in their design and location, since arrival rates and holding capacities are stochastic. Proper planning of a para-transit hub thus requires probabilistic estimation in order to try and predict the optimal size of the facility, and the expected queues which it would generate.

Parking

Analysis conducted as part of this planning process shows that there is adequate parking in the downtown area. Congestion is caused by the behaviour of taxis, maxi-taxis and PH vehicles, by indiscriminate parking, and by other effects of the Borough's inability to properly control its space.

Reorganisation of the space, introduction of wrecking or clamping, and the provision of proper accommodation for public transport vehicles are predicted to greatly diminish the perceived parking problem.

There appears to be a perception that Arima needs a multi-storied car park. There is no evidence for this, as the occupancy data and photographs below underline. This does not preclude (especially private-sector) investment in a complex which has parking as one of its functions.



Parking Lot, Woodford St, near with Sorzano, at midday Wednesday before Public Holiday



Pedestrianisation of the downtown area will require careful planning, to cater for commercial activity such as deliveries. The proper location of properly appointed and maintained parking lots, with easy and pleasant walking access to the downtown area, can make a very large difference to the City. Downtown Arima does not have enough green space, and acquisition of such areas would be expensive. Creating attractive parking lots with shade trees may be a workable compromise.

Traffic Management at New Malabar District Centre

The chosen scenario envisages the commercial development of Malabar as a means of dispersing the concentration of activities and establishing another growth pole in the region. It should be noted, however, that whilst the current road infrastructure is adequate for the mainly residential land uses currently being served, any significant commercial development will require traffic mitigation measures. Indeed, strict planning guidelines including

access, parking and loading facilities must be implemented and enforced. The proposed land use plan for Malabar would create a major retail shopping area in close proximity to the Larry Gomes Stadium and immediately abutting the intersection of Lennox Yearwood Boulevard and Flamingo Avenue. This Boulevard is the highest level arterial in the district and provides a key linkage to the northern and southern phases of the Malabar development. The development can be expected to create an attraction node with increased demand for parking, taxi stands and significant pedestrian movement. Even if adequate off-street parking and loading facilities are provided, the likelihood is that the intersection will become a major source of congestion as those who are required to pass there as their major thoroughfare come into conflict with the locally generated traffic. It may be more prudent to locate the planned development away from such an important arterial road and continue to limit local access onto the Lennox

Yearwood Boulevard and Flamingo Avenue.

Major Transportation Interventions - Trinidad and Tobago Rapid Rail System

The implementation of major transportation facilities, such as the implementation of the Trinidad Rapid Rail Project (TRRP), may have a profound effect on the land uses of the surrounding areas and the traffic circulation patterns of the Borough. These changes will have to be accommodated in any future planning work. The expressed objective of the TRRP is to provide an alternative mode of transport to the travelling public,

especially those living within the East-West (from Westmoorings to Sangre Grande), and North-South (from St Augustine to San Fernando) urban corridors. From information recently received from NIDCO, the UWI-to-Arima section of the rail was scheduled to be completed in 2016 with a station proposed somewhere south of the CRH that is outside of Arima.

Some of the issues that have been raised may require legislative changes, for example, traffic wardens; wrecking or “clamping” illegally parked vehicles by the Municipal Police. Some others may require institutional reform of agencies outside of the control of the Municipality, for example, the TMB.

4.7 MUNICIPAL MANAGEMENT



Objective G:

The successful implementation of the policies and proposals of the Arima Spatial Development Plan would depend on the institution of a process of effective municipal management. This therefore represents a primary objective of the plan.

Policy G1:

From a policy perspective, effective management of the development process will require the promotion of community empowerment, participatory governance, and local government autonomy.

Strategies towards facilitating the process of effective management will include the following:

- a. Clarifying the roles and responsibilities of the ABC, including the determination of any proposed new functions, and providing the Corporation with supporting legislative and administrative mechanisms and adequate resources to facilitate proper coordination of

development activity in the town. One institutional measure recommended for early implementation involves building the capacity of the ABC to administer physical planning at the local level and to facilitate corporate partnering and community participation in the planning and development process.

- b. Formulating appropriate mechanisms (local area and action area plans, programmes, projects, standards) for effective coordination and implementation of development activity.
- c. Formulating strategic projects to facilitate collaboration among public, private, and community organisations in the implementation process.

In keeping with the Eco-cultural City concept, environmental measures (legislation, standards, etcetera) and cultural themes should be integrated into development and management programmes of the Municipality.

District Policies and Proposals

5.1 Arima North

Arima North forms the northern extent of the Borough. It comprises the communities of Calvary Hill, Mount Pleasant, and Maturita which together cover an area of 147 hectares, or 12 percent of the Borough. Arima North merges into the foothills of the Northern Range and represents the most elevated portion of the Borough. Parts of Calvary Hill and Mount Pleasant are above the 90-metre, or 300-foot contour. The communities are mainly under low density residential use. Maturita has a significant area open land which presents an opportunity for residential expansion. The northern and western sections of the Calvary Hill Community are under forest cover. Calvary Hill is recognised as being home to the Carib descendants.

Development policy for Arima North involves conservation of the ecological integrity of the hillsides and the cultural values of the descendants of the First Peoples who reside in the area. Key development proposals for Arima North may be outlined as follows:

- a. Moderate expansion of housing provision, particularly in

Maturita where there is open land for development. Housing expansion will generally take the form infilling and consolidation of development.

- b. Development of a Carib Village in the Calvary Hill-Mount Pleasant area. A site earmarked for residential expansion in the area (Figure 3.5) should be assessed to determine its technical feasibility for development, considering possible slope constraints in the area.
- c. Upgrading the functional and aesthetic aspects of Calvary Hill View Park as a key recreation and tourism attraction, including improved access, appropriate landscaping, and convenient and comfortable visitor facilities. Spectacular panoramic views of the town can be obtained from the park.
- d. Upgrading and development of recreation facilities and community centres, including a

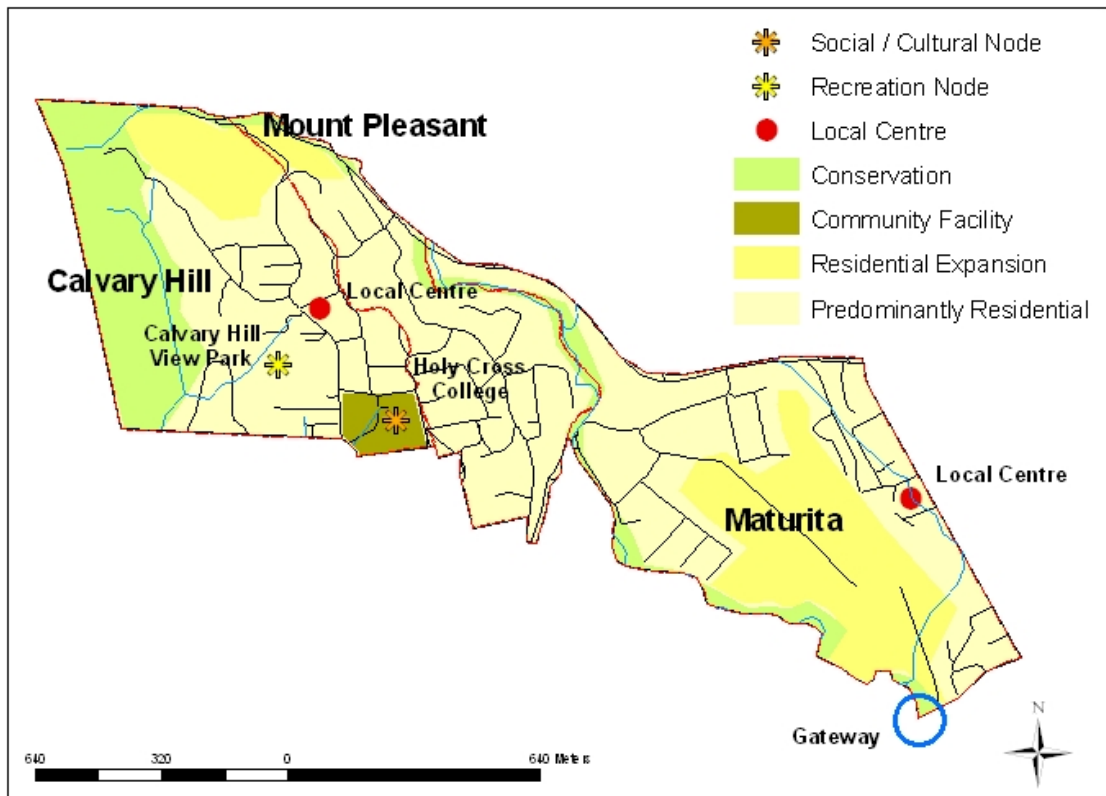


Figure 5.1: Arima North Development Zone



- new community centre at Calvary Hill.
- e. Subject to demand, as would be determined at the local area planning level, establishment of a local centre, comprising a grouping of a few convenience shops, at Calvary Hill.
 - f. Determination of the feasibility of re-constructing the fallen bridge on Mount Pleasant Road leading to the Arima Blanchisseuse Road.
 - g. Conservation of the forest cover in Calvary Hill and the Arima River corridor in Maturita as part of the landscape framework for the town.

Although located outside of the area, as part of the ecotourism thrust, the Arima Blanchisseuse Road will require upgrading, while maintaining its scenic qualities, in order to establish a safe and scenic route over the Northern Range to the north coast.

5.2 Arima Central

Essentially, Arima Central represents the original town of Arima. It comprises Arima Proper and the small community of Carib Homes which together cover 308 hectares, or 26 percent of the Borough. Arima Proper is the largest community in the Borough, covering an area of 294 hectares, and at the last Census in 2000, the largest shares of population (32.5%) and dwelling units (32.8%) were found in that community. Several high level facilities and important districts are located in Arima Proper including the Downtown District, Princess Royal Park, the Town Hall, the main health facility, and the market. Residential development in Arima Central comprises mainly low density detached units.

Development policy for Arima Central essentially involves regeneration of social, economic, and environmental conditions in the old town. For instance, problems of congestion and the state of the physical environment will be addressed. Key development proposals may be outlined as follows:

- a. Expansion and enhancement of the Downtown district as a major business and employment centre and the principal focal point in the town. It is recommended that an action plan be prepared for the District that includes provision for a safe, comfortable, and vibrant pedestrian realm, and efficient traffic circulation, including:



- 'Partial pedestrianisation' of that section of Queen Street between Broadway (The Dial) and Hollis Avenue (The Market) as the main shopping street with access for public transport vehicles (buses, maxi taxis).
 - Introducing measures for pedestrian comfort and safety, including widened, barrier-free sidewalks; sidewalk extensions at crosswalks; safe, conveniently located, and clearly defined crosswalks; weather protection canopies and street trees; and street furniture (benches, lighting, etcetera).
 - Providing for a stimulating sequence of movement, vistas, and activity (shopping, etcetera) along routes of high pedestrian activity in order to enhance the urban experience and the vitality of Downtown.
 - Placing utility cables underground and instituting consistency in the placement and form of business signs.
 - Instituting comprehensive traffic management measures including proper signage, education, and information.
 - Guidelines for the design of new development in harmony with the natural and cultural environment.
- b. Development of a new Administrative Complex for the Borough Corporation on premises adjacent to the present Town Hall.
 - c. Establishment of a new Court House in the Downtown District.
 - d. Redevelopment of the Public Market as a craft and fresh food market.
 - e. Improvement of facilities at the Arima Police Station.
 - f. Rationalisation of the functional and aesthetic aspects of Princess Royal Park in keeping with its status as a primary open space facility in the heart of the town.
 - g. Development of a community recreation centre in Arima Proper including a swimming pool, tennis courts, and gymnasium.
 - h. Upgrading of community centre Anglican Street in Arima Proper.
 - i. Upgrading of existing healthcare facilities and develop a new hospital comprising at least 150 beds at the site of the present health facility to serve the town and surrounding communities.

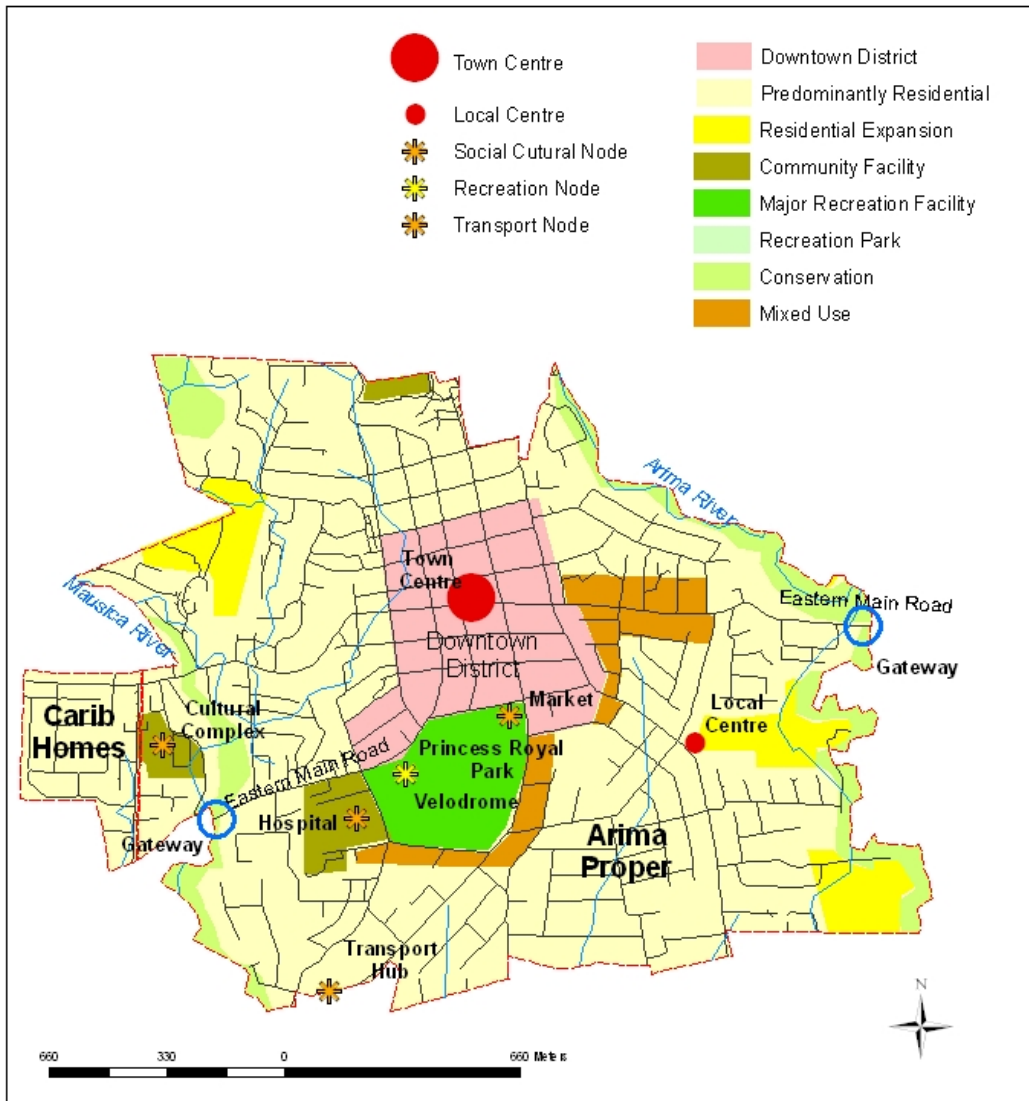


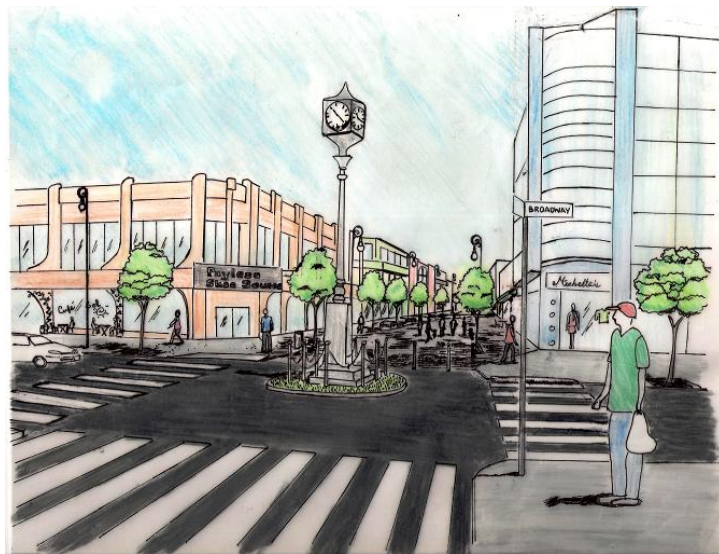
Figure 5.2: Arima Central Development Zone



- j. Re-development of the old textile mill site as a cultural complex including a library, museum of living culture, biological museum, and cultural centre for the arts. A robust feasibility analysis of this proposal must be undertaken prior to development, particularly with regard to access to the site, site size, and condition and siting of existing structures.
- k. Substantial expansion of housing provision in Arima Proper. Provision will be made to encourage housing expansion in Arima Proper to take the form of redevelopment and intensification of development through the conversion of single family residences into multiple family units and the amalgamation and redevelopment of older properties into medium and high density developments. The opportunity also exists for housing expansion on vacant lands on the eastern side of the community.
- l. Rationalisation and consolidation of existing commercial strip along Tumpuna Road into a more compact local centre with appropriate landscaping and parking provision.
- m. As part of the landscape framework for the town, highlighting of the main gateways to the town at the crossing of the Eastern Main Road over the Mausica and Arima Rivers, and establishing appropriate aesthetic measures along the major routes and local streets to increase their scenic value and facilitate safe and pleasurable circulation.
- n. Establishment of riverside parks along the Mausica and Arima Rivers as part of the overall landscape framework for the town.



Artist Impression of Princess Royal Park



Artist Impression of the Dial



5.3 Arima South

Arima South forms the southern half and the last area of annexation to the Borough. It comprises the communities of O'Meara Road, Malabar, and Tumpuna Road which together cover 725 hectares, or 61 percent of the Borough. The largest share (52.8%) of the Borough's population was also found in Arima South at the last Census in 2000. The area is essentially residential in nature with Malabar in particular experiencing very significant development in the form of medium density housing (apartments, townhouses, duplexes) being constructed by the Housing Development Corporation. Significant opportunities also exist in north Malabar and Tumpuna Road for infilling and intensification of development. The most notable non-residential uses in Arima South are the O'Meara Industrial Estate, which is located in the southern section of the O'Meara Road Community, Larry Gomes Stadium situated in Malabar, and the O'Meara Campus of the UTT situated in Malabar.

As the most recent developing area in Arima, Arima South will be oriented towards balancing the spatial structure of the town and complementing the original town centre. Key development proposals for Arima South are as follows:

- a. Transformation of the O'Meara Industrial Estate into an Eco-Industrial Park in order to gain certain economic, environmental, and social benefits.
- b. Establishment of a District Centre in Malabar to provide convenient service to residents in the area and to function as a complementary feature to the Downtown District.
- c. Development of the proposed indoor sporting complex at Malabar for which a site has already been earmarked, and construct a community recreation centre comprising swimming pool, tennis courts, and gymnasium.
- d. Upgrading of community centre at Malabar Road and establishment of a new centre at Tumpuna Road.
- e. Establishment of the proposed Senior Activity Centre at Tumpuna Road for which a site has already been identified and funding is being sought for development.
- f. Improvement of facilities at the Malabar Police Station.

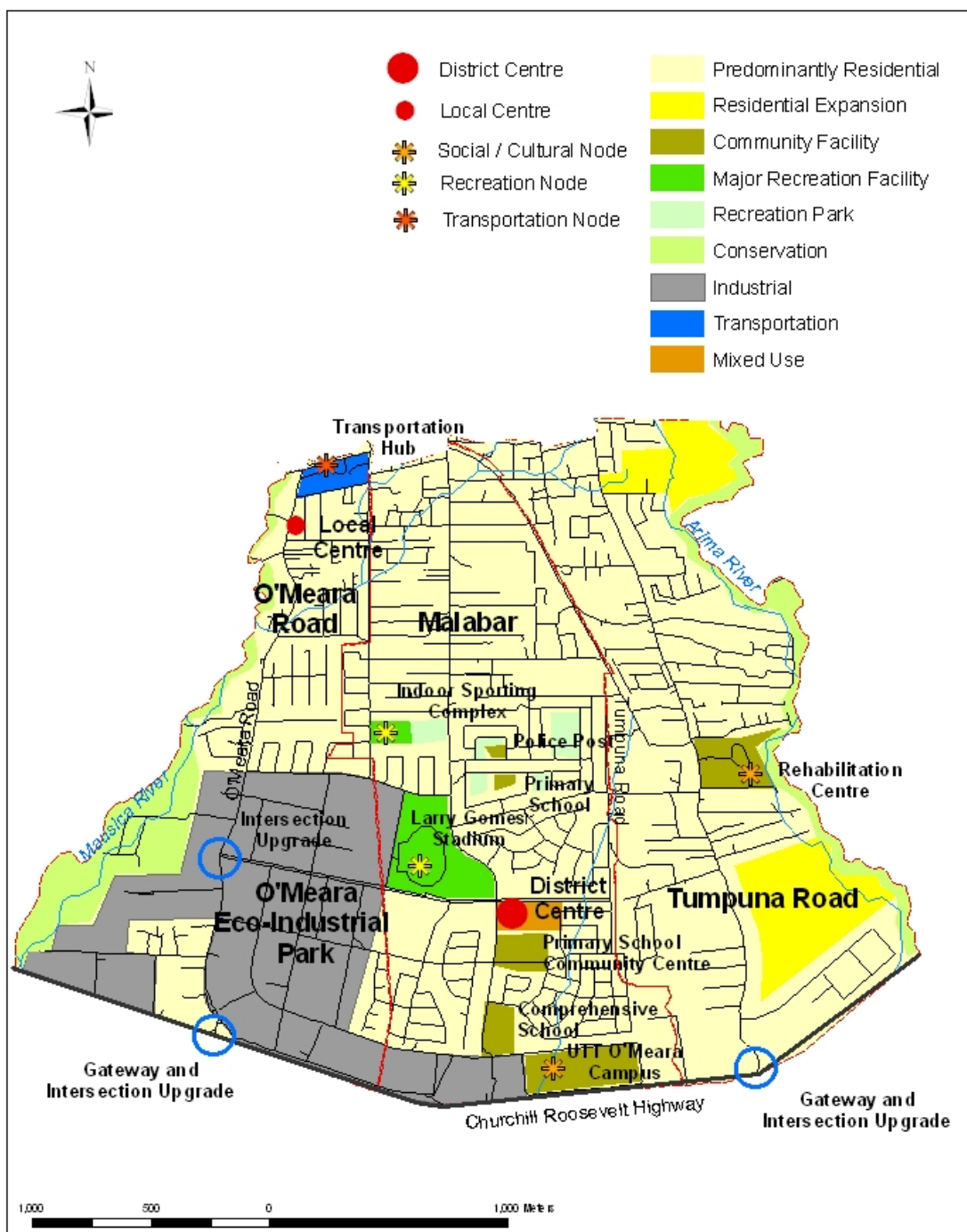


Figure 5.3:

Arima South Development Zone



Artist Impression of the Malabar District Centre

- g. Provision of an additional primary school in Malabar to serve the Malabar-Tumpuna Road Area.
- h. Expansion of enrolments and provision of new facilities at the O'Meara Campus of UTT.
- i. Establishment of riverside parks along the Mausica and Arima Rivers as part of the overall landscape framework for the town.
- j. Substantial expansion of the housing provision in all three communities but particularly in Malabar. Housing development will take the form of infilling and consolidation of development and expansion onto vacant lands on the eastern side of the area.
- k. Rationalisation of informal settlement at Printeryville.
- l. Rationalisation and consolidation of the existing commercial strip along O'Meara Road into a more compact local centre with appropriate landscaping and parking provision.
- m. The area currently used by the Licensing Department, at the intersection of O'Meara Road and the Priority Bus Route, is being developed by the Public Transport Service Corporation as a hub for its buses.

- n. Dualling of the Churchill Roosevelt Highway between O'Meara Road and Wallerfield.
- o. Upgrading of O'Meara Road and Tumpuna Road and their intersections with the Churchill Roosevelt Highway.
- p. Upgrading of the intersection of O'Meara Road and Lennox Yearwood Boulevard.
- q. As part of the landscape framework for the town, highlighting of the main gateways to the town at the intersection of the Churchill Roosevelt Highway with O'Meara Road and Tumpuna Road, and establishing appropriate aesthetic measures along the major routes and local streets to increase their scenic value and facilitate safe and pleasurable circulation.



Artist Impression of the Gateway at the Churchill Roosevelt Highway

The Plan is to be implemented over the next ten years, although some of the programmes and projects might not be completed during that time frame.

6.1 Implementation Mechanisms

Proper development management and adequate and sustained funding are pre-requisites to implementation of the Plan. Public-private sector partnerships are made critical by the magnitude of the task of resolving the existing issues and forestalling future problems, by the limits to the capability of Central Government and the Arima Borough Corporation, and by the extent of private ownership of some of the resources. The participation of the affected communities is no less significant if Plan is to have the support of the burgesses and to make a positive difference in their lives.

6.1.1 Management of Development

The successful implementation of the development proposals requires concerted action on the part of both

Central and Local Government assisted by civil society.

It is therefore necessary to build managerial competence and capacity in all of the relevant public sector agencies in particular, in planning, finance, and service provision. The current uncoordinated approach to planning and implementation of public sector projects would need to be replaced by a system which almost mandates collaboration of the relevant agencies.

A Coordinating Committee should be established to assist the management of the entire development process. This Committee would need to be comprised of persons with the requisite training and with commitment to the task of ensuring sustainable development of the Municipality. There also has to be a willingness to allow the participation of civil society, including the land developers, environmentalists, NGOs, and CBOs as co-managers in the



process, and an ability to manage partnerships and resolve conflicts with these groups.

6.1.2 Funding

The Public Sector Investment Programme (PSIP) will continue to be a significant source of funding for those programmes and projects to be undertaken by the ABC, MLG, or other Central Government agency. These include the preparation of more detailed or focused plans, a number of large projects, and the infrastructural programmes and projects - both social and physical. Some housing will be funded by the HDC with partial cost recovery through the sale or rental of the properties, and by the LSA as part of squatter regularisation and upgrading schemes.

Public-Private Sector Partnerships will be required for many of the projects.

6.1.3 Community Participation in the Development Process

The achievement of an appropriate platform for planning requires participation and democratic decision-making on the part of those who will be affected by any decision in the spatial allocation.

The Local Government Reform programme does, in fact, require greater collaboration between the Corporation and the communities under its jurisdiction and a greater level of community participation in the process of planning and decision-making. This can be achieved through inviting, encouraging and facilitating representation by relevant stakeholder interests at statutory and other meetings of the Corporation. The ABC should support the participation of groups who are already engaged in developing their communities in one form or another. This would require a willingness to take on board the views of these persons who, by and large, are well informed and knowledgeable about the issues which affect their specific communities.

The Corporation might consider allowing stakeholder groups to be represented on committees and or to form committees that would have an input in the planning and management of their communities. This would give to burgesses a vehicle for expressing their views, and would help to ensure 'buy-in' of development proposals. It would introduce a system of checks and balances that is generally lacking from the current system of governance.

The groups, however, need to be empowered and assisted with funding to participate in the various opportunities that might be available, for example, in eco-tourism or reforestation projects.



6.2 PROGRAMMES AND PROJECTS

The projects that come out of the SDP are listed in Table 6.1 along with the organisations with responsibility for

their implementation. The CISL or other relevant Special Purpose Company will also play a role in the process.

6.3 Monitoring and Review

The Plan will be monitored and kept under continuous review to determine the effectiveness of the policies and programmes and to make adjustments as necessary. The Coordinating Committee will be important in this regard. However, less formal monitoring by civil society will be just as critical. A list of indicators needs to be developed to assist in the monitoring of the Plan.

It is intended to take the SDP through the approval process set out in Part 2 of the TCP Act. In this case, the legislation stipulates that at least once in every five years after the date of approval by Parliament a fresh survey must be carried out and a report on this together with “proposals for any alterations or additions...that appear to... be required...” be submitted for approval. Notwithstanding, proposals for alterations or additions to the Plan can be submitted at any time.



Table 6.1: Action Programme – Major Development Projects

NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
DEVELOPMENT PLANNING AND ENVIRONMENTAL PROJECTS								
01.	Preparation of a local area plan for Borough of Arima, as defined by proposed new boundaries.	■ ■			ABC	MLG and TCPD		
02.	Preparation of an Action Area Plan for the Downtown District, as the primary focal point in the town.	■ ■			ABC	MLG and TCPD		
03.	Formulation and implementation of a pedestrianisation scheme for Queen Street between the Dial and the Market.	■ ■			ABC	TCPD, TMB, MOWT		
04.	Preparation of a development plan for the establishment of a District Centre on a site earmarked by the HDC for commercial development in Malabar.	■ ■			HDC	ABC, TCPD		Consultancy services required to assess the traffic implications of placing the facility at the earmarked site and for the design of the development.
05.	Conduct of watershed management study to address the issue of flooding and other environmental issues.	■ ■			ABC	MLG, TCPD, MOWT		Consultancy service
06.	Rationalisation and consolidation of commercial strips along O'Meara Road and Tumpuna Road into more compact local centres with appropriate landscaping and parking	■ ■	■ ■		ABC	TCPD		



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
	provision.							
07.	Establishment of a landscape framework for the town comprising upgraded parks and other open spaces, hillside areas, 45-metre wide riverside parks along both sides of the Arima and Mausica Rivers, and an aesthetically enhanced road network.	■ ■	■ ■	■ ■	ABC	Forestry Division, Environmental Unit, MOWT		Consultancy service
08.	Rationalisation of the functional and aesthetic aspects of Princess Royal Park in keeping with its status as a primary open space facility in the heart of the town.	■ ■	■ ■		ABC	Horticultural Division of the MALMR, Sports and Environmental NGOs in the Borough, MOWT		
09.	Upgrading the functional and aesthetic aspects of Calvary Hill View Park as a key vantage point and recreation and tourism attraction. Upgrading works will include improved access, appropriate landscaping, and convenient and comfortable visitor facilities.	■ ■			ABC	Horticultural Division of the MALMR, Sports and Environmental NGOs in the Borough, MOWT		
10.	Promotion and implementation of the Smart Living Project to encourage environmental awareness and responsibility.	■ ■	■ ■	■ ■	ABC	MLG, UTT, MPHE EMA, MALMR, MCDCGA		
11.	Development and implementation of	■ ■	■ ■	■ ■	ABC	MLG, ODPM,		



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
	a municipal disaster management system					institutional disaster and emergency responders, Municipal CBOs		
HOUSING PROJECTS								
12.	Identification of opportunities, in the local area planning context, for rationalisation and consolidation of development in Arima Proper, Malabar, Tumpuna Road, and Maturita.	■ ■			ABC	TCPD, HDC, Private Sector		
13.	Detailed assessment of the vacant lands earmarked for residential expansion.	■ ■			ABC	TCPD, HDC, Private Sector		
14.	Promotion of the timely and cost effective development of new housing, renovation of substandard housing, and regularisation or relocation of squatter communities.	■ ■	■ ■	■ ■	ABC	TCPD, HDC, Private Sector		
SOCIAL AND CULTURAL PROJECTS								
15.	Re-developed of the old textile mill site as a Cultural Complex to include a library and such proposed cultural heritage features as the Museum of	■ ■	■ ■		ABC	MLG MDCGA, Municipal Performing Arts NGOs		Consultancy services required for feasibility study and design of the facility



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
	the Living Cultures of Arima, the Biological Museum, and the Cultural Centre for the Arts.							
16.	Establishment of a Museum of the Living Cultures of Arima at the proposed Cultural Complex.	■ ■	■ ■		ABC	MLG, MDCGGA, Municipal Performing Arts NGOs, History Department (UWI)		
17.	Establishment of a Biological Museum	■ ■	■ ■		ABC	MLG, National Herbarium, Chemistry Department of UWI, National and Municipal Environmental NGOs		
18.	Establishment of a Cultural Centre for the Arts at the proposed Cultural Complex.	■ ■	■ ■		ABC	MLG, MDCGGA, Municipal Performing Arts NGOs		
19.	Establishment of a Public Library at the proposed Cultural Complex.	■ ■			ABC/ NALIS	MLG,		
20.	Re-creation of a Carib Village on a 10-hectare site identified for residential expansion at Calvary Hill.	■ ■	■ ■	■ ■	Arima Carib Community/MLG,	ABC in collaboration with TCPD, MDCGGA		Consultancy services required regarding technical feasibility of the identified site in Calvary Hill and for the design of the development and development of business plan



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
21.	Formulation and implementation of an Arima Municipal Heritage Inventory and Conservation Plan.	■ ■	■ ■	■ ■	ABC	Historical Heritage Unit (MOWT), Historical Society of Trinidad and Tobago		
22.	Upgrading or establishment of educational facilities, including: <ul style="list-style-type: none"> ▪ Repair and upgrading of existing schools. ▪ Provision of early childhood educational facilities sited in the various neighbourhoods. ▪ Provision of additional primary school places to serve Malabar-Tumpuna Road Area. ▪ Provision of an additional secondary school. ▪ Expansion of enrolment and provision of new facilities at UTT. 	■ ■	■ ■		MOE, Ministry of Tertiary Education, UTT	ABC		ABC plays a coordinating role
23.	Upgrading of primary health facilities	■ ■	■ ■		Ministry of Health	ABC		Coordination by ABC
24.	Development of an Arima hospital	■ ■	■ ■		Ministry of Health	ABC		ABC playing a coordinating function, tracking, facilitating and managing the development of all health facilities and services in the Municipality
25.	Upgrading and development of parks, recreation grounds, and other	■ ■	■ ■	■ ■	ABC	MOYS		ABC playing a coordinating function, tracking,



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
	recreation facilities, including: <ul style="list-style-type: none"> ▪ Basketball and netball courts in various neighbourhoods. ▪ An additional athletic track and football field. 							facilitating and managing the development of all sporting and recreational facilities in the Municipality
26.	▪ New indoor sport facility at Malabar	■ ■	■ ■	■ ■	Ministry of Youth and Sport	ABC		
27.	▪ Community recreation centres in Arima Proper and Malabar	■ ■	■ ■	■ ■	Ministry of Youth and Sport	ABC		
28.	Upgrading of community centres at Anglican Street and Malabar Road and establishment of new centres at Tumpuna Road and Calvary Hill.	■ ■	■ ■		MCDCGA	ABC		ABC playing a coordinating function, tracking, facilitating and managing the development of all community and social support facilities in the Municipality
29.	Establishment of Senior Activity Centre at Tumpuna Road.	■ ■			Ministry of Social Development (MOSD)	ABC		
PUBLIC AND PROTECTIVE SERVICES PROJECTS								
30.	Development of a new Administrative Complex.	■ ■			ABC	MLG		
31.	Development of a new Court House.	■ ■			ABC	MLG, Judiciary, Law Association		
32.	Redevelopment of the Public Market.	■ ■			ABC	MLG		



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
33.	Improvement of facilities at Arima and Malabar Police Stations and establishment of police posts in particular hot spot areas.	■ ■	■ ■		Ministry of National Security (MONS)	ABC		
34.	Placement of all streets and public places on central electronic grid, supported by an infrastructure of cameras and video-recording devices, to provide for security, and for monitoring of any violation or threats to security of the public, and of any environmental and other challenges, in real time.	■ ■			Ministry of National Security (MONS)	ABC		
35.	Relocation of the Fire Station to a site that will facilitate easier response to emergency situations. An appropriate alternative site should be identified in the local area planning process.		■ ■		Ministry of National Security (MONS)	ABC		
ECONOMIC ACTIVITY PROJECTS								
36.	Establishment of local centres (convenience shops) at Calvary Hill and Maturita.		■ ■		ABC	TCPD, Private sector		
37.	Provision of incentives for the development of small hotels and guesthouses.	■ ■			ABC	Ministry of Tourism (MOT), Tourism Development Company (TDC)		



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
38.	Provision of incentives for the establishment of tourism services (restaurants, vehicle rentals, tour guiding, etcetera).	■ ■			ABC	Ministry of Tourism (MOT), Tourism Development Company (TDC)		
39.	Transformation of the O'Meara Industrial Estate into an Eco-Industrial Park (EIP) with an overarching knowledge based industrial theme.	■ ■	■ ■		e- TecK	ABC, Private Sector, Estate Industries		
40.	Introduction of structured research activities at O'Meara Eco-Industrial Park in collaboration with UTT.	■ ■	■ ■	■ ■	e-TecK, UTT	ABC		Activity to be initiated and lobbied for by ABC
PHYSICAL INFRASTRUCTURE PROJECTS								
41.	Improvement of water supply to meet the needs of consumers.	■ ■	■ ■		WASA	ABC		
42.	Improvement of the wastewater management facilities in the town as outlined under Policy E2 (Wastewater).	■ ■	■ ■		WASA	ABC		
43.	Improvement of drainage facilities to prevent flooding including measures outlined under Policy E2 (Drainage).	■ ■	■ ■	■ ■	Drainage Division, (MOWT)	ABC		This includes regular collaborations and meetings with DD
44.	Adoption and implementation of an integrated municipal solid waste management system as proposed by ABC.	■ ■	■ ■		ABC	MLG, SWMCOL		



NO	PROJECT	DEVELOPMENT STAGES			ORGANISATIONAL RESPONSIBILITY		PROJECT PRIORITY	COMMENTS
		2010 /12	2013 /15	2016 /20	Main Implementing Agency/Agencies	Collaborating Agency/Agencies		
TRAFFIC MANAGEMENT AND TRANSPORTATION PROJECTS								
45.	Introduction of comprehensive traffic management measures including signage, education, regulation, enforcement, and low cost engineering solutions.	■ ■			TMB (MOWT)	ABC		
46.	Relocation of taxis and maxi-taxis to a paratransit hub or paratransit hubs.	■ ■			TMB (MOWT)	ABC		Consultancy services required regarding study to determine the optimum size of, and suitable location(s) for, the facility (facilities).
47.	Creation of attractive parking lots with shade trees and properly located, appointed and maintained.	■ ■	■ ■		TMB (MOWT)	ABC		
48.	Development of the site at the intersection of O'Meara Road and the Priority Bus Route, as a hub for PTSC buses.	■ ■			PTSC	ABC		
49.	Dualling of the Churchill Roosevelt Highway (CRH) between O'Meara Road and Wallerfield.	■ ■	■ ■		Highways Division, MOWT			
50.	Upgrading of O'Meara Road and Tumpuna Road and their intersections with the CRH.	■ ■	■ ■		Highways Division, MOWT			
51.	Upgrading of the intersection of O'Meara Road and Lennox Yearwood Boulevard.	■ ■			ABC	MOWT		

