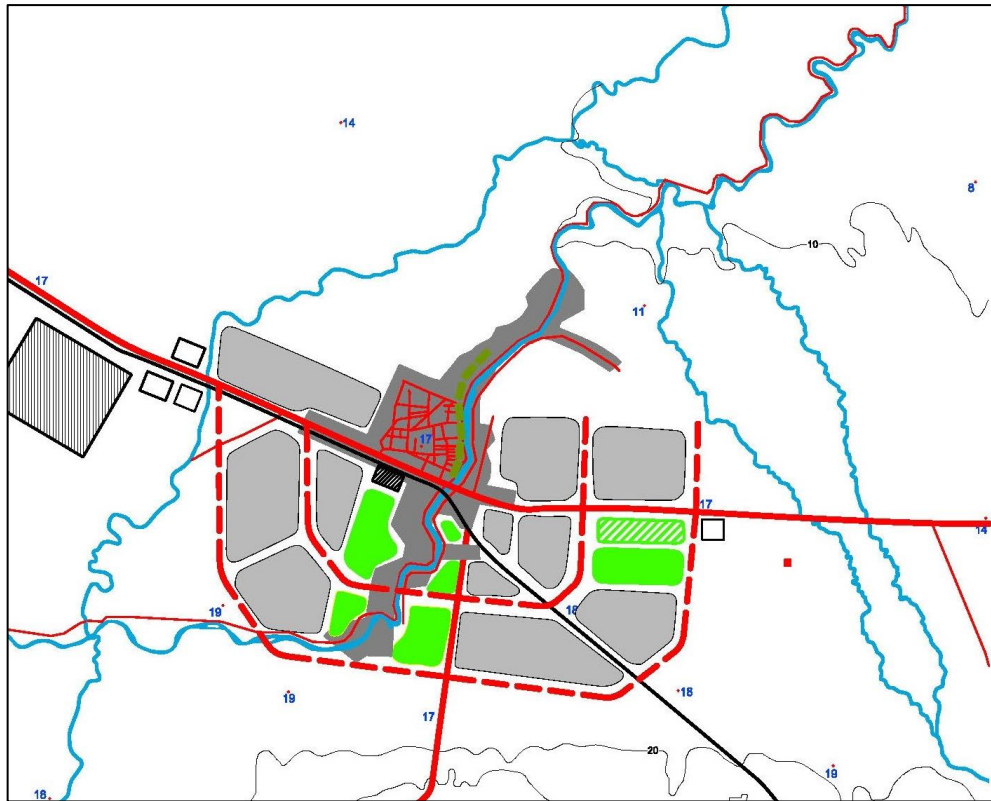


Integrated Urban Environmental Management in the Tonle Sap Basin

Ministry of Public Works and Transport, Phnom Penh, Cambodia



Urban Development Strategy Pursat¹

June 2014

Prepared with support from an ADB technical assistance (ADB TA 7986-CAM)

¹ Approved on 31 July 2014 by Pursat Provincial Governor (MPWT Letter No. 008 PMU/ MPWT/ IUEMTB/ 14/ 30 July 2014)

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Abbreviations

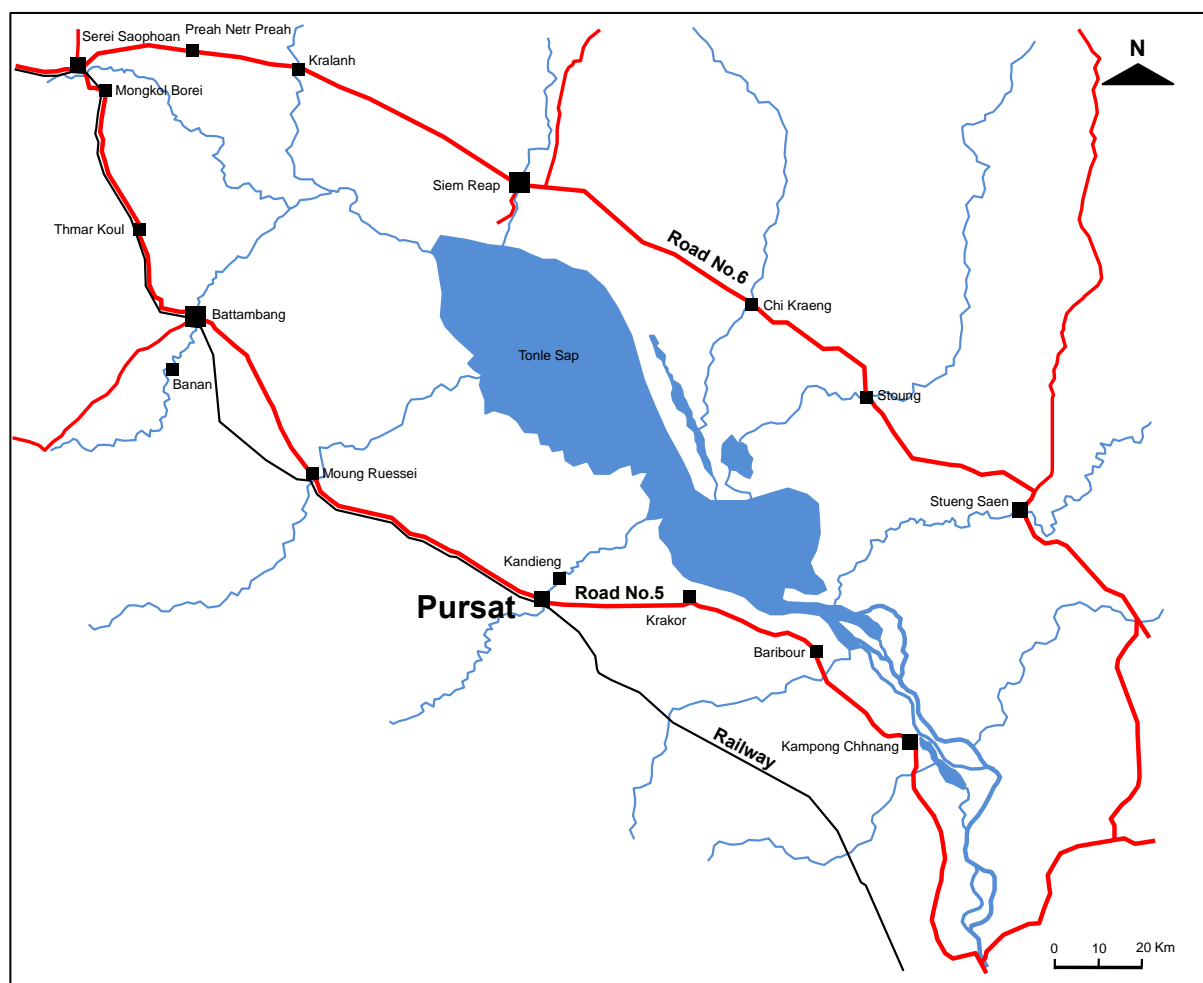
ADB	Asian Development Bank
CARM	Cambodia Resident Mission (ADB)
DPWT	Department of Public Works and Transport (in provinces)
EC	European Commission
EDF	European Development Fund
EIB	European Investment Bank
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IDA	International Development Association
IFC	International Finance Corporation (of the World Bank Group)
JICA	Japan International Cooperation Agency
MCA	Multi-Criteria Analysis
MDGs	Millennium Development Goals
MEF	Ministry of Economy and Finance
MIME	Ministry of Industry, Mines and Energy
MLMUPC	Ministry of Land Management, Urban Planning and Construction
MOE	Ministry of the Environment
MOWRAM	Ministry of Water Resources and Meteorology
MPWT	Ministry of Public Works and Transport
NAPA	National Adaptation Plan of Action to Climate Change
NGO	Non Governmental Organisation
PDWRAM	Provincial Department for Water Resources and Meteorology
PPCR	Pilot Program for Climate Resilience
SOE	State-Owned Enterprise
TA	Technical Assistance
TSA	Tonle Sap Authority
UNDP	United Nations Development Programme
WB	World Bank Group

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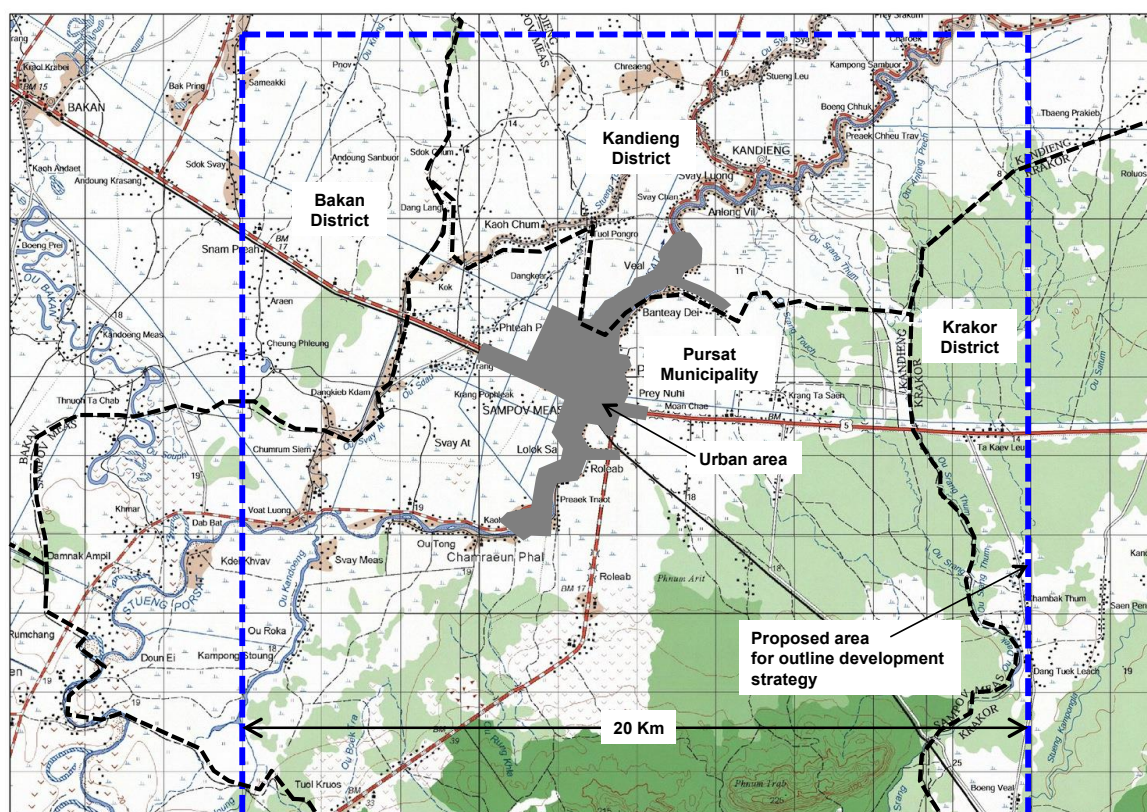
Location of Pursat in the Tonle Sap Basin

1 Introduction

1.1 Background

- 1 Pursat is located about 174km north of Phnom Penh on National Road No.5. It is situated about 20km from the western edge of the Tonle Sap lake, on the banks of the Stung Pursat river.
- 2 National Road No.5 is part of the GMS Southern Economic Corridor and the town is well placed to benefit from the economic growth that this, and its proximity to Phnom Penh, will generate. The town's expansion needs to be planned and well-managed, and this should be done within the context of its surrounding area, or hinterland. Experience has shown that a suitable planning area for a medium-sized town is an area 20km x 20km. On this basis a strategy area was discussed and agreed with municipal and provincial stakeholders on 29th August 2013 and this is shown in Figure 1.1 below.
- 3 National spatial planning policy² sets the procedure for urban master plan preparation and approval. However, there is no provision for plans between municipal level and provincial level. It is recommended that the Policy is amended to include strategic plans of this type.

Figure 1.1 Proposed Strategy Area



1.2 Development Strategy Objectives

- 4 The Strategy is intended to be a guiding tool in the management of Pursat's future growth. By facilitating more efficient development and infrastructure investment it will thereby assist in the establishment of Pursat as a key provincial centre.

² National Policy on Spatial Planning, Council of Ministers, April 2011

5 More specifically the strategy aims are:

- To establish development targets and an overall goal for Pursat's development
- To identify the principal opportunities for town growth, including main areas for expansion
- To identify the major constraints to expansion
- To define key urban infrastructure requirements
- To stimulate strategic thinking in urban planning and management

1.3 Components of the Strategy

6 The strategy's key components are:

- Regional and national context
- Development issues and needs assessment
- Vision and SWOT analysis
- Concept for growth
- Phased development strategy

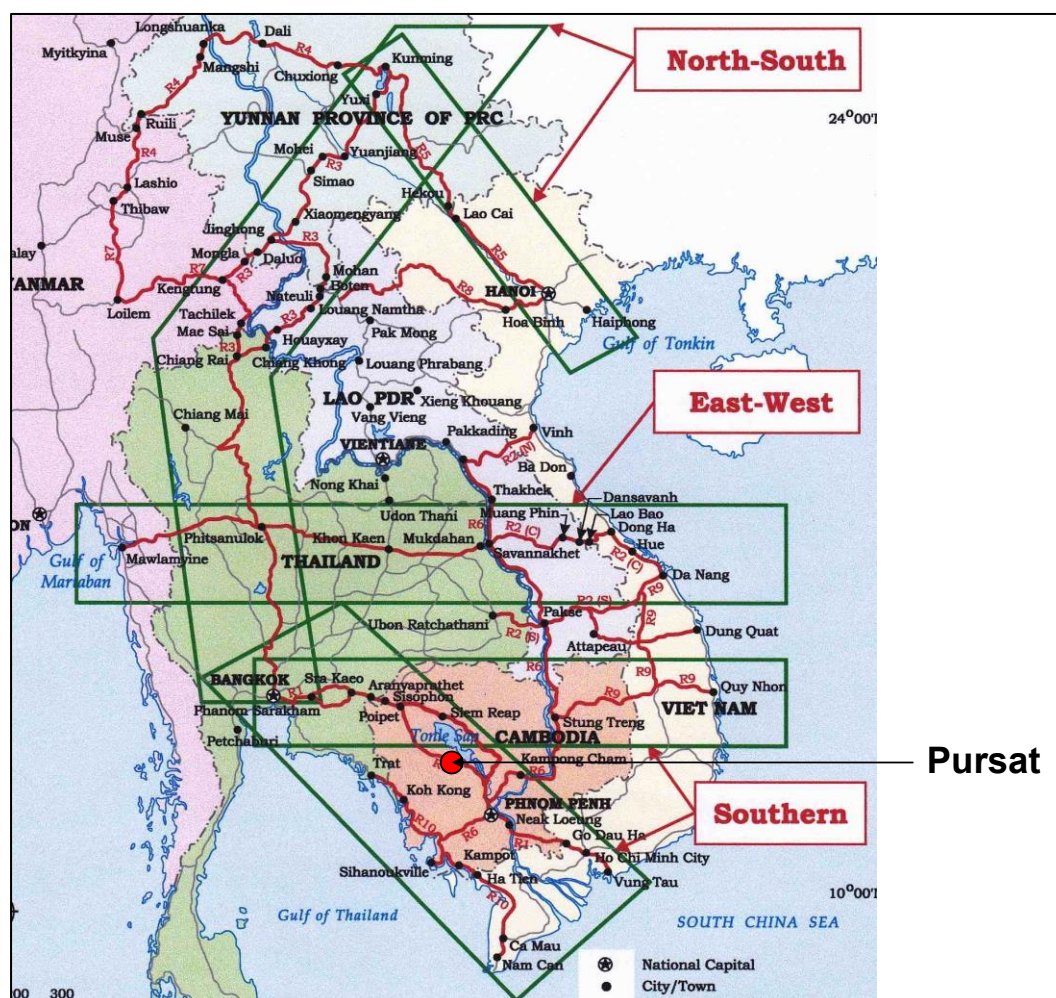
2 Development Context

2.1 Regional and National Context

2.1.1 GMS

- 7 Pursat is situated in the middle of the GMS southern corridor that runs from Bangkok to Ho Chi Minh City (see Fig 2.1).

Figure 2.1 GMS Corridors



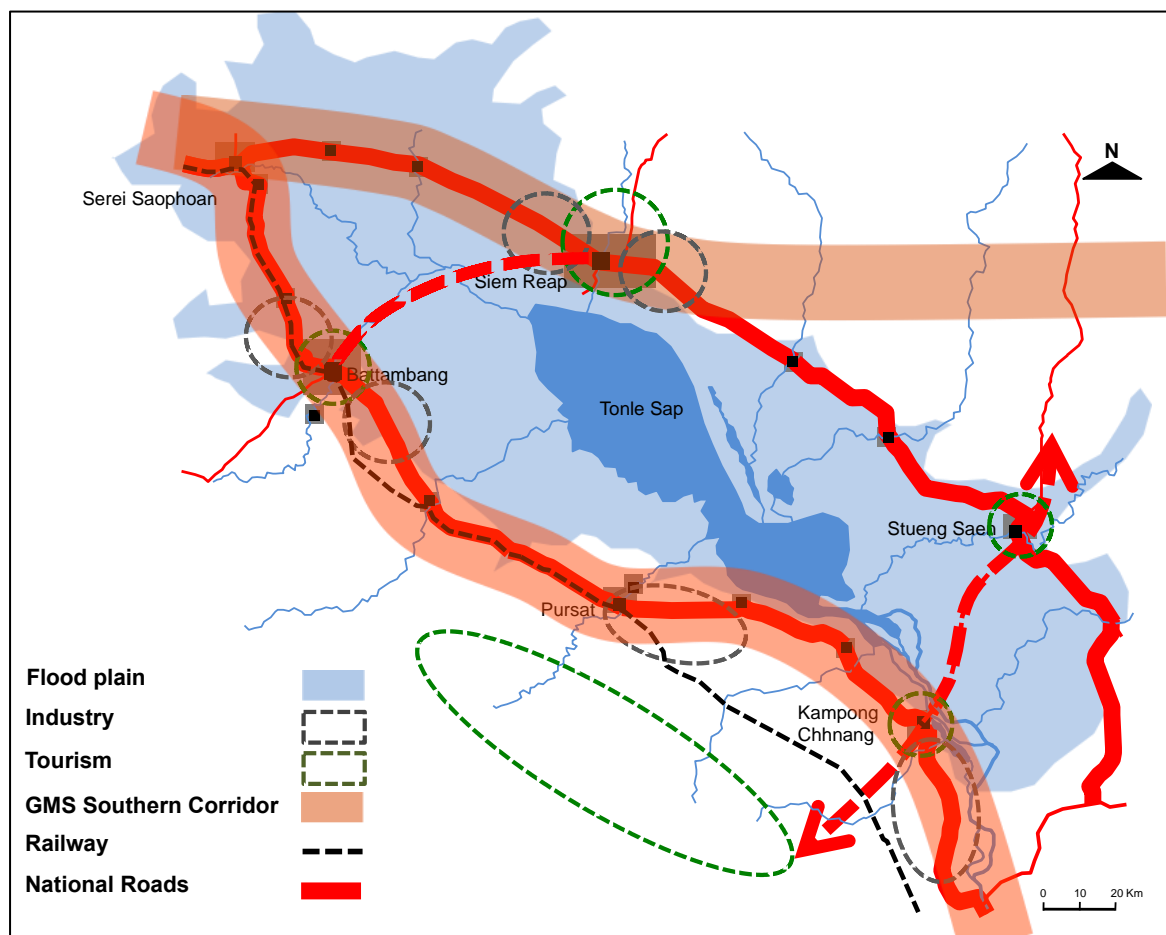
2.1.2 National Planning

- 8 There are currently no national spatial development plans, and there are no significant policies or proposals in the National Development Strategy³ that impact Pursat.
- 9 Pursat is province is experiencing increasing investment in light industrial developments and these are expected to continue. It is thought that these are stimulated in part by the strategic location of the province and also the prospect of a source of hydro power nearby.

³ NSDP Update 2009-2013, MOP

- 10 Initial work on the Tonle Sap Urban Areas Development Framework (TSUADF)⁴ shows that the town is in a key location for growth based on the economic corridor, upgraded and new transport routes, and tourism (see Figure 2.2).

Figure 2.2 Strategic Analysis from TSUADF



2.1.3 Urban Planning

- 11 There is no master plan for Pursat. Planning the town growth is done in an ad-hoc manner with no overall guiding principles.

2.1.4 Transport Networks

- 12 As mentioned above, Pursat is located on National Road No.5, a main arterial route from Phnom Penh to the Thai border at Poipet. The town is situated just over halfway from Phnom Penh to Battambang.
- 13 The railway line from Phnom Penh to Poipet is currently being rehabilitated and services are expected to resume on the line from possibly as early as 2014. The railway passes directly through the town and it is expected that the town will become a key transport interchange for both passengers and freight.

2.1.5 Tonle Sap Protected Area

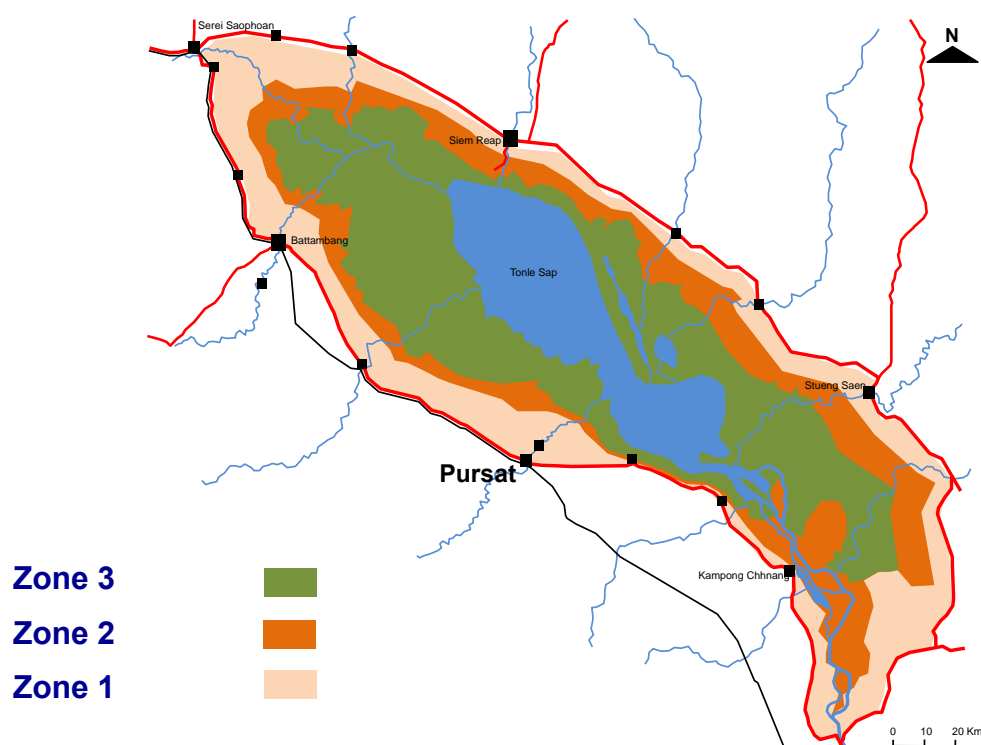
- 14 A Tonle Sap Basin Strategy was developed under the ADB's TA Tonle Sap Environmental Management Project. One output from this was the designation of the Tonle Sap Biosphere

⁴ TSUADF is part of the work of this ADB PPTA - 7986 CAM

Reserve and the establishment of the Tonle Sap Biosphere Reserve Secretariat. The establishment of the Tonle Sap Authority (TSA) has since superseded this. The TSA has designated three zones for different degrees of protection (see Figure 2.3). These are as follows:

- Zone 1: Generally residential area and traditional paddy fields with rain-fed farming
- Zone 2: Cultivated area with dry season rice that is inundated in the wet season
- Zone 3: Area of flooded forests, natural lakes and muddy areas (fully protected)

Figure 2.3 TSA Zones



- 15 From Figure 2.3 it can be seen that Zone 1 includes all areas east of Road No.5. This means that about one third of the urban area of Pursat is within Zone 1. The boundary of Zone 2 also passes close to Pursat and it follows the western edge of the watercourse.

2.2 Population Growth and Urban Expansion

2.2.1 Current Population

- 16 In 2011 the estimated population of the municipality was 68,924, but as shown in Figure 1.1, the municipality is much bigger than the urban area. The urban area also extends slightly beyond the municipal boundary into Kandieng district. The population of the contiguous urban area is estimated at 49,044 (see Table 2.1).
- 17 The total population residing in the strategy area in 2011 was about 101,000. As this is the immediate hinterland of the town it is reasonable to assume that the town functions as the day to day service centre for this population.

Table 2.1 Population of Pursat

Area	No. Households	Total Population	Male	Female
Pursat Municipality	14,462	68,924	39,783	29,141
Urban area	10,676	49,044	29,456	24,376
Strategy area	21,295	101,630	48,224	53,406

Source: Provincial database 2011

2.2.2 Population Projections

- 18 The population projections described here use a combination of the NIS predictions of growth rates for provinces and a national rate for urban areas to 2030. The NIS projected urban population growth is about two percentage points above the predicted provincial growth rates. It is likely that a large proportion of this urban growth will be in Phnom Penh and the other larger towns due to rural-urban migration. For the smaller towns such as Pursat a lower urban growth rate is probable, i.e. somewhere between the provincial and urban rates. A rate of one percentage point above the provincial growth rates has therefore been adopted as a 'medium growth' scenario. Higher and lower scenarios have also been calculated for comparison.
- 19 For the purposes of the strategy it has been assumed that all population within the strategy area will reflect the same growth rate as the urban area. The results of the population projections are summarised in Table 2.2.
- 20 The projections show that under the medium growth scenario by 2030 there will be an additional 60,000 people living in the strategy area.

Table 2.2 Population Projections Pursat Urban Area and Strategy Area

	2011	Growth Rate %	2015	Growth Rate %	2020	Growth Rate %	2025	Growth Rate %	2030
Medium Growth Scenario		2.34		2.49		2.49		2.47	
Urban area	49,044		53,800		60,900		68,900		77,900
Strategy area	101,630		111,500		126,100		142,700		161,300
High Growth Scenario		2.84		2.99		2.99		2.97	
Urban area	49,044		54,900		63,700		73,900		85,600
Strategy area	101,630		113,700		131,800		152,800		176,900
Low Growth Scenario		1.84		2.49		2.49		2.47	
Urban area	49,044		52,800		59,800		67,700		76,500
Strategy area	101,630		109,400		123,800		140,100		158,300

Source: Consultant estimates based on NIS projections⁵**2.2.3 Urban Development**

- 21 Recent expansion in Pursat urban area has been mostly along National Road No.5 to the north and south of the town. This pattern of development largely reflects the availability of access and utilities. There is a clear need therefore to expand the secondary road network in the town in order to promote more even and organised growth.
- 22 Within the existing urban area the developed land (i.e. land occupied by residential, commercial, and other facilities) amounts to a total of approximately 12.3 Km². Based on the current population

⁵ NIS National Population Projections 2008-2050 (digital data provided by NIS)

of around 49,000 this represents a gross development density of about 3,900 persons per Km². By comparison the gross density in Kampong Chhnang was found to be around 3,500 persons per Km². For consistency the lower density is proposed for calculating development areas required. At this density the additional population of 60,000 will require an area of 17.1Km². Although residential and commercial densities may increase in future, through high-rise developments, improved urban planning should also result in greater provision of community facilities and small-scale open spaces. It seems reasonable to assume therefore that the overall density at 2030 will not be very different from that today.

3 Development Issues and Needs

3.1 Consultations

- 23 A number of consultations have been held with stakeholders including municipal, provincial and central government, civil society and other agencies involved in development. These culminated in a strategy meeting in Pursat on 29th August 2013. The findings of that meeting and other consultations are set out below.

3.1.1 The Vision

- 24 At the meeting on 29th August a vision for the future of Pursat was agreed. This is as follows:

A regional centre and transport hub for commerce, industry, and tourism, developed in a sustainable way keeping development and protection of natural resources in balance, and providing a healthy environment for its citizens

3.1.2 SWOT Analysis

- 25 The meeting on 29th August also undertook a an analysis of the town's strengths, weaknesses, opportunities and threats (SWOT). The results are shown in Figure 3.1 below.

Figure 3.1 SWOT Analysis for Pursat

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none"> ▪ On National Road No.5 at junction with No.55 ▪ Half way from Phnom Penh to Thai border ▪ Attractive for commercial/industrial investment in the vicinity ▪ Hydro project – cheap electricity ▪ Land availability ▪ Railway - interchange ▪ Agricultural potential – hub for processing 	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none"> ▪ Power constraints ▪ Infrastructure not complete ▪ Far from port ▪ Weak investor interest ▪ No clear urban planning ▪ Low capacity in urban services operation and management
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none"> ▪ Tourism potential based on marble carving and natural surroundings ▪ Railway rehabilitation ▪ Riverfront development ▪ Natural conservation areas ▪ Bird habitat ▪ Tonle Sap as an attraction ▪ Waterfalls not yet developed ▪ Decentralisation of financial control 	<p style="text-align: center;">THREATS</p> <ul style="list-style-type: none"> ▪ Shortage of human resources and inadequate education facilities to support professional development ▪ Continued unplanned development ▪ Environmental damage will affect natural resource attractions ▪ Other towns attract investment ▪ Electricity remains too expensive ▪ Limited financial resources

3.1.3 Other Consultations

- 26 A summary of issues raised in various consultations with stakeholders are summarised in Table 3.1.

Table 3.1 Issues Raised in Discussions with Pursat Stakeholders

Subject	Points Raised
Environment	<ul style="list-style-type: none"> ▪ Flooding occurs in town centre - from storm water, not back-up from Tonle Sap
Urban Planning	<ul style="list-style-type: none"> ▪ Municipal governor would like to see town grow in all directions. ▪ The governor would like to see bypass roads to north and south creating a ring road and Dyke around the city. ▪ The governor sees town growth based on industry rather than tourism. ▪ There is more land available for growth to the east of the town than to the west. ▪ Road 55 to Sihanoukville to be upgraded
Infrastructure	<ul style="list-style-type: none"> ▪ Drainage/sewerage system needs rehabilitation and extension ▪ An old wastewater pond system is no longer functioning ▪ Two companies involved in solid waste collection as a new company won market tender this year ▪ One of the companies owns the dumpsite ▪ Dumpsite needs improved management and extension ▪ Govt prepared to purchase the site if necessary ▪ Some riverbank work needed on southern side of town ▪ Insufficient town drainage system ▪ Lack of waste water treatment plant ▪ Surface paved road within the municipality is consisting of only 16.38%
Administration/ Public Awareness	<ul style="list-style-type: none"> ▪ Some boundary issues as northern part of urban area is in adjacent district, not municipality ▪ Insufficient budget for town development ▪ Roads and drains blocked by encroachments and utilities ▪ Poor level of public awareness of urban environmental issues ▪ Poor driving standards

3.2 Summary of Development Considerations

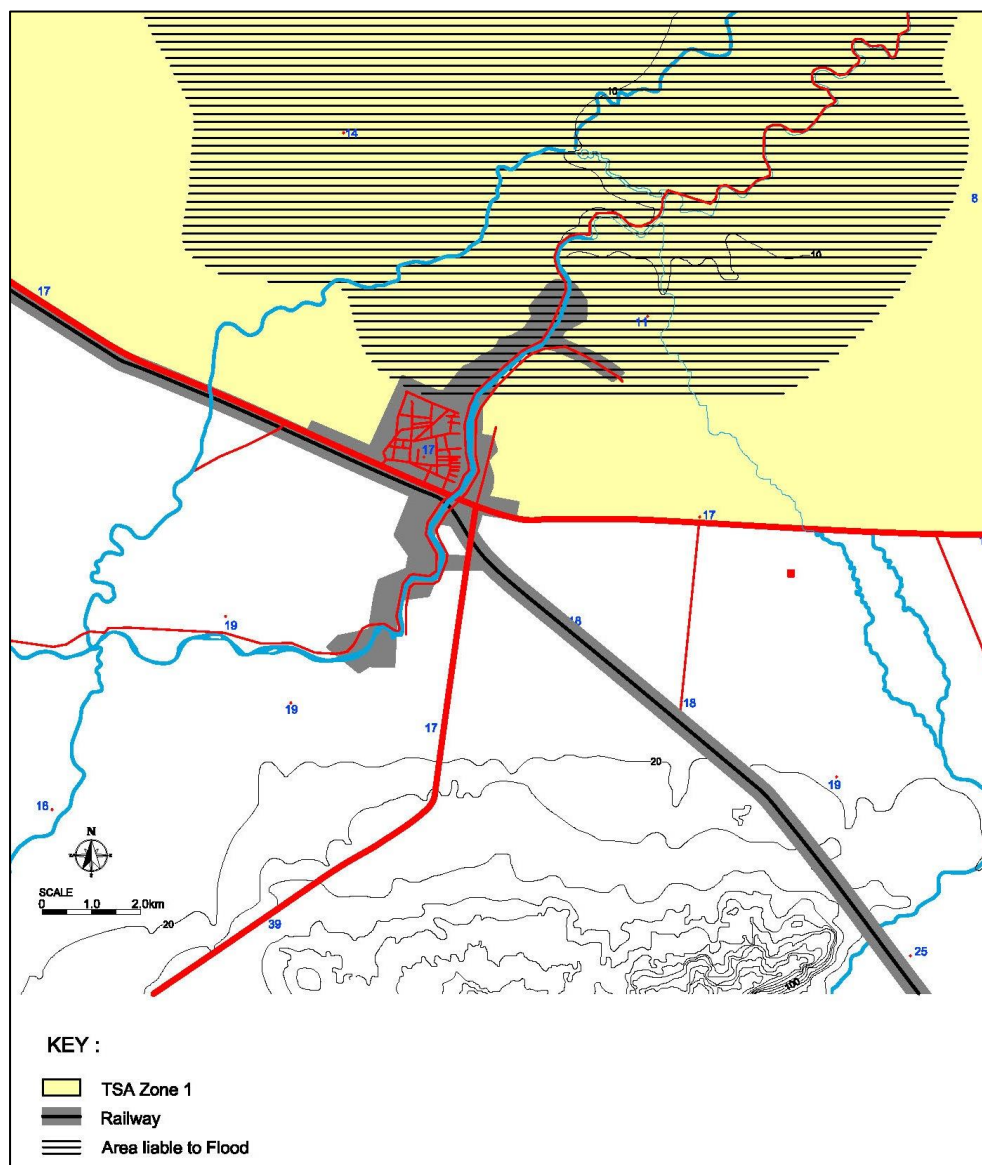
- 27 The river is a major feature of the town, including an artificial island in the shape of a large ship, and a barrage across the river. However the river frontage has not been fully exploited as an attraction.
- 28 A 'by-pass' road is proposed to the south of the urban area linking the eastern and western sections of Road No.5. This will have the benefit of taking through-traffic out of the town centre. A bridge has already been constructed over the river but the alignment of existing roads does not provide an effective through route at the moment. The road involves two crossing points with the railway. In future these are likely to overpasses as crossings.
- 29 Pursat province has been earmarked by Government as having significant tourism potential and 'untouched resources which have not yet been transformed into tourism products'.⁶ The potential attractions are associated with the natural environments of the Tonle Sap, and the mountains to the south. The town is better situated than Kampong Chhnang to act as a transit point as it is approximately half way between Phnom Penh and Battambang.

⁶ Tourism Development Strategic Plan 2012-2020, Government of Cambodia, July 2012

- 30 Located within the GMS Southern Economic Corridor, the town can expect continued economic development and expansion. There are already several rice mills in the town and several industries have recently located in the adjacent district (Krokor) to the east of the municipality. In recent years expansion of the urban area has been mostly to the east and this is where future growth is expected. The new municipal office has been constructed about 3km east of the town.
- 31 There is no existing Master Plan for Pursat, nor any under preparation.

3.2.1 Environmental, Geographic and other Constraints

- 32 There are a number of constraints that will have to be taken into account when developing the strategy for Pursat. Some of the key constraints are described below and shown in Figure 3.2.
- 33 As mentioned above, most of the town is within TSA Zone 1. Whilst this does not significantly restrict development, it does mean that the types of land use in this area should be given careful consideration. For instance there should be no heavy industries, and major developments should be kept away from the Pursat River, a tributary of the Tonle Sap. Areas to the north of the town are low-lying and liable to flood. These are not suitable areas for major residential or other developments.
- 34 The rehabilitated railway line will be a physical barrier. In the long-term all major road crossing should be grade separated.
- 35 The municipality is striving to improve its environment and submitted an entry for the National Clean City Award. This award considers environmental management, city cleanliness, waste management, levels of public awareness, health safety, and tourism facilities. The municipality was unsuccessful in its first application and will be keen to re-apply in the competition period.

Figure 3.2 Constraints to Development

3.3 Role of the Strategy

- 36 The proposed strategy is a framework for addressing the issues and opportunities outlined above. It is not a detailed prescriptive plan, but an outline providing an overview within which the detailed planning can take place.
- 37 Building on the issues and opportunities identified above, the potential role of the strategy is summarised in Table 3.2 below.

Table 3.2 Potential Strategy Responses to Issues, Needs and Opportunities

Issues and Needs	Potential Strategy Responses
Land Use	
<ul style="list-style-type: none"> ▪ Lack of approved master plan to guide development resulting in inappropriate developments, and inefficient urban expansion ▪ Existing land use patterns result in conflicting, incompatible activities on adjacent sites causing nuisance and environmental impacts ▪ Development control has not protected areas requiring conservation ▪ Uncontrolled development has interfered with existing utilities such as drains 	<ul style="list-style-type: none"> ▪ The strategy will be the starting point for review of the master plan and will identify key growth areas ▪ Definition of areas for urban development and areas to be protected ▪ Identify key agriculture land to be protected from encroachment by urban expansion ▪ Identify areas for industrial developments away from residential areas
Roads and Transportation	
<ul style="list-style-type: none"> ▪ Currently all through traffic passes through the town centre resulting in traffic congestion and adverse environmental impacts ▪ Commercial traffic is due to increase, particularly with new industries locating near the town and the development of the GMS corridor ▪ Few secondary access roads linking primary routes ▪ Rehabilitation of railway will require integration of other transport facilities 	<ul style="list-style-type: none"> ▪ By-pass route(s) to take long-distance traffic around the town ▪ Plan for effective traffic management of increased volumes due to GMS corridor ▪ Improve existing road network and add more secondary road linkages ▪ Integrated plans for rail-road interchanges at town centre passenger station and edge of town freight station
Natural Resources	
<ul style="list-style-type: none"> ▪ Natural resources in and adjacent to the town have not been well managed or protected ▪ Insufficient attention has been paid to environmental issues and climate change ▪ Existing open green spaces are underutilised for public access 	<ul style="list-style-type: none"> ▪ Designate no-build areas that are susceptible to climate change impacts ▪ Use strategy to increase public awareness of environment issues ▪ Identify green areas for public access and eco-tourism
Urban Management	
<ul style="list-style-type: none"> ▪ Urban planning is not integrated with infrastructure planning and provision ▪ Low level of public awareness of urban management issues and procedures ▪ Low levels of community participation in planning decisions and strategies 	<ul style="list-style-type: none"> ▪ Use strategy to guide future infrastructure planning and investment ▪ Use strategy to develop participatory approach in urban planning ▪ Engage communities as partners in local improvements

4 Development Concepts

4.1 Growth Scenario

- 38 The proposed strategy is for development of Pursat up to 2030. It is divided into three phases. The first is from 2014 to 2020 and therefore more or less approximately concurrent with the ADB implementation project. The second and third phases cover the subsequent 10 years.
- 39 The strategy is based on the population projections and the resulting estimates of land areas required as presented in Chapter 2. However, development plans need to allow for some flexibility to adapt to changing circumstances, and all expansion areas may not be developed to the same densities as assumed. The development areas are therefore greater than necessarily required during that period.

4.2 Development Targets

- 40 The vision for the city is described in Chapter 3. Achieving the vision will happen in stages. Suggested targets for each stage are shown in Table 4.1.

Table 4.1 Targets for Phases of the Pursat Development Strategy

Phase 1: 2015-2020 - Improved Urban Environment

- Pursat is well planned and well managed
- Pursat is well known as a transport hub and interchange
- Pursat is the major market for agriculture products and a centre for agricultural processing
- Pursat achieves Clean City Award

Phase 2: 2020-2025 – Attractive City and Commercial/Industrial Centre

- Greater Pursat is a self governing city
- No residents living in poverty or without full urban services
- Centre for light industry
- Pursat established as a city being developed sustainably

Phase 3: 2025-2030 - Regional Commercial and Cultural Centre

- A major centre in Mekong region for commerce, industry, tourism, and other services
-

4.3 Directions for Growth

- 41 As mentioned above, recent development in Pursat has tended to extend along the Pursat River and along Road No.5. This has resulted in rather elongated developments, which are not an efficient urban form. Future development should be encouraged to consolidate around the existing urban centre through provision of additional secondary roads.
- 42 Expansion of the town should be primarily to the south of Road No.5 as the land north of the town is low-lying and more liable to flood.

- 43 Alignment for the proposed by-pass is not yet determined but is expected to be to the south of the town. This will also pull development in that direction. Development along the by-pass should include a frontage road so that access to and from the commercial and other activities does not interfere with the free flow of the traffic along a national road.
- 44 The area around the railway station will need a detailed plan in order to manage traffic. A separate road-rail interchange is proposed for freight traffic to the west of the town where the railway runs alongside Road No.5.

4.4 Development Framework

4.4.1 Development Principles and Rationale

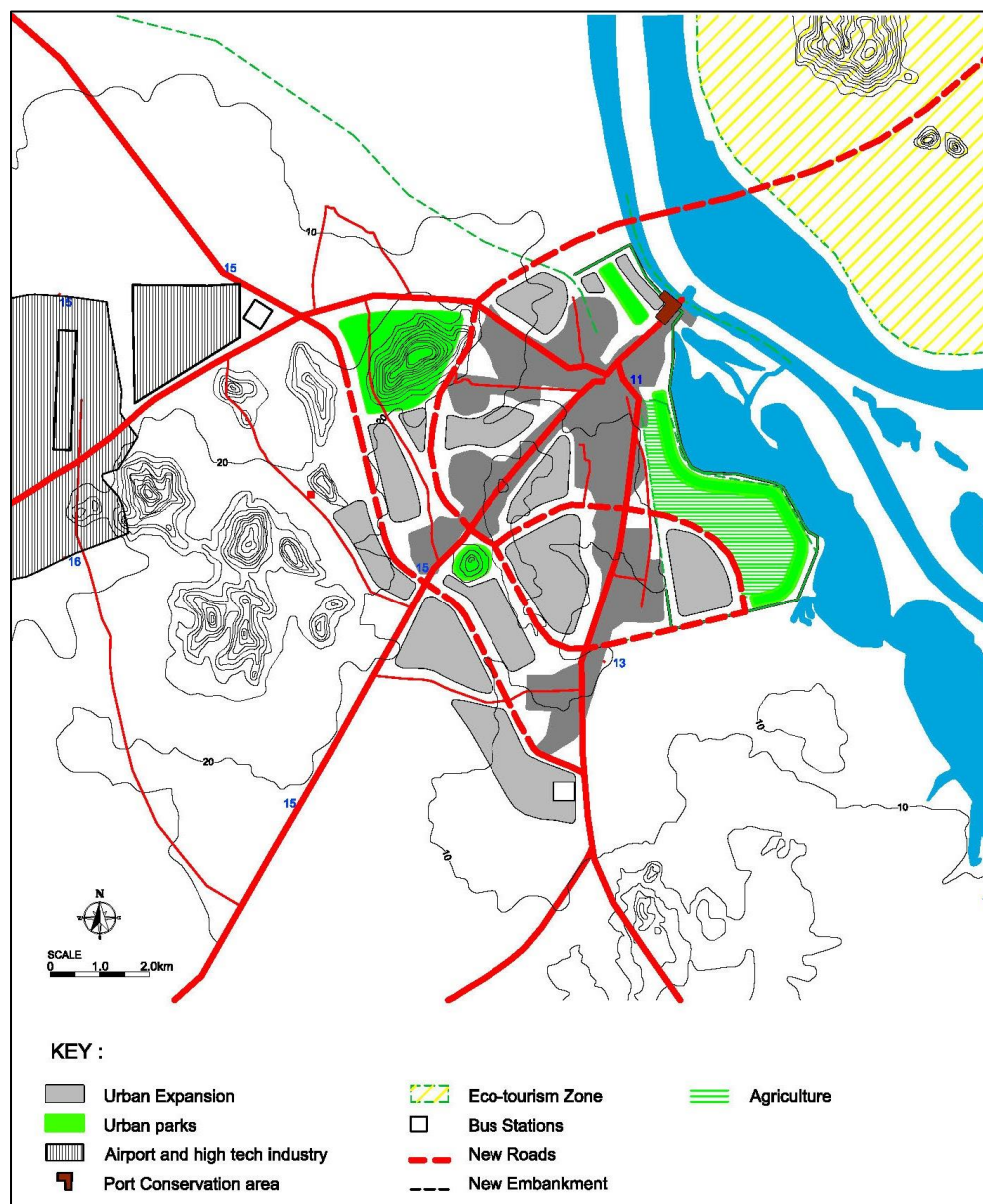
- 45 The framework for the strategy area will be determined by a network of primary and secondary road infrastructure. With the addition of the proposed bypass to the south of the town Pursat will have a reasonable primary road network. This needs to be supplemented by an improved secondary network. The terrain in and around Pursat is relatively flat, with rivers, streams and low-lying land the only major constraints. This will allow for future the urban form to follow a regular shape.
- 46 The rationale for the proposed framework is based on the following (see Figure 4.1):
- Urban growth primarily south of National Road No.5
 - Controlled development along the proposed by-pass
 - Public green open space established near municipal offices as part of a future civic centre
 - Road-railway interchange and high-tech industrial zone on the western side of the town
 - Central riverside area planned as linear recreation zone

4.4.2 Sustainable Development

- 47 The urban strategy should be developed with the issues of sustainability and climate change impact as key parameters. The strategy will contribute in various ways to addressing the impacts of climate change or in mitigating additional impacts. In particular the strategy will aim to facilitate and encourage initiatives that tackle these issues and enhance preparedness. These include:
- Restrictions on development in flood-prone areas
 - Planned development to maximise efficiency of utilities
 - Minimisation of impacts on ecologically sensitive areas
 - Encouragement of climate-resilient infrastructure

Institutional Support

- 48 The development framework deals primarily with physical infrastructure and spatial planning. An important component for its success however will be institutional support. A programme of capacity building and awareness raising should run parallel with the implementation of the urban strategy. This should include:
- Capacity building in urban planning and management
 - Strengthening and extension of urban services delivery mechanisms
 - Improved revenue collection and identification of new revenue opportunities
 - Increased public participation in spatial and infrastructure planning
 - Raising public awareness of urban environmental issues and climate change

Figure 4.1 Outline Development Concept for Pursat

4.5 Priority Actions

49 Chapter 5 sets out the phased development strategy over 16 years. In the short term there are a number of issues that should be addressed and given priority. The issues and suggested actions are summarised in Table 4.2.

Table 4.2 Priority Issues and Suggested Actions - Pursat

Issues	Description	Suggested Actions
Mapping	There is no comprehensive small scale mapping of the urban area and surroundings of Kampong Chhnang. Detailed topographical mapping is essential for the purposes of the planning and design of urban growth and in particular the design of infrastructure.	<ul style="list-style-type: none"> ▪ Preparation of digital contour maps (contour intervals at 0.5m) of the urban area of Pursat and surrounding area – approximately 80Km² ▪ Map output at 1:5000 scale
Satellite Imagery	The Government is currently using poor quality aerial photography from 2005. There	<ul style="list-style-type: none"> ▪ Acquisition of high-resolution satellite imagery (e.g. Quickbird) for the urban

Issues	Description	Suggested Actions
	is no high-resolution satellite imagery available for Pursat and surrounding area. Detailed satellite images are a crucial tool in the planning of urban areas and infrastructure.	area of Pursat and immediate surroundings
TSA Zoning	The boundary of TSA Zone 1 follows National Road No.5 so includes only about one third of the urban area.	<ul style="list-style-type: none"> Review of the boundary of Zone 1 in relation to urban areas.
River frontage	The part of the town fronting the river in Pursat has the potential to be an attractive urban space to be enjoyed by residents. The potential is currently not realised and there is a danger that the opportunities could be lost if development is allowed to extend along the banks.	<ul style="list-style-type: none"> Preparation of detailed local plan for the riverbanks. Identification of areas to be protected from development.
Green Infrastructure and cultural heritage	As towns and cities grow it is common that green spaces and other attractive assets such as historic buildings are lost. There is an opportunity to retain these important features if action is taken soon.	<ul style="list-style-type: none"> Mapping and inventory of green infrastructure and cultural heritage including river banks, open spaces, historic buildings, water bodies.
Railway station	The proposed rehabilitation of the railway will have implications for the town. In particular it will be important to plan the areas around the existing railway station and look at options for an alternative location for a freight traffic interchange.	<ul style="list-style-type: none"> Preparation of detailed local plan of the area around the railway station. Review and planning of future road-rail interchange for freight.

5 Phased Development Strategy

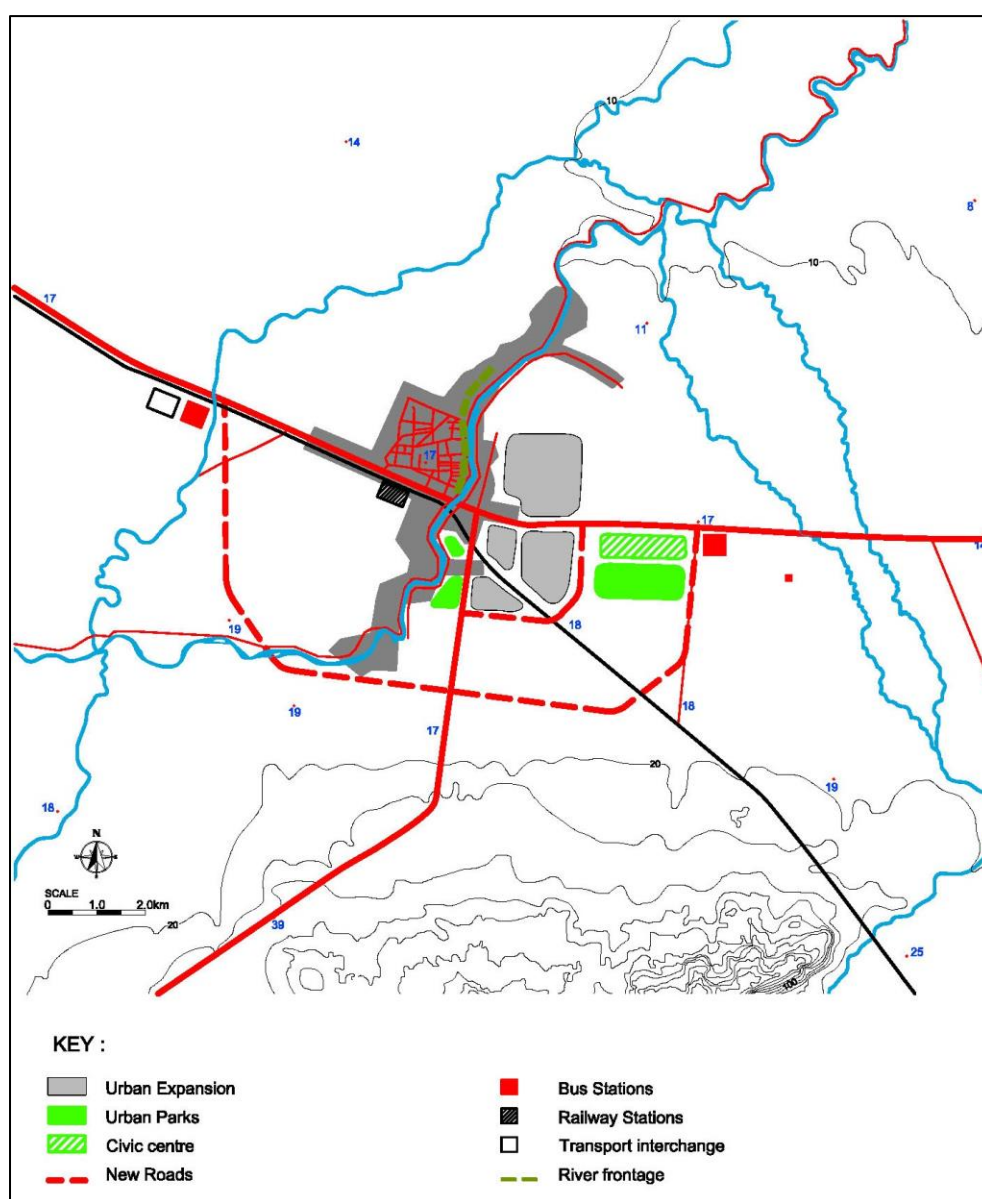
5.1 General

- 50 The strategy has been divided into three phases. The first phase is 6 years, parallel with the implementation of the ADB project. Second and third phases are both 5 years.

5.2 Development Strategy Phase 1 – 2014 to 2020

- 51 The key features of Phase 1 are consolidation of urban development to the east of the town, construction of the by-pass, rehabilitation of the railway station, and creation of a civic centre and urban park in the location of the municipal offices.

Figure 5.1 Development Strategy Phase 1, 2014 – 2020



5.2.1 Components of Phase 1

Urban Development

- Extend existing urban area through improvements in infrastructure, and better planning and development control
- Facilitate urban growth in expansion areas by extending existing infrastructure
- Plan and upgrade area around central railway station

Road Network and Transportation

- Railway line operational
- Central railway station rehabilitated
- By-pass road to south of town
- Establish bus stations at junctions of by-pass and Road No.5
- Secondary road connections

Environmental Infrastructure

- Drainage improvements in town centre
- Plan and develop river frontage as recreation area
- Designate public green space as part of civic centre
- Improved solid waste collection and disposal facilities

5.3 Development Strategy Phase 2 – 2021 to 2025

- 52 The components of Phase 2 include further urban expansion to the east and west, additional secondary roads, urban parks in the central southern part of the town, and the establishment of a high-tech industrial zone on the western edge of the strategy area.

5.3.1 Components of Phase 2

Urban Development

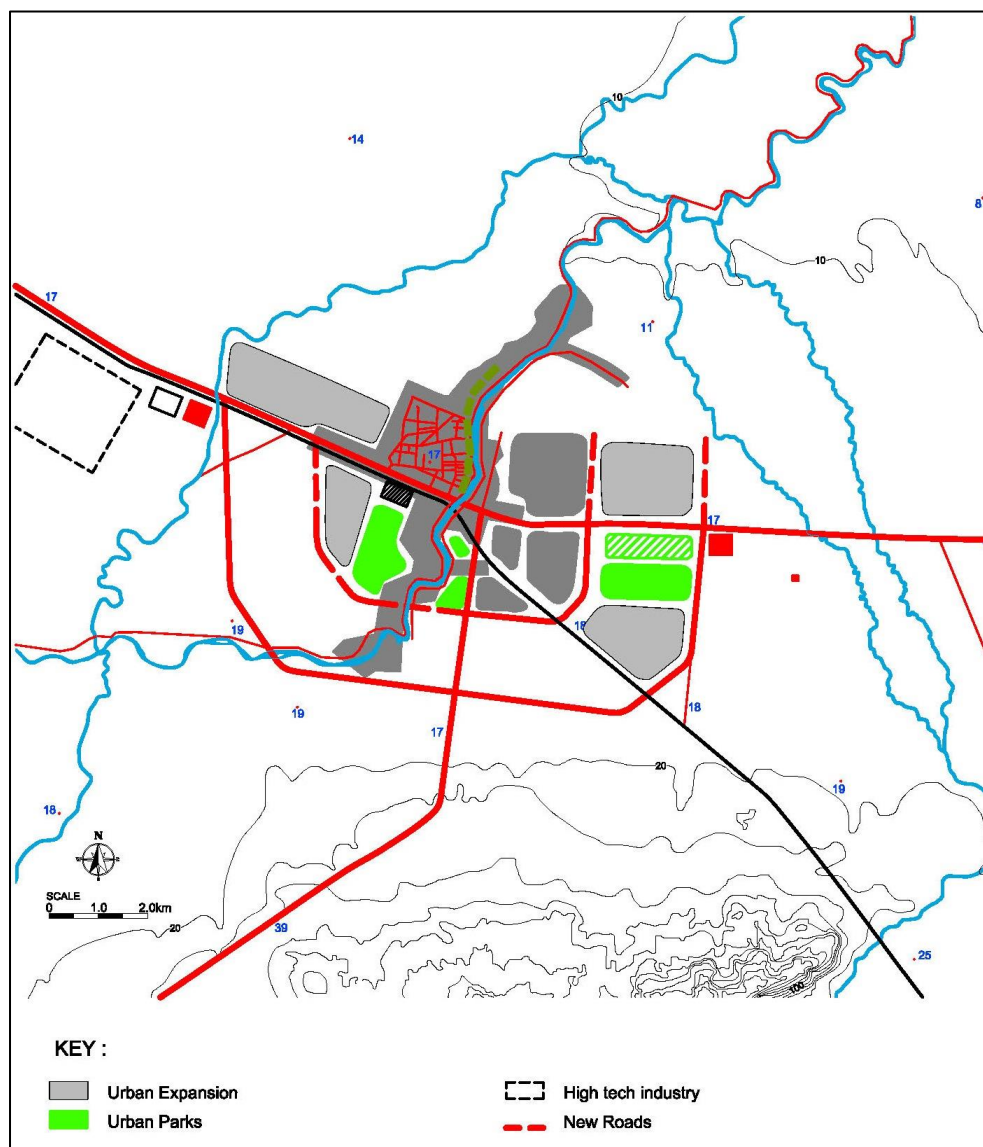
- Controlled development along northern side of by-pass, with frontage roads
- Plan and develop civic centre area around municipal offices
- Identify zone for high-tech industry to west of town along Road No.5

Road Network and Transport

- Road-rail interchange west of town where by-pass meets Road No.5
- Complete secondary road network

Environmental Infrastructure

- Urban parks to east and west of Pursat River in central area

Figure 5.2 Development Strategy Phase 2, 2021 – 2025

5.4 Development Strategy Phase 3 – 2026 to 2030

- 54 The main components of Phase 3 will be additional urban expansion within the by-pass and extension of the central urban parkland.

5.4.1 Components of Phase 3

Urban Development

- Further controlled development along southern side of by-pass, with frontage roads

Environmental Infrastructure

- Extension of urban parks to east and west of Pursat River

Figure 5.3 Development Strategy Phase 3, 2026 – 2030