SHILLONG

Smart City Proposal

Shillong- In Smart City

- ABOUT SHILLONG
- ASSESSMENT
- VISION & GOAL
- CITIZEN PARTICIPATION
- PROPOSAL FOR AREA BASED DEVELOPMENT
- PROPOSAL FOR PAN CITY
- FINANCIAL ASPECT

ABOUT SHILLONG

Population Statistics as per 2011 Census are as follows:

- **Shillong Municipal Board- 143229,**
- **Urban Agglomeration- 2,11,530**
- **Greater Shillong Planning Area(including 32 villages)- 4,16,118**

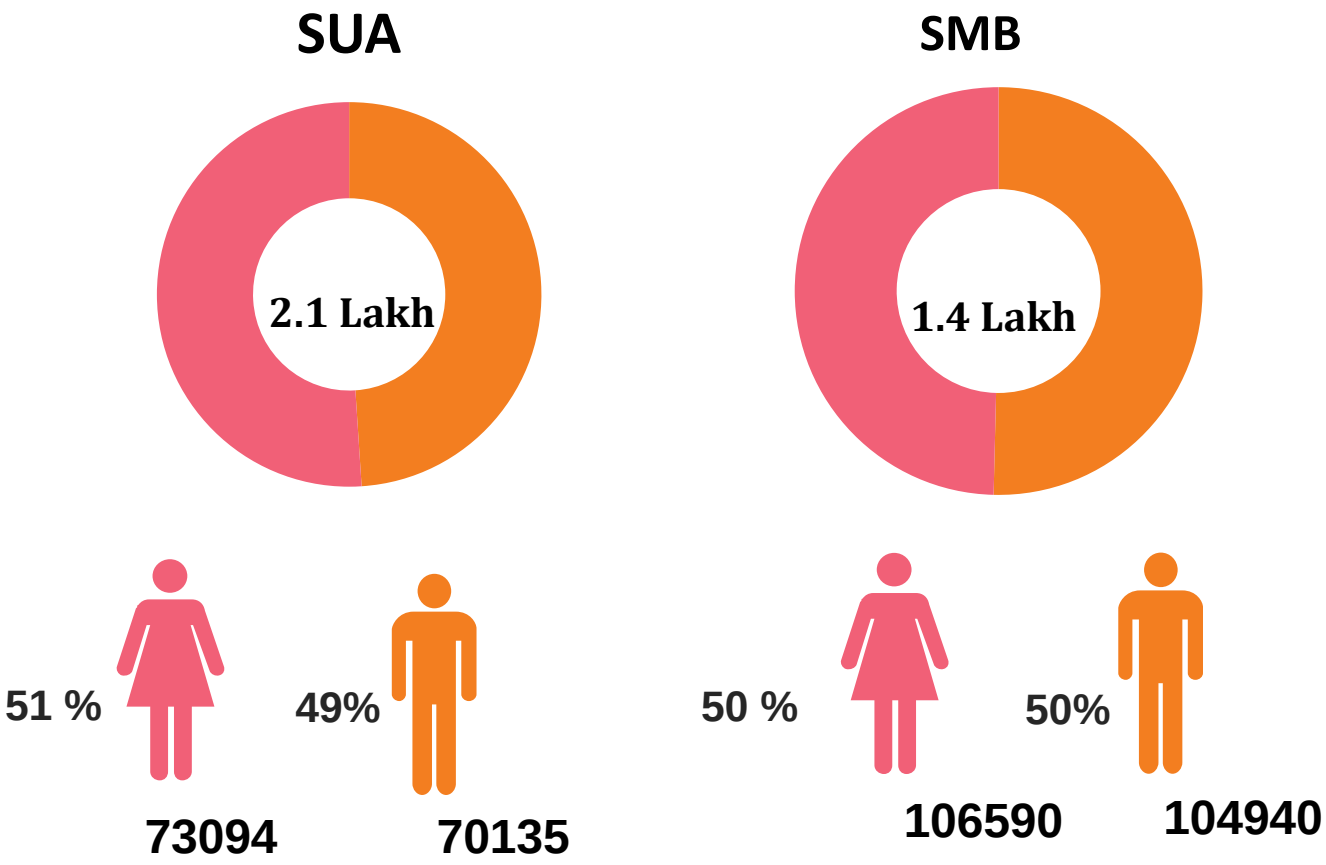
The state of Meghalaya attained full statehood status on the 21st of January, 1972, with city of Shillong as Capital. It is a small state which is situated to the south-east of Assam. Shillong the capital city of Meghalaya, which was planned by the British as a hill resort, has undergone substantial change – both in character and form. A small administrative headquarter of the erstwhile Assam State has now become a vibrant city with commercial activity overshadowing the hill resort. Shillong has its own charm, different from other hill stations, and presents a natural scenic beauty with waterfalls, brooks, pine groves and gardens.

- **City Heritage**
- **Local Sport Archery**
- **Tourism, Modern & Traditional Health care Destination**
- **Educational Hub of Northeast**

Demography

Population Statistics as per 2011 Census are as follows :

- Greater Shillong Planning Area(including 32 villages)- **4,16,118**
- Shillong Municipal Board**- 143229**
- Shillong Urban Agglomeration(including 10 census town)- **2,11,530**



ASSESSMENT

	Indicators	Present Status	MOUD Benchmark	GAPS
WATER SUPPLY	Coverage of water supply connections	76.89%	100%	23.11
	Per capita supply of water	78 LPCD	135LPCD	57 LPCD
	Extent of metering of water connections	0%	100%	100%
	Extent of non-revenue water	58%	20%	38%
	Quality of water supplied	100%	100%	0
	Cost recovery in water supply services	12%	100%	88%
	Efficiency in collection of water supply related charges (In Municipal Area)	71.30%	90%	18.7%
SEWERAGE	Coverage of latrines (individual or community)	93.86%	100%	6.14%
	Coverage of sewerage network services	Nil	100%	100%
	Efficiency of collection of sewerage	Nil	100%	100%
	Efficiency in Treatment: Adequacy of sewerage treatment capacity	Nil	100%	100%

ASSESSMENT

	Indicators	Present status	MOUD Benchmark	GAPS
GREEN SPACE	Per Person Open Space	15.3 sq. m. per person (Approx)	10-12 sq. m. per person (As per URDPFI Guidelines	-
		Botanical Gardens and Reserved Forests accounts for 19% (193.73 Ha) of Green Cover within Shillong Municipal area. There is no vacant land for expansion of green space		
STORM WATER	Coverage of Storm water drainage network	85%	100%	15%
	Incidence of sewerage mixing in the drains	100%	0	100%
	Incidence of water logging (in nos. per year)	25%	0	25%

ASSESSMENT

	Indicators	Present status	MOUD Benchmark	GAPS
URBAN TRANSPORT	Availability of public Transport	1	2	1
	Percentage of City Covered (%) by footpaths	1	4	3
	Non Motorised Transport Facilities including; a) % of network covered,	1	4	3
	(b) encroachment on NMT roads by vehicle parking (%)	NA	NA	NA
	c) NMT parking facilities at interchanges (%)	NA	NA	NA
	Availability of Traffic Surveillance (%)	1	4	3
	Passenger Information System (%)	1	4	3
	Global Positioning System (GPS)/ General Pocket Radio Service (GPRS) (%)	1	4	3
	Availability of On-street paid public parking spaces (%)	1	1	0

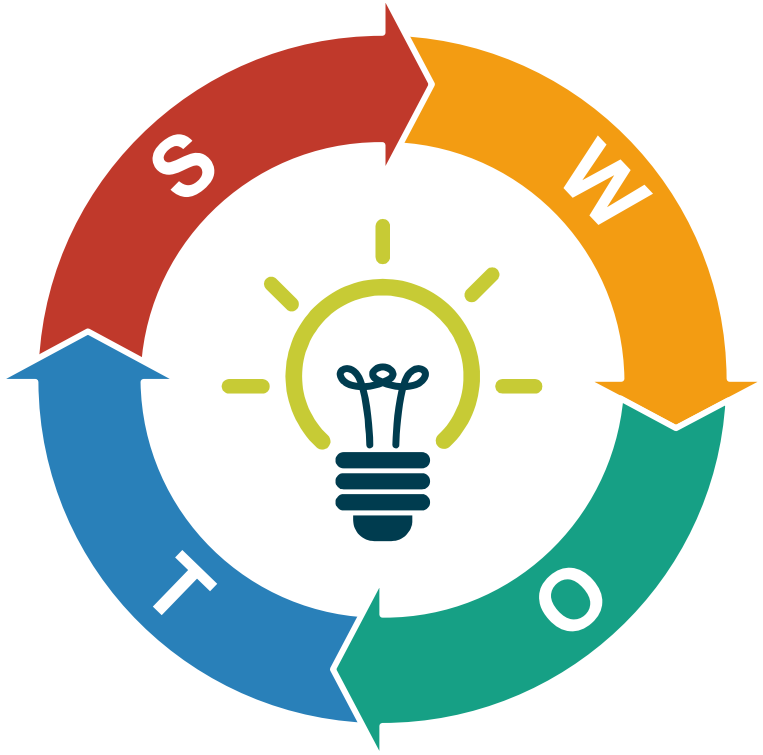
SWOT Analysis

STRENGTHS

Scenic Beauty, Culturally Vibrant , Cosmopolitan city, Education, Health care and Tourist Hub, Availability of Skilled and educated labour force , Sports, Availability of Public Transport System, Availability of green spaces

WEAKNESSES

Population growth, Limited area for expansion, Non-Cohesive planning, Lack of integrated Governance body, in-equitable development which has resulted into wide spread Congestion, Mass Littering ,poor civic and pedestrian amenities, poor connectivity, lack of infrastructure ,poor tourism facilities



THREATS

- Over stressed infrastructure services,
- Development of slum pockets in the city
- Increasing population of private vehicles,
- Pollution of natural water resources, noise levels increasing,
- Lack of proper disaster management

OPPORTUNITY

- Creation of an integrated Governance body with equal representation.
- Innovative approach to infrastructure development
- improving Service Delivery and comfort level to the citizens.
- Improved Tourist infrastructure
- Reducing Carbon foot print and harnessing of Non-renewable sources
- Recreational facilities, development of green spaces.

VISION & GOAL

"Culturally and economically Vibrant Shillong on world's tourism map sustaining urban growth not comprising the quaint unique innate charm Shillong possess"

Decentralized measures should be adopted.

Promote compact and innovative mixed-use developments

Inclusive and equitable Infrastructure developments

Promoting EIA and SIA for every proposed infrastructure development

Integrated Planning & approach towards infrastructure building

Contd…

Develop and garner Tourism potential

Centralized form of information with easy linkages to various requirements for lodging, transportation, recreation to be sought after and implemented using the internet/ social media and providing physical help desk in the city so as to improve tourist access to information.

Improve hospitality services with ranges in choices .

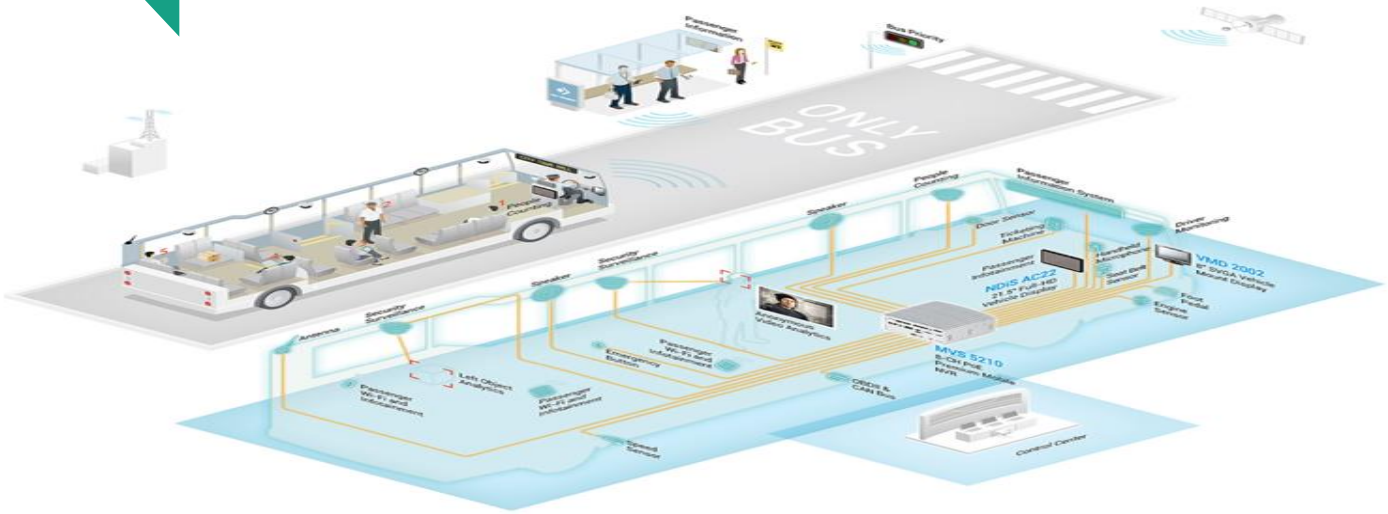
Contd…

Improved Mobility

Smart, Planned and integrated Public Transport service improving Coverage, Connectivity, Head way, and comfort level of passengers.

Improved pedestrian amenities and other NMT facilities

Reduce private vehicle usage there by reducing Carbon emission.



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Clean and Green Shillong

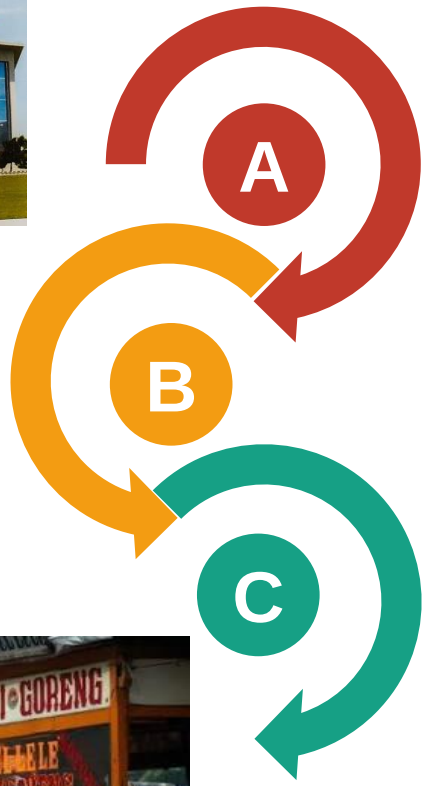
Preservation of green spaces and up-gradation of the same to make them children/senior citizen friendly.

Public and Community toilets should be improved and widespread presence with smart solutions such as water less and odour less urinals.

Solid waste management of the city needs to be revamped with better planning, coverage and efficiency. Smart solutions through technology is a must in this area to preserve “Cleanliness” and to prevent wide spread littering in the city.

Contd…

Commercial Center Development



A Decentralization of retail commercial centre by creation of alternate node

B City centre as a passive, recreation and cultural hub to show case the local culture with high end commercial space

C Equipping vendors with designated space, required portable amenities and skill.

CITIZENS' PARTICIPATION

The Shillong Times
Established 1915
HOME | MEGHALAYA | NATIONAL | INTERNATIONAL | EDITORIAL | REGIONAL | SPORTS | EPAPER
Monday, April 18th, 2016
Develop New Shillong Township as smart city: Ampareen to Centre
From Our Special Correspondent
To be a smart city, hard decisions will need to be taken: Naidu
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Monday, 18 April 2016
MEGHALAYA TIMES
Daily English Newspaper
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Shillong makes it to 'Smart Cities' list, to get Rs.500 crore
Staff Reporter
Front Page Archives

State to resubmit smart city proposal
Body found
aqua Craze
aqua STAR 4G

The Shillong Times
Established 1915
HOME | MEGHALAYA | NATIONAL | INTERNATIONAL | EDITORIAL | REGIONAL | SPORTS | EPAPER
Monday, April 18th, 2016
Shillong as a Smart City: Ideological and practical weaknesses
By Phrangangi Pyrrah
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The Shillong Times
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Meghalaya misses 'Smart City' bus
From C K Nayak
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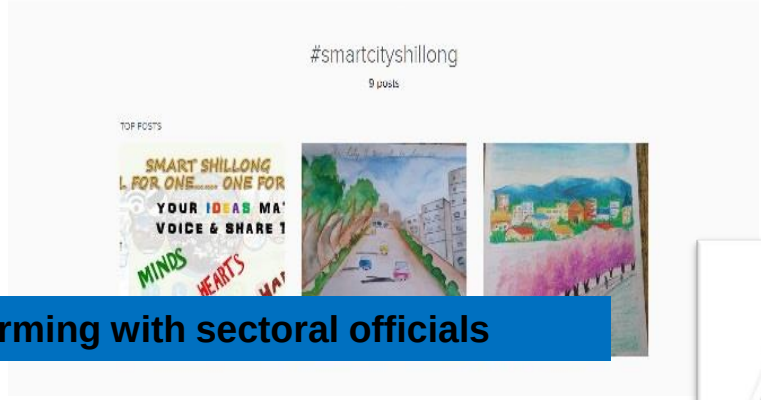
AN INTERACTIVE SESSION
ON
SHILLONG
AS A SMART CITY
"A PARADIGM SHIFT"
Organised by
Eastern Panorama
Date : 20th May 2016
Venue : Eldorado Guest House, Dhanketi

Social Media Data

Friends & Followers	Numbers
Facebook	392
Instagram	32
Twitter	8
Blog (Essay Competition)	27



Painting competition

Distribution of Pamphlet to the citizens

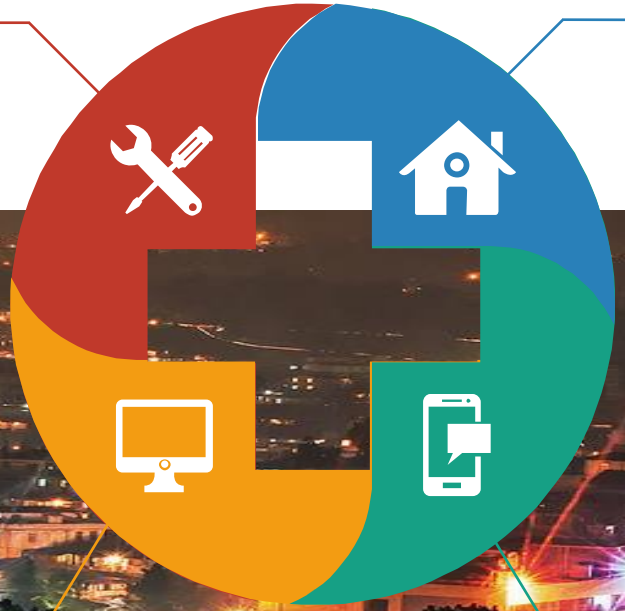
Brain storming with sectoral officials

Public participation

PLANS FOR SMARTER SHILLONG

Smart Environment
- River front development
- Parks & Green Spaces development
- Green energy

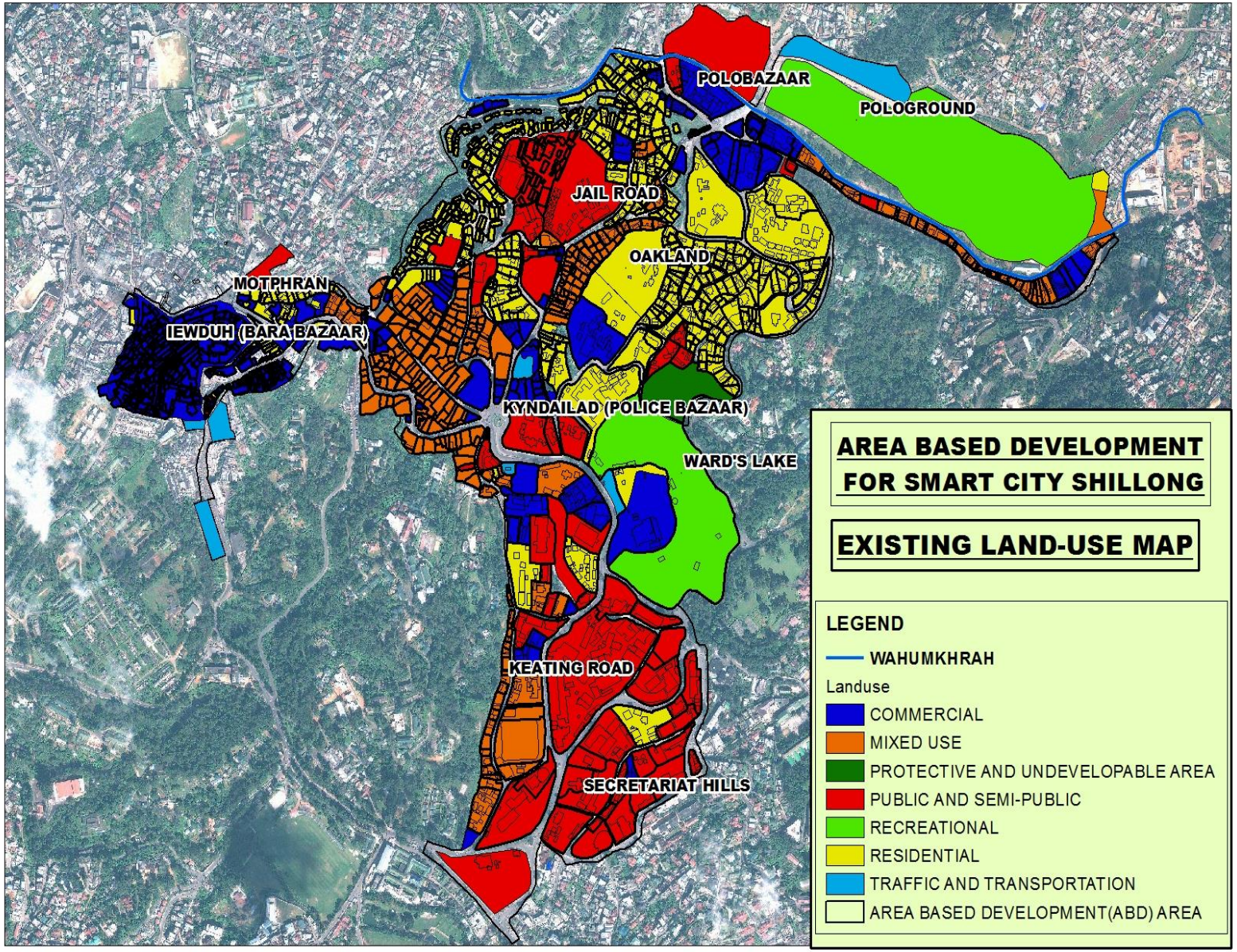
Smart Living
- 24x7 Water Supply

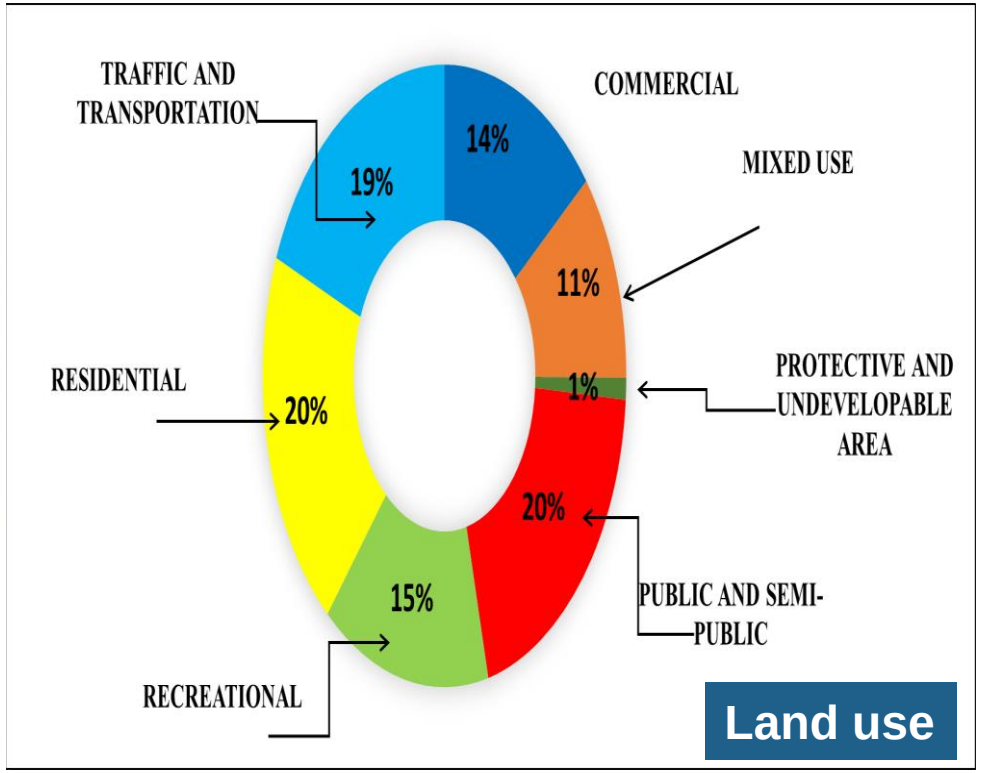


Smart Governance
- Installation of CCTV cameras
- GPS & RFID device for Solid Waste Management

Smart Mobility
- ITS
- Smart Card Bus Fare

AREA BASED DEVELOPMENT – SHILLONG CENTER



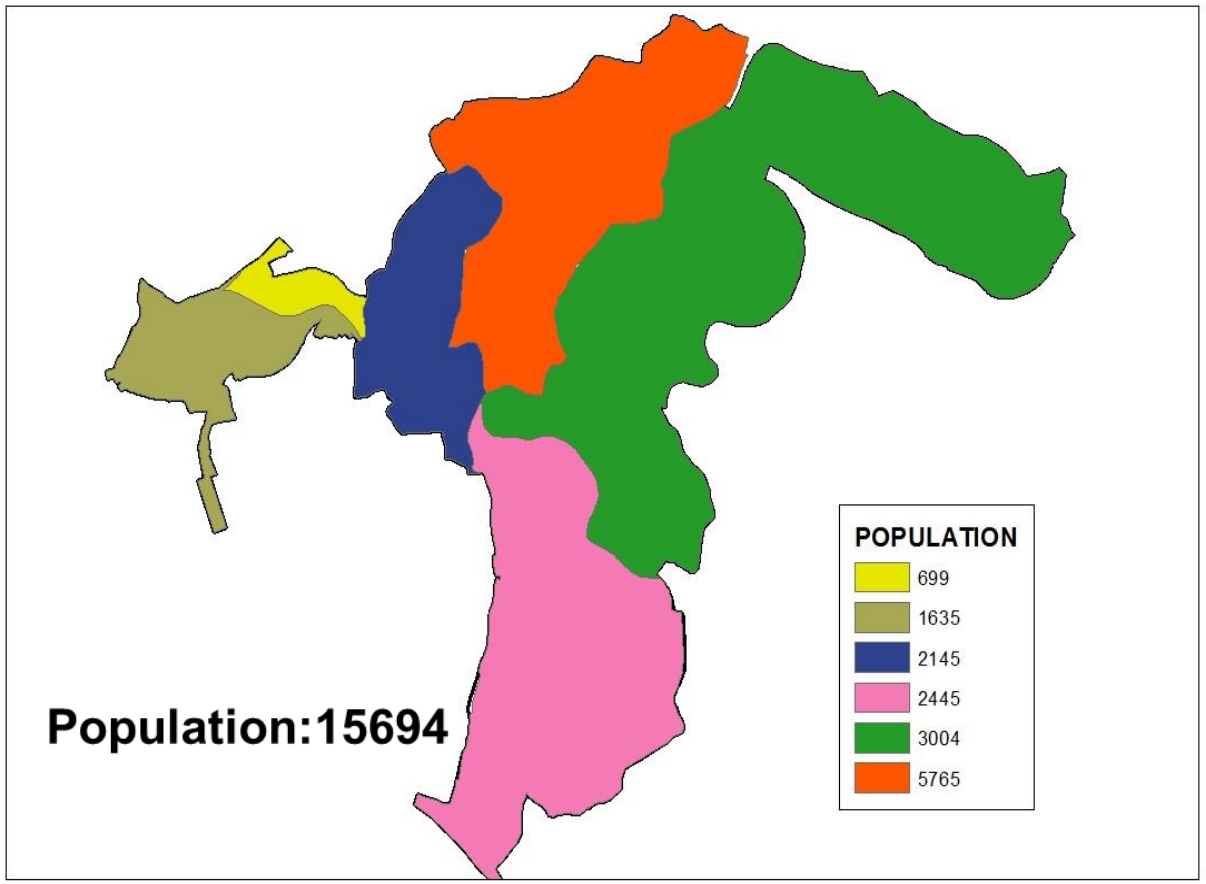


AREA : 336 Acres (1.36 sq.Km)

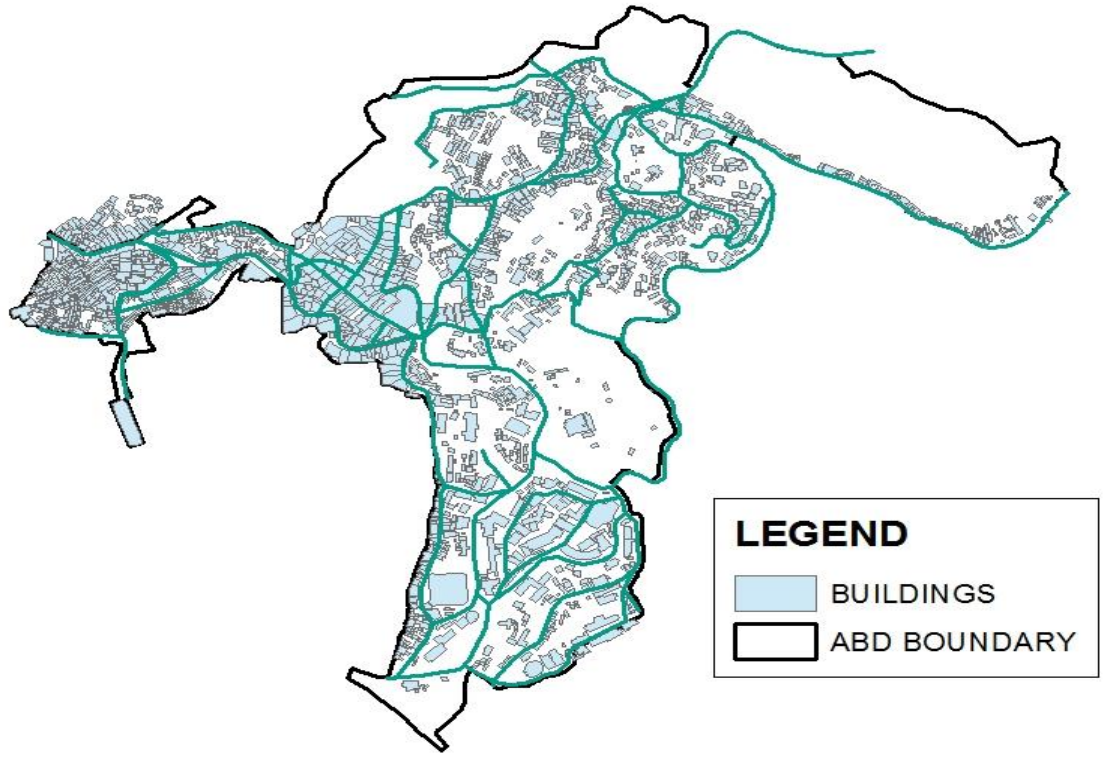
Wards:7,8,9,10,12 & 17

No. of House Holds :3299

DEMOGRAPHY



AREA : 336 Acres (1.36 sq.Km)

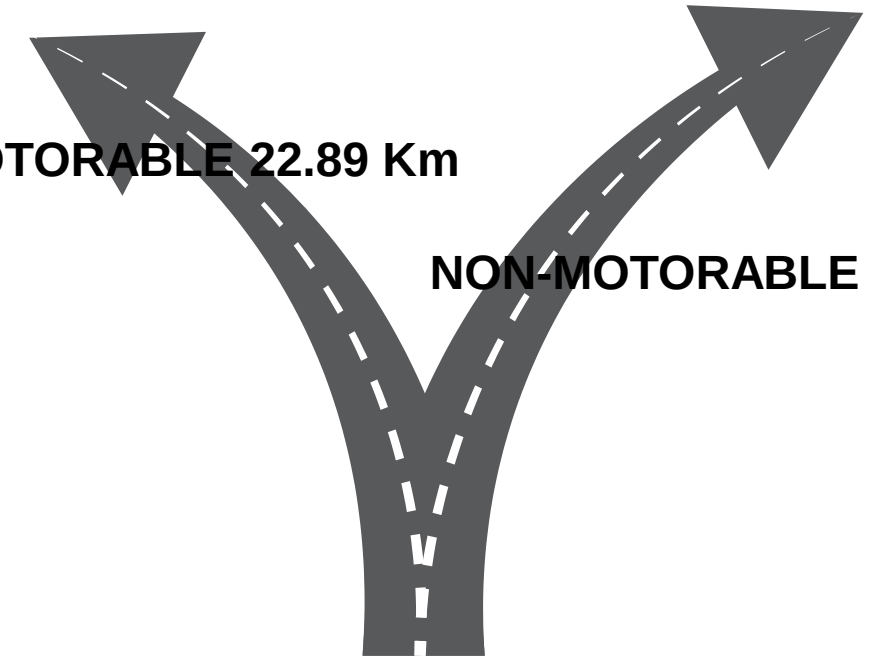


Wards:7,8,9,10,12 & 17

Household No.: 3299

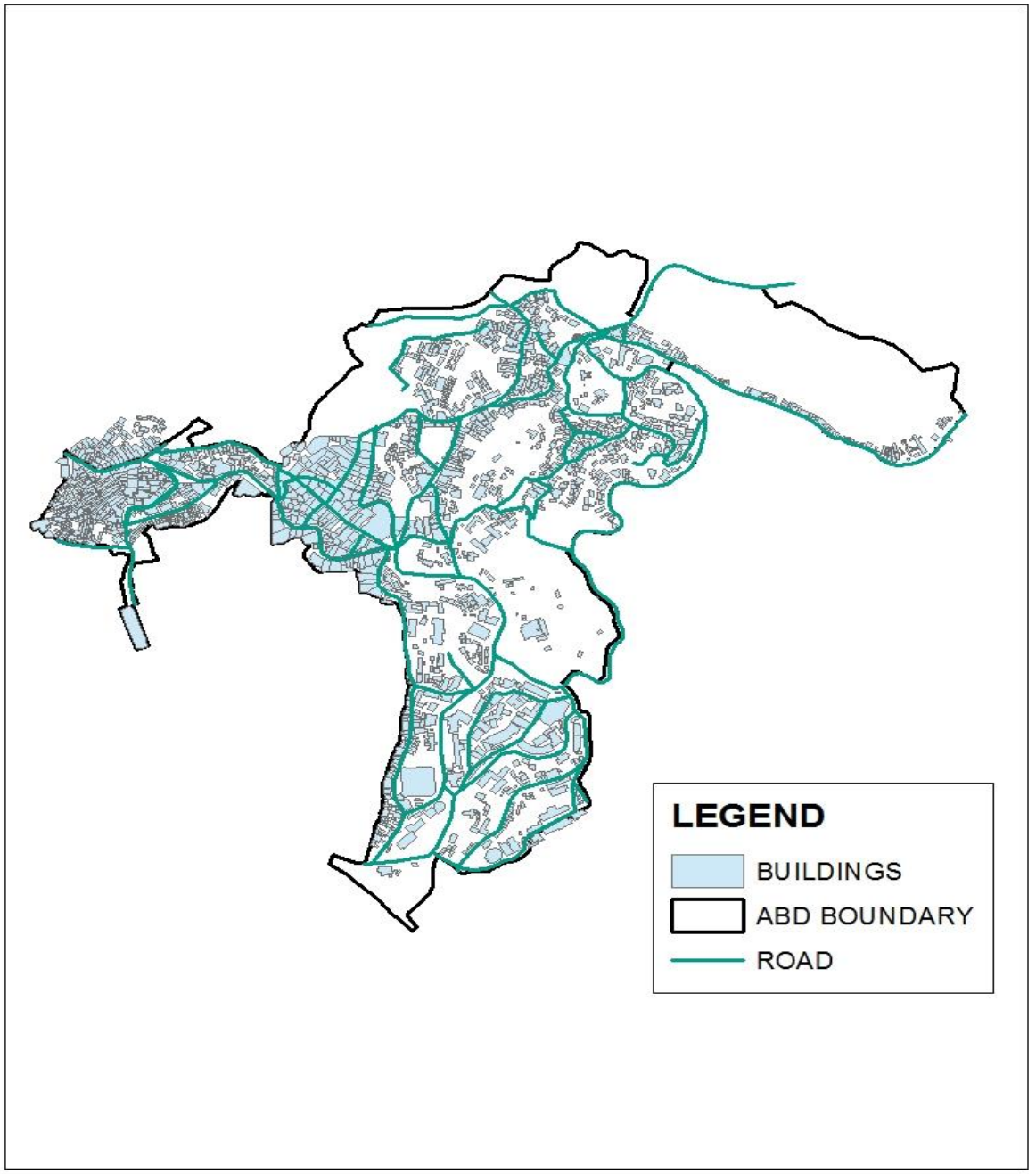
ROAD NETWORK ABD

TOTAL ROAD 33.59 Km



MOTORABLE 22.89 Km

NON-MOTORABLE 10.7 Km



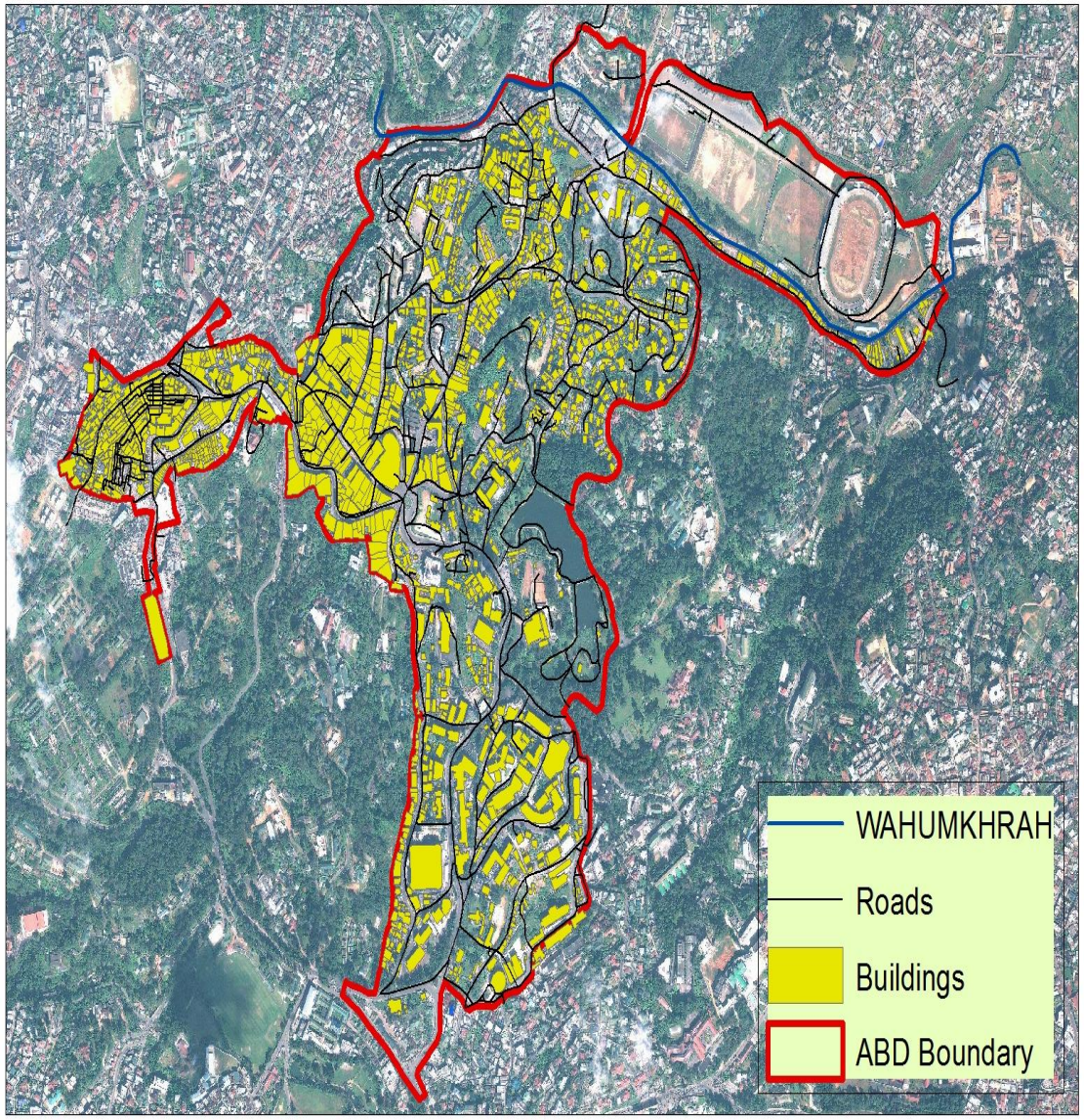
Area based development

CHARACTERISTICS

- Administrative Hub
- Retail and Wholesale Commercial District
- Very High Density
- Unprecedented traffic congestion
- Main centre of tourist inflow

ABD Criteria for selection

- Citizens opinion poll
- Comprises of city centre, Government and institutional work centres and highly dense residential area.
- Highest footfall of tourist
- Traffic congestion is critical
- Availability of land for implementation of project to improve infrastructure within the mission period
- Being a 6th Schedule State, land is owned by clan, community and individuals and government owned land is negligible. Hence, land has to be acquired for any developmental work which is not only a time taking procedure but often it is not possible to acquire in the absence of the consent of the owners being tribal land. The area under ABD is government land and keeping in view the availability of land for the developmental projects to be implemented within the stipulated time of the mission, this area is selected.



THRUST AREAS

- Improving the mobility.
- Livelihood facilitation for vendors
- Child Learning Centres
- Tourist friendly facilities
- Improved services for the citizens.
- Tapping the economic potential

Proposed Under Area Based Development (ABD)

Urban Transport

- Signage's
- Smart Bus Shed Parking System
- Upgrading existing parking lots
- New link roads and flyovers
- Improvement of pedestrian pathways
- Installation of parking count meters and display boards
- Automated payment system

Solid Waste Management

Sanitation

- Use and Pay toilets
- Bio-digestors

Sewerage

- Households and commercial centres to be connected with sewer line

Water Supply

- Smart Metering
- Smart Leakage detection
- Improve coverage and provide efficient distribution

Contd…

Storm Water Drainage

Intelligent Transport System

- Upgrade efficiency of drains
- De-silting mechanisms to be provided
- Senor based detection for clogged drains

Green Spaces and Parks

- River front Development
- Landscaping

Commercial Center Development

- Developing city center
- WiFi zone

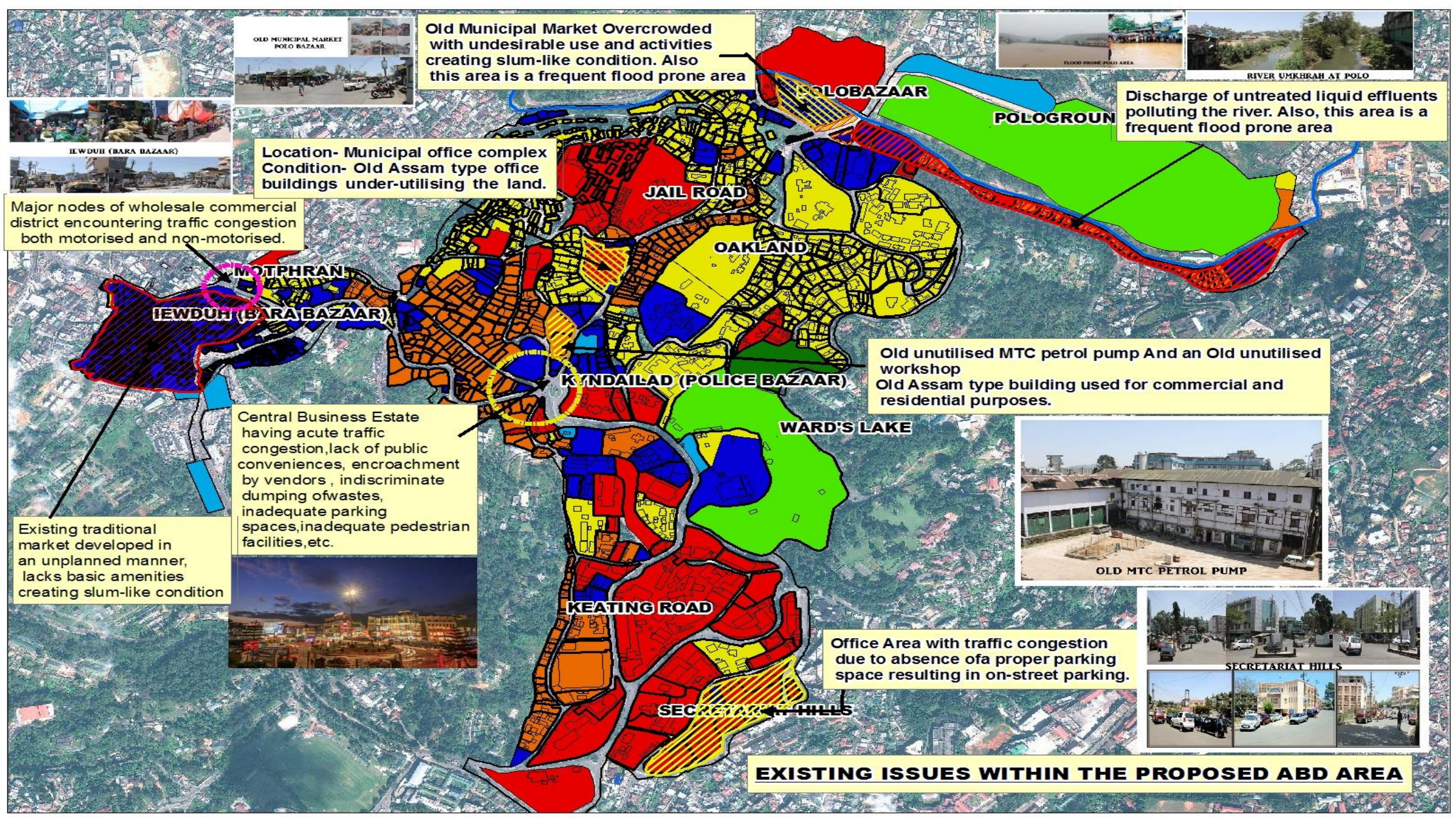
PROBLEMS UNDER ABD

Iewduh (Bara Bazaar)

POLO MARKET

WAHUMKHRAH

SECRETARIAT HILLS


OLD MUNICIPAL MARKET POLO BAZAAR
IEWDUH (BARA BAZAAR)
Old Municipal Market Overcrowded with undesirable use and activities creating slum-like condition. Also this area is a frequent flood prone area
FLOOD PRONE POLO AREA
RIVER UMKHRAH AT POLO
POLOBAZAAR
POLOGROUN
Discharge of untreated liquid effluents polluting the river. Also, this area is a frequent flood prone area
Location- Municipal office complex
Condition- Old Assam type office buildings under-utilising the land.
JAIL ROAD
OAKLAND
Major nodes of wholesale commercial district encountering traffic congestion both motorised and non-motorised.
MOTPHRAN
IEWDUH (BARA BAZAAR)
KYNDAILAD (POLICE BAZAAR)
Old unutilised MTC petrol pump And an Old unutilised workshop
Old Assam type building used for commercial and residential purposes.
WARD'S LAKE
Central Business Estate having acute traffic congestion,lack of public conveniences, encroachment by vendors , indiscriminate dumping ofwastes, inadequate parking spaces,inadequate pedestrian facilities,etc.
OLD MTC PETROL PUMP
Existing traditional market developed in an unplanned manner, lacks basic amenities creating slum-like condition
KEATING ROAD
Office Area with traffic congestion due to absence ofa proper parking space resulting in on-street parking.
SECRETARIAT HILLS
SECRETARIAT HILLS
EXISTING ISSUES WITHIN THE PROPOSED ABD AREA

Redevelopment for rehabilatation for vendors

Development of Children's and Senior Citizen's Park with a Pedestrian bridge across the river to connect the shopping complex to the Park cum 500 capacity puzzle parking

PROPOSED FLYOVER AT POLO
Width- 10 M
Lane- Double Lane

Development of the complex by providing proper office space and hotel facilities.

600 Vehicles capacity puzzle parking

Junction improvement, proper waste management, upgraded pedestrian facilities, upgraded public conveniences,

POLOBAZAAR

POLOGROUND

JAIL ROAD

MOTPHRAN

IEWDUH (BARA BAZAAR)

Development of a Children's and Senior Citizen's Park

Proposed City Centre cum landscaping

KYNDAILAD (POLICE BAZAAR)

Reconstruction of market complex with requisite infrastructure

WARD'S LAKE

PROPOSED MG ROAD TO SWEEPER'S LANE ROAD CUM FLYOVER
Width- 10 M
Lane- Double Lane

Improved pedestrian amenities, vendor management, solid waste management, improved greencover and landscaping.

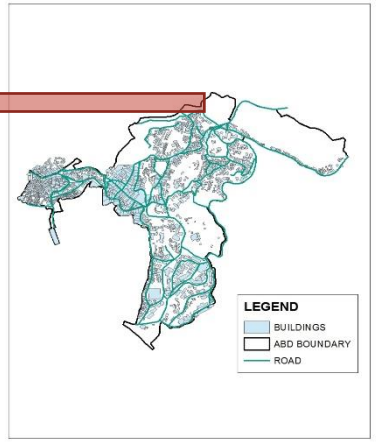
KEATING ROAD

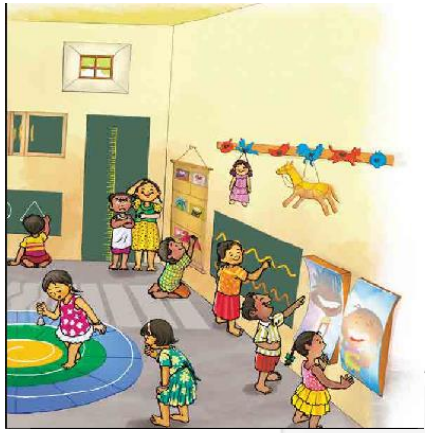
SECRETARIAT HILLS

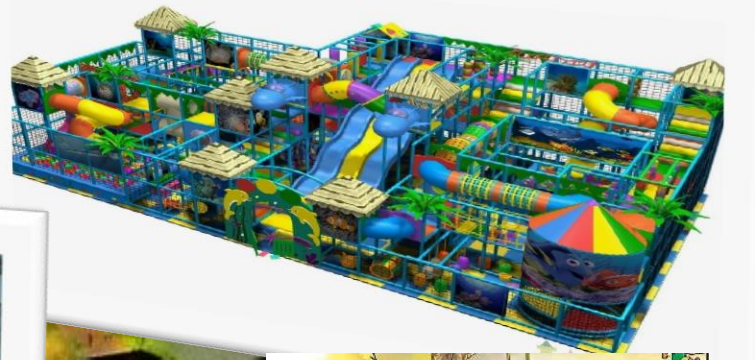
600 Vehicles capacity puzzle parking cum landscaping

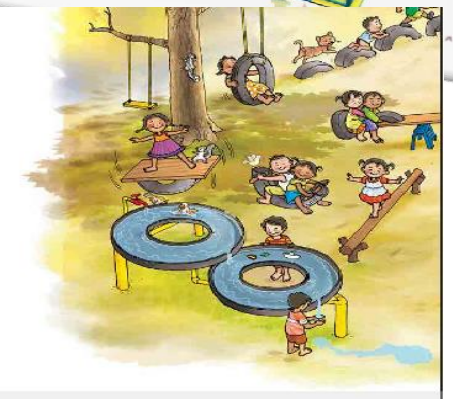
Proposal for ABD Solution

Polo Market, Parking zone & Child Learning Centres

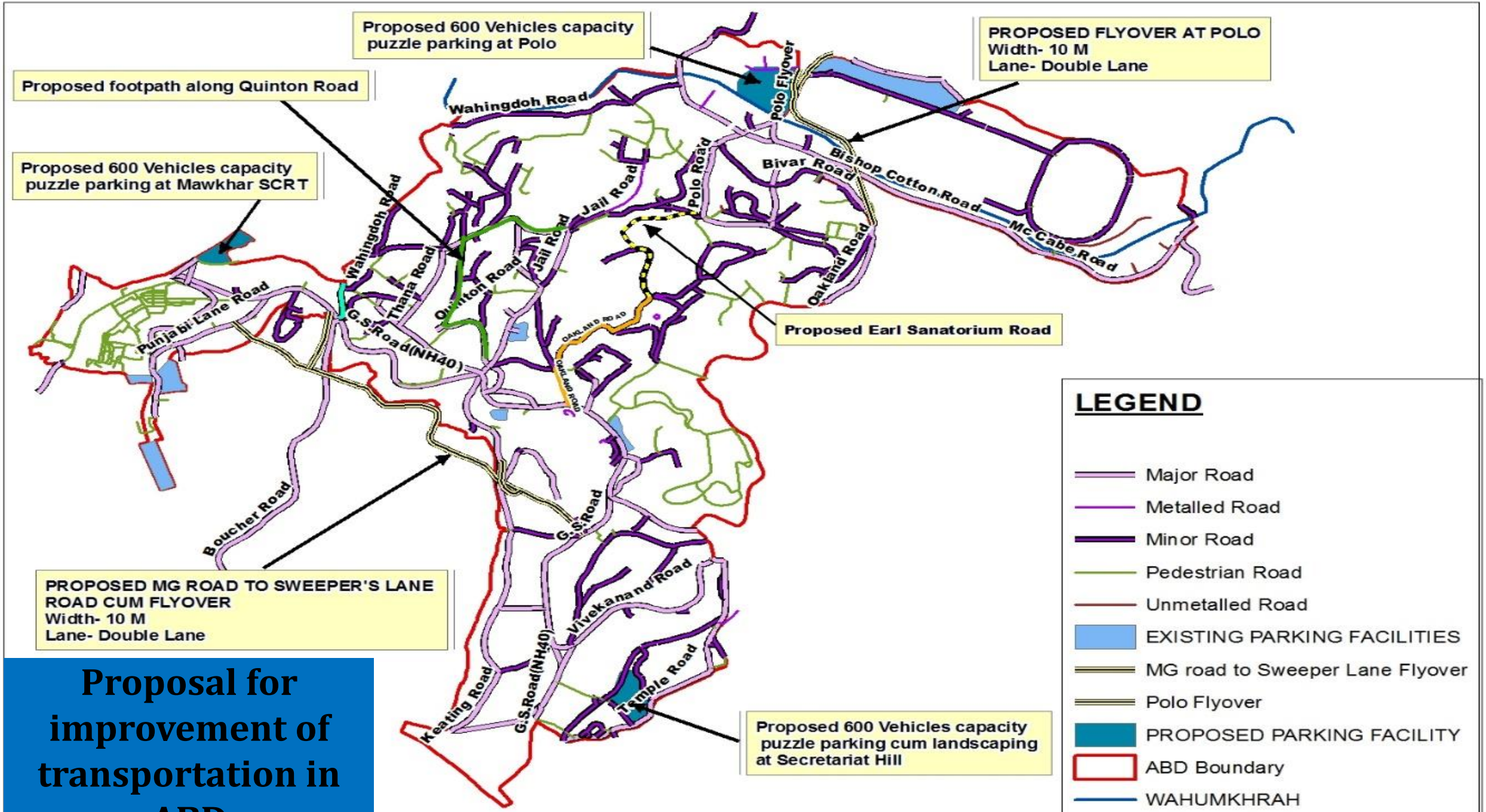




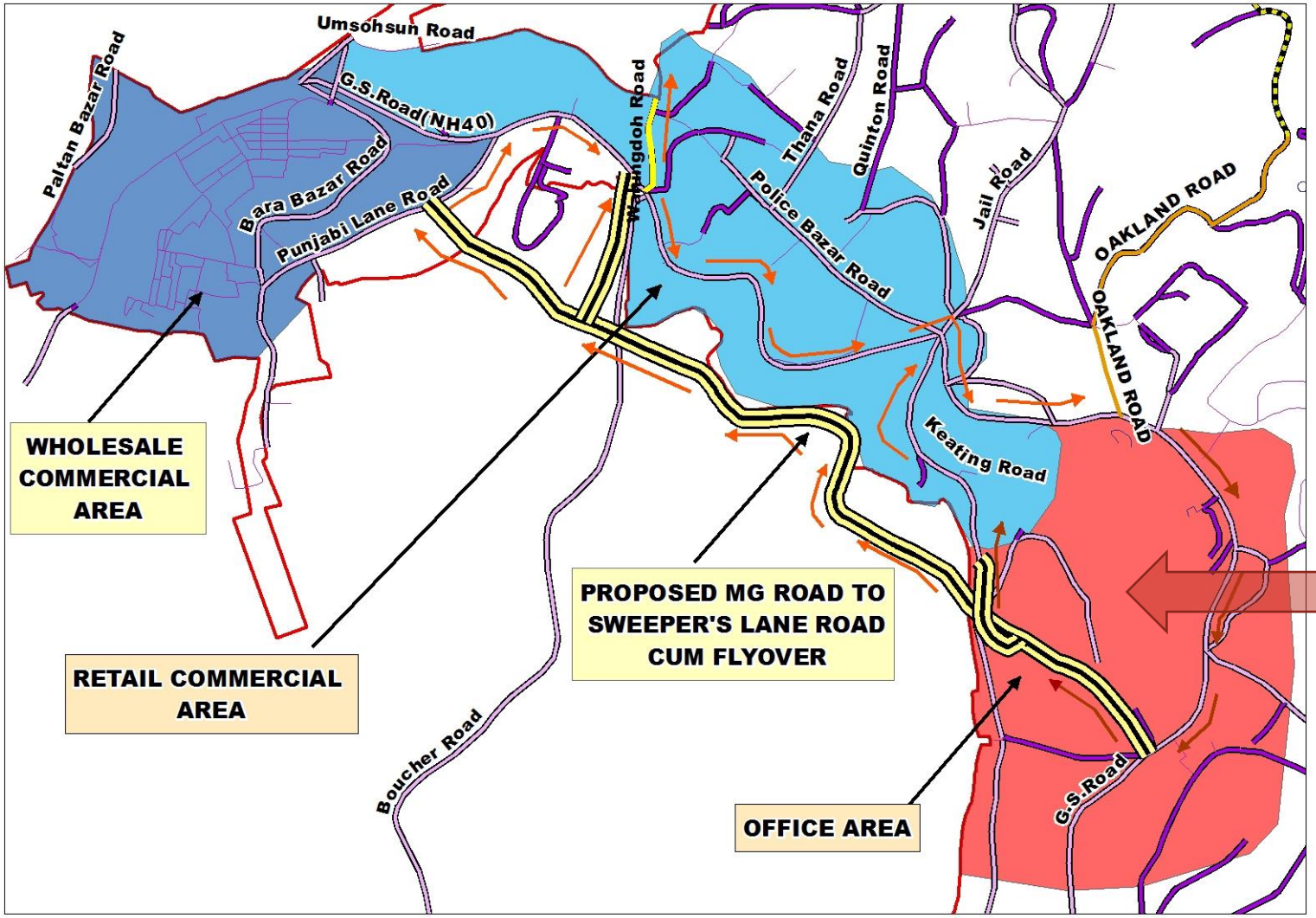


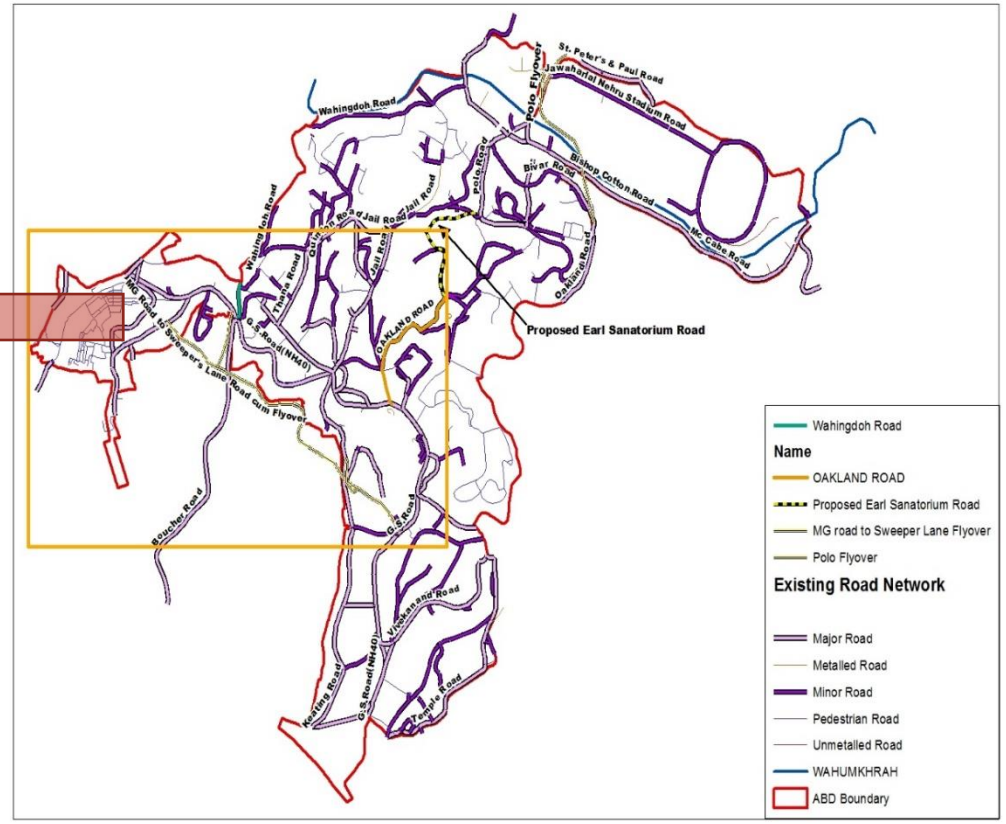


Proposal for Street Food Vendors



Proposal for improvement of transportation in ABD





Proposal for an alternate road cum flyover to decongest GS road

Proposed Under Pan City Proposal

Urban Transport

Intelligent Transport System

- GPS Tracking
- Control Room
- Automated Payment System

Public information System

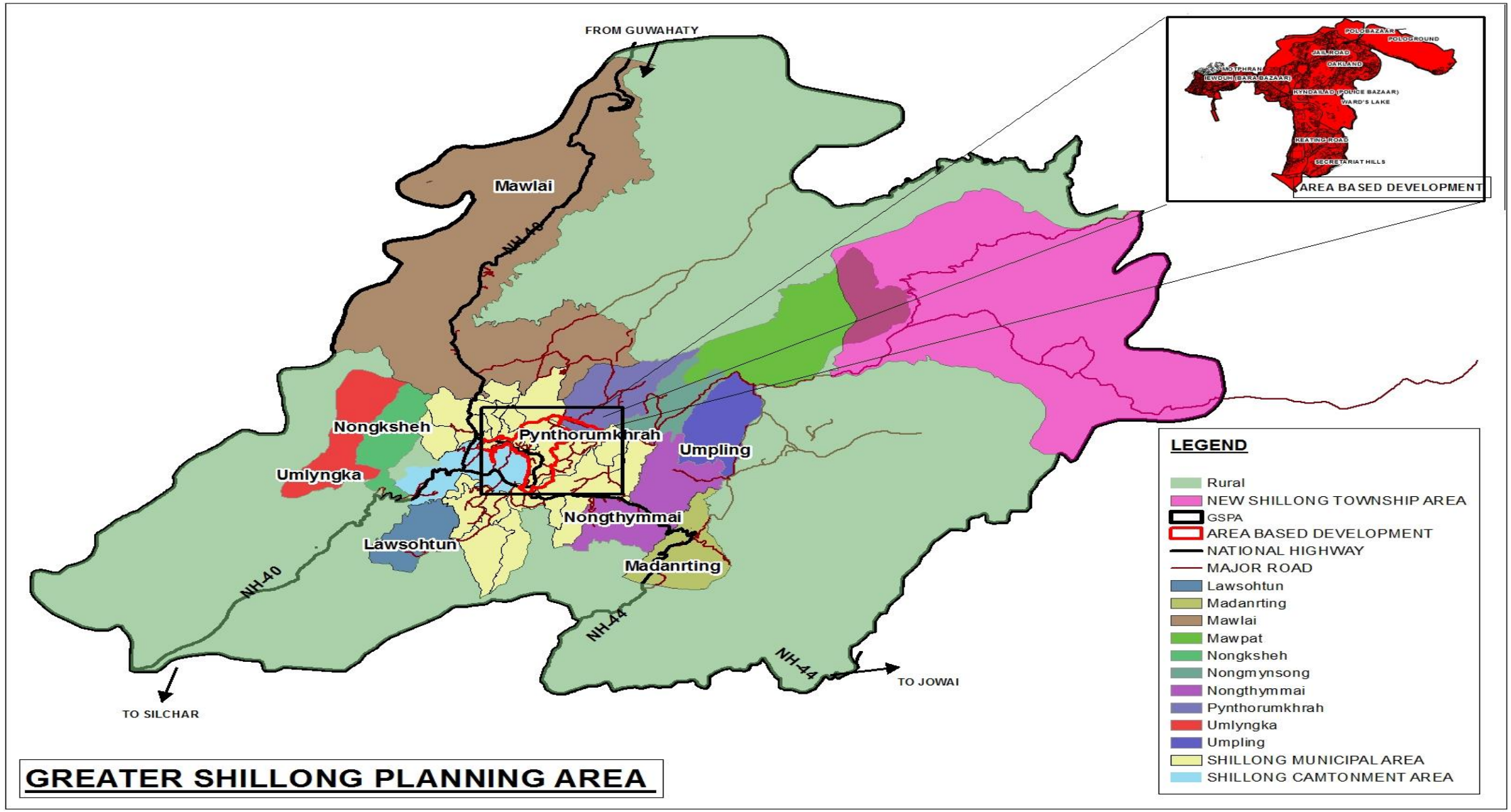
- Bus shed display board
- Public monitoring cell

Solid Waste Management

Real time Monitoring

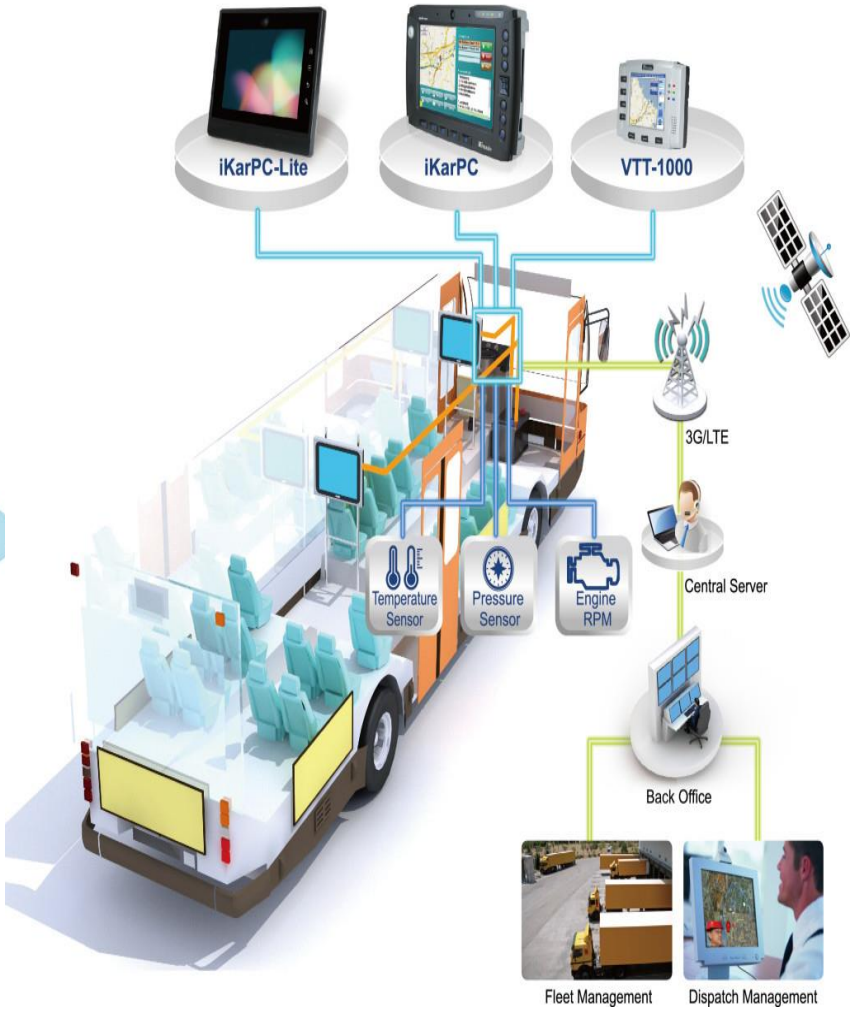
- RFID Tag on bin and garbage truck
- Real time tracking system of vehicles

PAN City Proposal

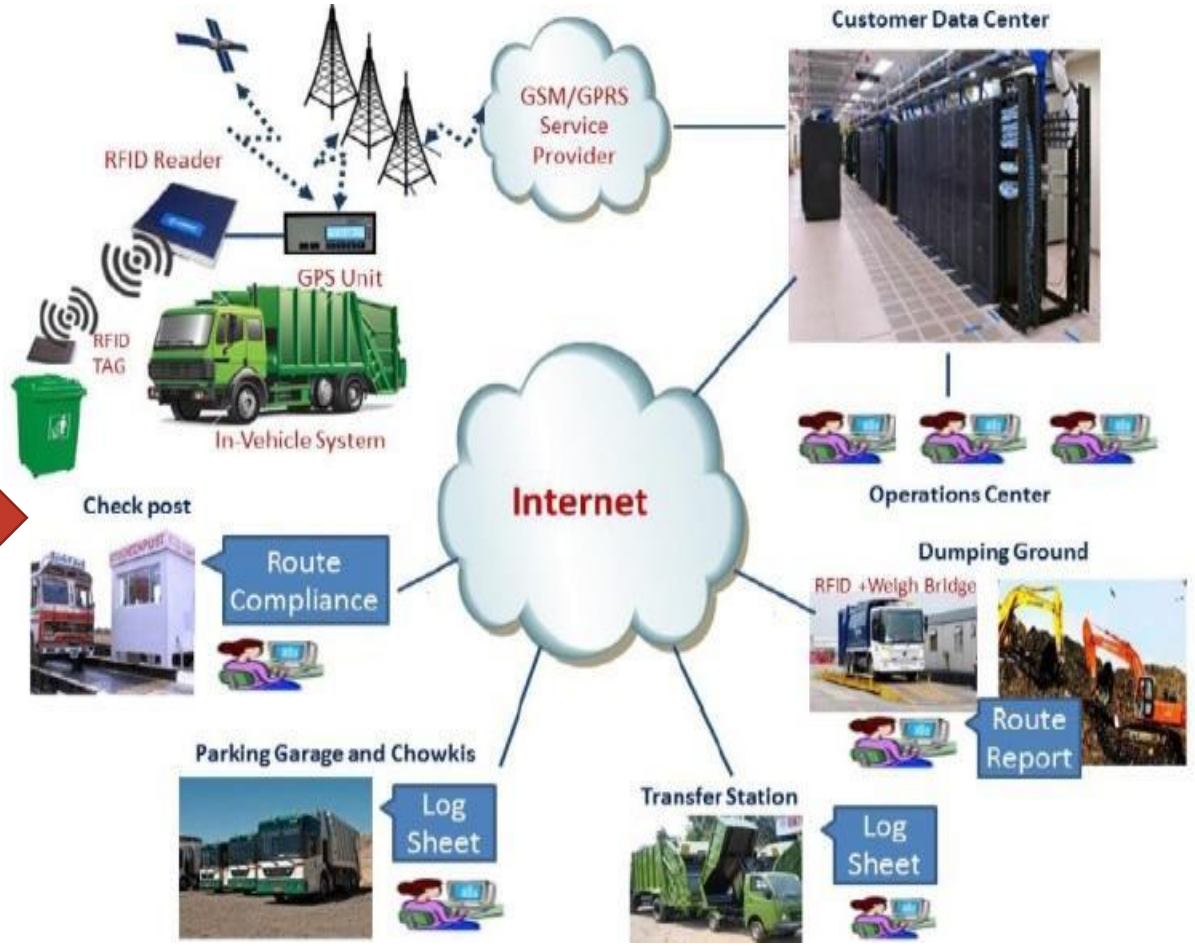


PAN City - Initiative

Intelligent Transport



Smart Solid Waste Management : Real Time Tracking & Monitoring



FINANCIAL PROPOSAL

SMART CITY PROJECT DETAILS FOR SHILLONG

(A) Retrofitting Proposal for ABD (Amount in Crores)	
Project	**TOTAL**
Sewerage	**132.67**
Sanitation	**0.50**
Storm Water Drainage	**20.00**
Redevelopment of Iewduh	**600.00**
Water Supply	**10.00**
Public Information System and Public Safety (Signage, CCTV, PIS)	**5.00**
Power(Augmentation of the existing grid of Underground Cabling. Smart Metering)	**100.00**
Solar Lighting (Street Lighting)	**6.75**
City Centre	**75.00**
Rehabilitation of vendor and development of market complex at polo Phase II	**65.00**
Facilities for Street Vendors and skill development	**0.10**
Smart Transport (Bus Sheds, Display boards)	**1.50**

Contd…

Smart Parking	**4.00**
Parking lot at SCRT Mawkhar	**25.20**
Puzzle parking 3rd Secretariat	**28.20**
Organised green in 3rd Secretariat	**4.80**
Roads	**7.60**
Upgradation of Roads	**7.40**
Pedestrian pathways and side walks	**10.00**
Road cum Flyover (MG road to Sweeper lane)	**43.25**
Flyover (Bivar road to Polo market)	**55.03**
Parks	**5.00**
Organised green for children and senior citizen cum river front development, Bal Bhavan and parking facility	**65**
TOTAL	**1272.00**
(B) PAN City	
Smart Transport (ITS)	**2.00**
Solid Waste Management	**5.00**
Total	**7.00**
GRAND TOTAL (A+B)	**1279.00**

Total Project Cost (CAPEX)				
ANNEXURE (Q-37A)				
(A)RETROFITTING				
Project	TOTAL	Smart City		Convergence
		Central & State	PPP/Institutional finance	
Sewerage (length: 10.15km)	132.67	25.22		107.45
Sanitation	0.50			0.50
Storm Water Drainage	20.00	20.00		
Iewduh (Bara Bazar) Redevelopment	600.00	60.00	540.00	
Water Supply	10.00	10.00		
Public Information System and Public Safety (Signage, CCTV, PIS)	5.00	1.47		3.53
Power (Augmentation of the existing grid of Underground Cabling. Smart Metering)	100.00	99.00		1.00
Solar Lighting (Street Lighting)	6.75			6.75
City Centre	75.00		75.00	
Rehabilitation of vendor and development of market complex at polo Phase II	65.00	10.00	33.61	21.39
Facilities for Street Vendors and skill development	0.10	0.10		

Contd...

Smart Transport (Bus Sheds, Display boards)	1.50	1.50		
Smart Parking	4.00	4.00		
Parking lot at SCRT Mawkhar	25.20	5.00	20.20	
Puzzle parking 3rd Secretariat	28.20	5.00	23.20	
Organised green in 3rd Secretariat	4.80	4.80		
Roads	7.60	7.60		
Upgradation of Roads	7.40	7.40		
Pedestrian pathways and side walks	10.00	10.00		
Road cum Flyover (MG road to Sweeper lane)(length=980m,arms=220m)	43.25	43.25		
Flyover (Bivar road to Polo market)(593m)	55.03	55.03		
Parks	5.00	5.00		
Organised green for children and senior citizen cum river front development, Bal Bhavan and parking facility	65.00	40.00	25.00	
TOTAL	1272.00	414.37	717.01	140.62

(B) PAN City				
Smart Transport (ITS)	2.00	2.00	-	-
Solid Waste Management	5.00	5.00	-	-
Total	7.00	7.00	-	-
GRAND TOTAL (A+B)	1279.00	421.37	717.01	140.62

Funding Pattern

Funding Sources	
	Rupees (Cr.)
TOTAL PROJECT COST	**1,279.00**
Funding through Convergence	**140.62**
SMART CITY	**1138.38**
Private Investment	**615.00**
Institutional Finance	**102.01**
Smart City Mission Funding	**421.37**
GOI Share(90%)	**379.23**
GoM Share (10%)	**42.14**

Thank You