



## **THE SMART CITY CHALLENGE**

### **STAGE 2**

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"Tiruppur aspires to leverage its cluster identity by investing in inclusive and transformative solutions that enhance the quality of life for its citizens"

India's knitwear export hub, Tiruppur, known for the cluster activity is a dominant player in knitting garment sector and contributes 10% of the total exports from Tamil Nadu. Tiruppur cluster, engaged in the textile value chain, with an ability to compete in the International markets has spurred up the textile industry in India for the past three decades. Fifth largest urban agglomeration in Tamil Nadu and administrative headquarters of Tiruppur district, it is a regional, economic and political hub with excellent rail & road connectivity.

In line with GoI's SCM observation that "citizen involvement is much more than a ceremonial participation in governance", highly stakeholder focused and citizen-centric approach was adopted. More than 102,524 people actively participated in citizen engagement through various media and channels. Vision, goals, selection of area-based development (ABD); Pan-City (PC) solutions developed are stakeholder focused with a citizen-centric approach based on people's aspirations and local needs.

Tiruppur's vision comprises specific constituent development goals voiced by the aspirations of the citizens. With an aim to make a more livable city, each of the goals works towards making Tiruppur that is social, economically, and environmentally sustainable.

- Goal 1: Enhanced efficiency of governance
- Goal 2: Livable and slum-free city
- Goal 3: Leveraging industrial growth opportunities and enhancing local economic vibrancy
- Goal 4: Build smart transportation
- Goal 5: Clean and green city
- Goal 6: Safe and secure city

#### **Area Based Development (ABD)**

The 'Tiruppur City Central' (TCC)-ABD will retrofit 2799.61 acres located in the heart of the city at the cost of INR 1039.73 crore. The area encompasses Noyyal River that runs through the ABD area as a spine and is the CBD area with a significant presence of wholesale, retail and water

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**TN-05-TRP**



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bodies. Envisaged as a transformational project, TCC-ABD converts the heart of the city and is replicable in other parts of Tiruppur as well as other cities of the state. TCC-ABD focused on seven themes with 48 projects including sub-projects and designed in line with the identified strategic focus areas, vision, and goals.

The TCC-ABD components revolve around the six strategic focus, six goals, and 35 sub goals identified in the visioning exercise with embedded smart components that support following themes.

- Theme #1: Canal development & recreational zone
- Theme #2: Central business district and market area
- Theme #3: Sustainable, Livable Tiruppur
- Theme #4: Smart urban mobility
- Theme 5#: Green Tiruppur
- Theme 6#: Environmentally committed city
- Theme 7#: Smart central Tiruppur

#### **Pan-City**

ICT based Pan-City solutions encompass Integrated Operation Control Centre, and System and the key components include:

- Integrated city operations control center
- Intelligent transit system
- Parking management systems
- Area traffic control system
- Safety and security platform
- Fiber optic network and city communications backbone
- Common city payments and services processing platform





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#### Project cost

Sl. No.	Item	Amount (in crore)	Percentage
1	Tiruppur City Central - Area Based Development (TCC-ABD)	1039.73	82.80%
2	Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)	150.42	11.98%
3	Technical and administrative support	65.56	5.22%
	<b>Total</b>	<b>1255.71</b>	<b>100.00%</b>

#### Component wise project cost

Sl. No.	Particulars	Amount in crore
<b>A</b>	<b>Tiruppur City Central - Area Based Development (TCC-ABD)</b>	<b>1039.73</b>
	Canal Development and Recreational Zone	64.29
	Central Business District and Market Area	27.38
	Sustainable Livable Tiruppur	380.82
	Smart Urban Mobility	173.86
	Green Tiruppur	111.22
	Environmentally Committed City	40.05
	Smart Central Tiruppur	242.12
<b>B</b>	<b>Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)</b>	<b>150.42</b>
	Integrated City Operations Control Centre	45.79
	Intelligent Transit System	17.04
	Parking Management System	12.81
	Area Traffic Control System	14.55
	Safety & Security Platform	12.81
	Fiber Optic Network and City Communications Backbone	34.15
	Common City Payments & Services Processing Platform	13.27
<b>C</b>	<b>Technical and administrative support</b>	<b>65.56</b>
	<b>Total</b>	<b>1,255.71</b>

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#### Resource plan

Sl. No.	Source	Amount (in crore)	Percentage
1	Smart City Grant - Central Government	459.30	36.58%
2	Smart City Grant - State Government	459.30	36.58%
3	Convergence Central Government Scheme	157.35	12.53%
4	Convergence State Government Scheme	-	-
5	Private Sector (PPP)	171.91	13.69%
7	ULB level funded schemes	4.89	0.39%
8	External agencies	-	-
10	Others- CSR	2.96	0.24%
	<b>Total</b>	<b>1255.71</b>	<b>100%</b>

#### Details of convergence plan:

- SCM financing - INR 918.60 crore (Gol funding INR 459.30 crore and GoTN funding INR 459.30 crore)
- Gol convergence schemes - INR 157.35 crore (AMRUT funding - INR 143.57 crore; Housing for All - INR 2.81 crore; IPDS funding - INR 4.99; SBM funding - INR 5.47 crore NULM funding INR 0.51 crore)
- ULB schemes - INR 4.89 crore
- CSR funding - INR 2.96 crore
- PPP projects - INR 171.91 crore

The lifetime cost of the SCP (both TCC-ABD and Pan-City) for the first 20 years - INR 1899.46 crore (present value of INR 1421.14 crore discounted at a rate of 7.5%).

Project IRR: 22.27 % (post tax) and the SPV have comfortable, positive cash position after meeting the operation and maintenance expenses.

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1	Citizen participation	A smart city constantly shapes and changes course of its strategies incorporating views of its citizen to bring maximum benefit for all. (Guideline 3.1.6)	Scenario 2	1. Website of GoTN and Tiruppur district profile, stakeholder consultation held for various Tiruppur development initiatives. 2. Involvement of Tiruppur Exporters Association (TEA) in the development initiatives 3. Pollution control board reports on the effluent discharge from dye units and citizen participation  Source:  Govt. website and NTADCL stakeholder consultation reports	Scenario 4	Develop smart processes to reinstate citizen voices, empowered networked society instead of simply deploying ICT as a linear flow from government – to – citizen including assessing the transparency, accountability and review the performance on the ULB to assess how far ULS's are citizen friendly	<ul style="list-style-type: none"> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Compact</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Transport</li> <li>▸ Walkable</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy supply</li> <li>▸ Energy source</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>



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2	Identity and culture	A Smart City has a unique identity, which distinguishes it from all other cities, based on some key aspect: its location or climate; its leading industry, its cultural heritage, its local culture or cuisine, or other factors. This identity allows an easy answer to the question "why in this city and not somewhere else?" A Smart City celebrates and promotes its unique identity and culture. (Guideline 3.1.7)	Scenario 3	<p>1. Tiruppur retains the image of textile, apparel and knitwear cluster.</p> <p>2. However new buildings and areas are created without much thought to how they reflect the identity and culture of city</p> <p>Source:</p> <p>Reports of</p> <p>a. UNIDO–Tiruppur case study</p> <p>b. UNIDO–Cluster Development Programme</p> <p>c. Indian apparel cluster</p> <p>d. Tiruppur-Diagnostic Study-SIDBI</p> <p>e. Apparel Export Promotion Council</p>	Scenario 4	Extensive level of brand promotion in media, on line platforms, social media and other communications for brand Smart Tiruppur city	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Economy and employment</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Walkable</li> <li>▸ ICT-enabled government services</li> <li>▸ Safety and security</li> </ul>



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3	Economy and employment	A smart city has a robust and resilient economic base and growth strategy that creates large-scale employment and increases opportunities for the majority of its citizens. (Guideline 2.6 & 3.1.7 & 6.2)	Scenario 2	<p>The GDDP of district in 2011-12 was US\$2818 million grown at CAGR of 11%.</p> <p>The tertiary sector contributes 51% to GDDP grown at CAGR of 10% from 2006-2012 followed by secondary sector contributing 39%.</p> <p>Tiruppur currently exports exceeding US\$1.5 Billion (90% of India's Knitwear Exports)</p> <p>Source: GoTN-Tiruppur district profile</p>	Scenario 4	<p>Textile cluster business sustenance, enabling ecosystem for employment and economic recovery, improvement to physical and social infrastructure and pairing it with effective, efficient social safety nets to protect vulnerable group, access to livelihood activities, skilling opportunities and lesser incidence of crime. Establishment of related infrastructure and other business facilitation initiatives</p>	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Compact</li> <li>▸ Housing and inclusiveness</li> <li>▸ Transport</li> <li>▸ Walkable</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy supply</li> <li>▸ Energy source</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>



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4	Education	A Smart City offers schooling and educational opportunities for all children in the city (Guideline 2.5.10)	Scenario 2	341 secondary schools 275 middle schools 200 nursery schools  Teacher to student ratio 1 to 100 = 1:30 Above 200 = 1:40 Total govt. teachers = 4646  Source:  Tiruppur City Municipal Corporation official website  Primary data - Chief Educational Officer of Tiruppur	Scenario 4	Strengthening skill development initiatives, developing smart industry specific skill development programmes and developing employability index through smart tools	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Health</li> <li>▸ Housing and inclusiveness</li> <li>▸ Transport</li> <li>▸ Walkable</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy supply</li> <li>▸ Energy source</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>



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5	Health	A Smart City provides access to healthcare for all its citizens. (Guideline 2.5.10)	Scenario 2	No: of hospitals = 64 No: of dispensaries = 3 No: of emergency cares = 45 No: of specialized hospitals = 45 No: of doctors = 228 Doctor to bed ratio = 1:7 No: of paramedical staffs = 754  Source:  Sanitary Inspector, Tiruppur City Municipal corporation	Scenario 4	Develop robust industrial and pollution health hazards monitoring response system	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Public open spaces</li> <li>▸ Walkable</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Air quality</li> <li>▸ Safety and security</li> </ul>



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6	Mixed use	A Smart City has different kinds of land uses in the same places; such as offices, housing, and shops, clustered together. (Guidelines 3.1.2 and 3.1.2)	Scenario 2	Master plan of Tiruppur municipal area (existing and proposed)  Source:  Tiruppur local planning authority official website	Scenario 3	Enforcement of development regulations, mixed uses, compact development, public open spaces development ICT applications in urban planning and urban forms	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Compact</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Safety and security</li> </ul>





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7	Compact	A Smart City encourages development to be compact and dense, where buildings are located close to one another and are ideally within a 10-minute walk of public transportation, forming concentrated neighborhoods. (Guidelines 2.3 and 5.2)	Scenario 1	<p>The city is rapidly expanding at its periphery along Southeast and Southwest directions which is evident from Tiruppur Municipal area – master plan (existing and proposed)</p> <p>Source:</p> <p>Tiruppur local planning authority official website – Master plan for Tiruppur municipal area (existing and proposed)</p>	Scenario 3	<p>Enforcing policy, regulatory and institutional framework for the city land use, smart urban forms and compact planning using extensive ICT applications</p>	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Transport</li> <li>▸ Walkable</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy supply</li> <li>▸ Energy source</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>



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8	Public open spaces	A Smart City has sufficient and usable public open spaces, many of which are green, that promote exercise and outdoor recreation for all age groups. Public open spaces of a range of sizes are dispersed throughout the City so all citizens can have access. (Guidelines 3.1.4 & 6.2)	Scenario 3	Public spaces such as Eswara moorthy park, Silver jubilee park and Vadakkuthottam park exists apart from proposed parks as per the master plan for Tiruppur Municipal area  Source:  Tiruppur Local planning authority official website – District Development plan and Master plan (proposed)	Scenario 4	Extensive level of retrofitting of existing public open spaces of various types - natural, green, plazas, parks, or recreation areas serving various sections of people including development of new open spaces and monitoring the usage through smart applications	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Walkable</li> <li>▸ Air quality</li> <li>▸ Sanitation</li> <li>▸ Safety and security</li> </ul>
9	Housing and inclusiveness	A Smart City has sufficient housing for all income groups and promotes integration among social groups. (Guidelines 3.1.2)	Scenario 2	478 new housing projects and 1582 upgradation projects were completed under IHSDP programme from the year 2007-08  Source:  Tiruppur City Municipal Corporation	Scenario 4	Developing new affordable functional housing format in green clusters concepts with eco friendly and energy efficient features	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Economy and employment</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Compact</li> <li>▸ Transport</li> <li>▸ Walkable</li> <li>▸ Energy supply</li> <li>▸ Energy source</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>

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10	Transport	A Smart City does not require an automobile to get around; distances are short, buildings are accessible from the sidewalk, and transit options are plentiful and attractive to people of all income levels. (Guidelines 3.1.5 & 6.2)	Scenario 1	<p>1)Public transportation from bus terminal a)Govt. and private – 586 nos. b)Mini bus – 66 nos. c)Omni bus – 18 nos.</p> <p>Footpaths are available for only 5.2% of road length</p> <p>The city has minimal pedestrian walkways and has buses, mini bus, share autos, auto rickshaws etc.</p> <p>Source: TCMC in consultation with Traffic Department of Tiruppur City</p>	Scenario 4	<p>Efficient, environment friendly &amp; sustainable, good mobility, pedestrian safety &amp; facilities, parking infrastructure thus ensuring that citizens can easily and affordably connect to work, leisure and healthy recreation thereby creating overall improvement of sector including ICT in the service delivery</p>	<ul style="list-style-type: none"> <li>▸Citizen participation</li> <li>▸Economy and employment</li> <li>▸Education</li> <li>▸Health</li> <li>▸Mixed use</li> <li>▸Compact</li> <li>▸Public open spaces</li> <li>▸Housing and inclusiveness</li> <li>▸Walkable</li> <li>▸IT connectivity</li> <li>▸ICT-enabled government services</li> <li>▸Air quality</li> <li>▸Safety and security</li> </ul>



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11	Walkable	A Smart City's roads are designed equally for pedestrians, cyclists and vehicles; and road safety and sidewalks are paramount to street design. Traffic signals are sufficient and traffic rules are enforced. Shops, restaurants, building entrances and trees line the sidewalk to encourage walking and there is ample lighting so the pedestrian feels safe day and night. (Guidelines 3.1.3 & 6.2)	Scenario 2	The city has minimal pedestrian walkways  Source:  Tiruppur City Municipal Corporation in consultation with Traffic Department of Tiruppur City	Scenario 4	Efficient, environment friendly & sustainable, pedestrian walkways ensuring that citizens can easily and affordably connect to work, leisure and healthy recreation thereby creating overall improvement of sector including ICT in the service delivery	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Public open spaces</li> <li>▸ Sanitation</li> <li>▸ Safety and security</li> </ul>



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12	IT connectivity	A Smart City has a robust internet network allowing high-speed connections to all offices and dwellings as desired. (Guideline 6.2)	Scenario 2	City has a designated OFC network provided by BSNL especially for E governance activities  Source: Tiruppur City Municipal Corporation – IT department	Scenario 4	Digital inclusion as priority and support citizens and communities to be digitally skilled so that they can be part of global digital economy and ensure that young people are equipped with the right skills for the jobs of the future, yet to be invented.	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Compact</li> <li>▸ Housing and inclusiveness</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy supply</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>



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13	ICT-enabled government services	A Smart City enables easy interaction (including through online and telephone services) with its citizens, eliminating delays and frustrations in interactions with government. (Guidelines 2.4.7 & 3.1.6 & 5.1.4 & 6.2)	Scenario 2	<p>The following online facilities are available for the citizens of Tiruppur</p> <ul style="list-style-type: none"> <li>• Tax due information</li> <li>• Assessment summary</li> <li>• Collection summary</li> <li>• Defaulter list</li> <li>• Birth registration summary</li> <li>• Death registration summary</li> </ul> <p>Source: Tiruppur City Municipal Corporation official website and confirmation from government officials</p>	Scenario 4	<p>Evolving easy interaction, eliminating delays through online and offline platforms. Establishing substantial improvement in</p> <ul style="list-style-type: none"> <li>• Operational characteristics: integrity, reliability, security, safety, efficiency</li> <li>• Transition characteristics: usability, portability, transferability</li> <li>• Revision characteristics: maintainability, extensibility, scalability, modularity, flexibility</li> </ul>	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ IT connectivity</li> <li>▸ Energy supply</li> <li>▸ Energy source</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>



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14	Energy supply	A Smart City has reliable, 24/7 electricity supply with no delays in requested hookups. (Guideline 2.4)	Scenario 2		Scenario 4	Secure access to resilient affordable energy supplies, reliable quality power, enhance the poor contribution of renewable in the energy mix   smart applications for energy	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Housing and inclusiveness</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy source</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Underground electric wiring</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>
15	Energy source	A Smart City has at least 10% of its electricity generated by renewable. (Guideline 6.2)	Scenario 3	Presently, limited wind energy is produced  Source:  United Nations Framework convention on climate change report	Scenario 4	Secure access to resilient affordable renewable energy supplies solar, waste to energy, energy efficiency in urban infrastructure, smart applications for energy efficiency	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Housing and inclusiveness</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy supply</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>

Sl. No.	Feature	Definition	Self-assessment of the city (for Pan-City Solution) with regard to each feature	Basis for assessment and/or quantitative indicator (Optional - only if data exists)	Projection of 'where the city wants to be' with regard to the feature/indicator	Input/Initiative that would move the city from its current status to Advanced status (Scenario 4: Column G)	Multiplier effect on other features
16	Water supply	A Smart City has a reliable, 24/7 supply of water that meets national and global health standards. (Guidelines 2.4 & 6.2)	Scenario 2	<p>The city has water supply coverage of 76.46% with 110 lpcd per capita demand as against the benchmark standards of 135 lpcd. Unaccounted water accounts for nearly 32.99%</p> <p>Source: Tiruppur City Municipal corporation and NTADCL -DPR submitted under AMRUT scheme.</p>	Scenario 4	<p>Establishing affordable 24 x 7 treated water supply in sufficient quantity, and quality with unaccounted loss less than 15%.</p>	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Economy and employment</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Compact</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Energy efficiency</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>
17	Water management	A Smart City has advanced water management programs, including smart meters, rain water harvesting, and green infrastructure to manage storm water runoff. (Guideline 6.2)	Scenario 1	<p>74% of city area is provided with storm water drainage facilities.</p> <p>Source: Tiruppur City Municipal corporation - DPR submitted under AMRUT scheme</p>	Scenario 4	<p>Establishing smart meters, remote monitoring with extensive mechanism for recharging, recycling, and use in secondary applications</p>	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Economy and employment</li> <li>▸ Health</li> <li>▸ Housing and inclusiveness</li> <li>▸ ICT-enabled government services</li> <li>▸ Water supply</li> <li>▸ Waste water management</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>





Sl. No.	Feature	Definition	Self-assessment of the city (for Pan-City Solution) with regard to each feature	Basis for assessment and/or quantitative indicator (Optional - only if data exists)	Projection of 'where the city wants to be' with regard to the feature/indicator	Input/Initiative that would move the city from its current status to Advanced status (Scenario 4: Column G)	Multiplier effect on other features
18	Wastewater management	A Smart City treats all of its sewage to prevent the polluting of water bodies and aquifers. (Guideline 2.4)		11.97% of city area is provided with sewerage network.  Source:  Tiruppur City Municipal corporation and NTADCL – DPR submitted under AMRUT scheme		Zero wastewater with full recycling, augmenting wastewater infrastructure and treatment, providing treated waste water for urban horticulture	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Compact</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Water supply</li> <li>▸ Water management</li> <li>▸ Air quality</li> <li>▸ Sanitation</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>
19	Air quality	A Smart City has air quality that always meets international safety standards. (Guideline 2.4.8)		The air quality is well within the permissible standards  Source:  Tiruppur City Municipal Corporation		Incorporating disaster management, resilience strategy, water logging and flood risk, water and air pollution monitoring system, smart environment monitoring	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Economy and employment</li> <li>▸ Health</li> <li>▸ Housing and inclusiveness</li> <li>▸ Safety and security</li> </ul>

Scenario 2

Scenario 4

Scenario 2

Scenario 4

Sl. No.	Feature	Definition	Self-assessment of the city (for Pan-City Solution) with regard to each feature	Basis for assessment and/or quantitative indicator (Optional - only if data exists)	Projection of 'where the city wants to be' with regard to the feature/indicator	Input/Initiative that would move the city from its current status to Advanced status (Scenario 4: Column G)	Multiplier effect on other features
20	Energy efficiency	A Smart City government uses state-of-the-art energy efficiency practices in buildings, street lights, and transit systems. (Guideline 6.2)		Roof top solar panels are being planned in all government office buildings.  Source: Tiruppur City Municipal corporation budget book (2015-16).		Secure access to resilient energy supplies, while ensuring affordable energy for all and at the same time meeting the obligations to satisfy clean green agenda. Reliable quality power, enhance poor contribution of renewable in the energy mix like solar, waste to energy, smart applications for energy efficiency in urban infrastructure.	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Housing and inclusiveness</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy supply</li> <li>▸ Energy source</li> <li>▸ Air quality</li> <li>▸ Safety and security</li> </ul>
21	Underground electric wiring	A Smart City has an underground electric wiring system to reduce blackouts due to storms and eliminate unsightliness. (Guideline 6.2)				Systematic adoption of underground cabling	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Compact</li> <li>▸ Housing and inclusiveness</li> <li>▸ Walkable</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> <li>▸ Energy efficiency</li> <li>▸ Safety and security</li> </ul>

Scenario 2

Scenario 4

Scenario 2

Scenario 4



Sl. No.	Feature	Definition	Self-assessment of the city (for Pan-City Solution) with regard to each feature	Basis for assessment and/or quantitative indicator (Optional - only if data exists)	Projection of 'where the city wants to be' with regard to the feature/indicator	Input/Initiative that would move the city from its current status to Advanced status (Scenario 4: Column G)	Multiplier effect on other features
22	Sanitation	A Smart City has no open defecation, and a full supply of toilets based on the population. (Guidelines 2.4.3 & 6.2)	Scenario 2		Scenario 4	Providing best in class sanitation facilities, community toilets, differently abled	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Compact</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Walkable</li> <li>▸ Waste water management</li> <li>▸ Waste management</li> <li>▸ Safety and security</li> </ul>
23	Waste management	A Smart City has a waste management system that removes household and commercial garbage, and disposes of it in an environmentally and economically sound manner. (Guidelines 2.4.3 & 6.2)	Scenario 2	Door to door solid waste collection is in practice  Source: Data from Tiruppur City municipal corporation	Scenario 4	Promulgating zero waste city, source segregation of waste, efficient collection mechanism, transportation, processing, recycling, composting and landfill, sustainable and create ways of integrated municipal solid waste management including end produce utilization and sector governance including smart applications	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Health</li> <li>▸ Mixed use</li> <li>▸ Compact</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Walkable</li> <li>▸ Water management</li> <li>▸ Waste water management</li> <li>▸ Air quality</li> <li>▸ Sanitation</li> <li>▸ Safety and security</li> </ul>



Sl. No.	Feature	Definition	Self-assessment of the city (for Pan-City Solution) with regard to each feature	Basis for assessment and/or quantitative indicator (Optional - only if data exists)	Projection of 'where the city wants to be' with regard to the feature/indicator	Input/Initiative that would move the city from its current status to Advanced status (Scenario 4: Column G)	Multiplier effect on other features
24	Safety and security	A Smart City has high levels of public safety, especially focused on women, children and the elderly; men and women of all ages feel safe on the streets at all hours. (Guideline 6.2)	Scenario 2		Scenario 4	Enhanced focus on public safety, especially focused on women, children and the elderly including smart applications towards public safety	<ul style="list-style-type: none"> <li>▸ Citizen participation</li> <li>▸ Identity and culture</li> <li>▸ Economy and employment</li> <li>▸ Education</li> <li>▸ Health</li> <li>▸ Public open spaces</li> <li>▸ Housing and inclusiveness</li> <li>▸ Transport</li> <li>▸ Walkable</li> <li>▸ IT connectivity</li> <li>▸ ICT-enabled government services</li> </ul>



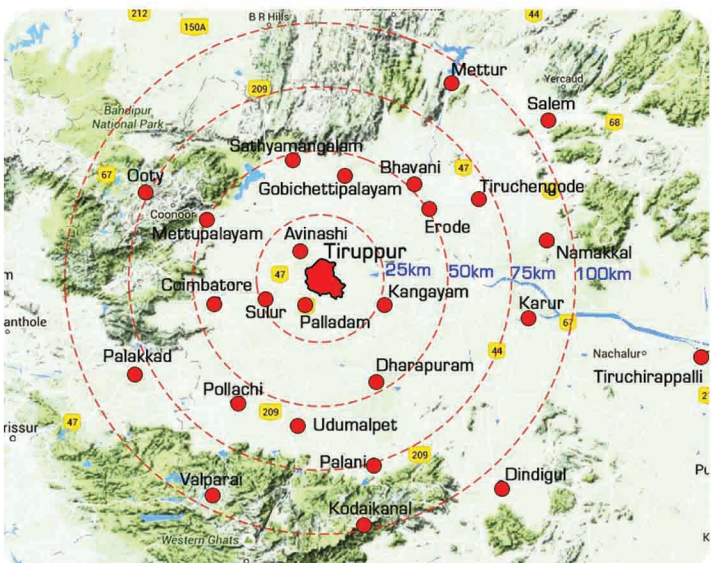
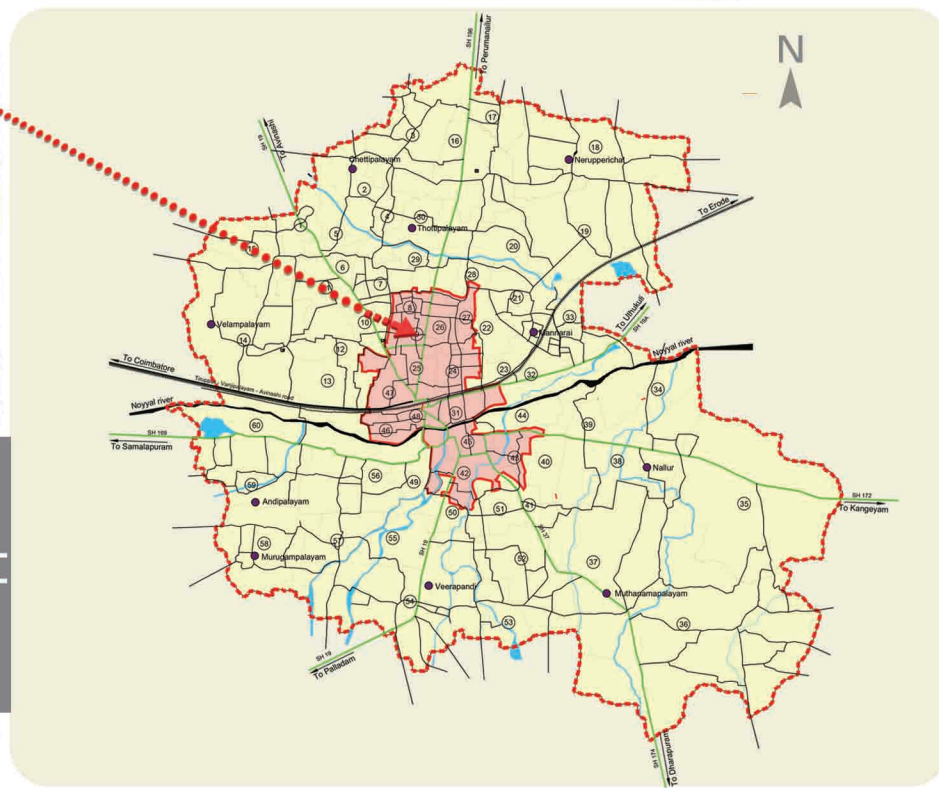
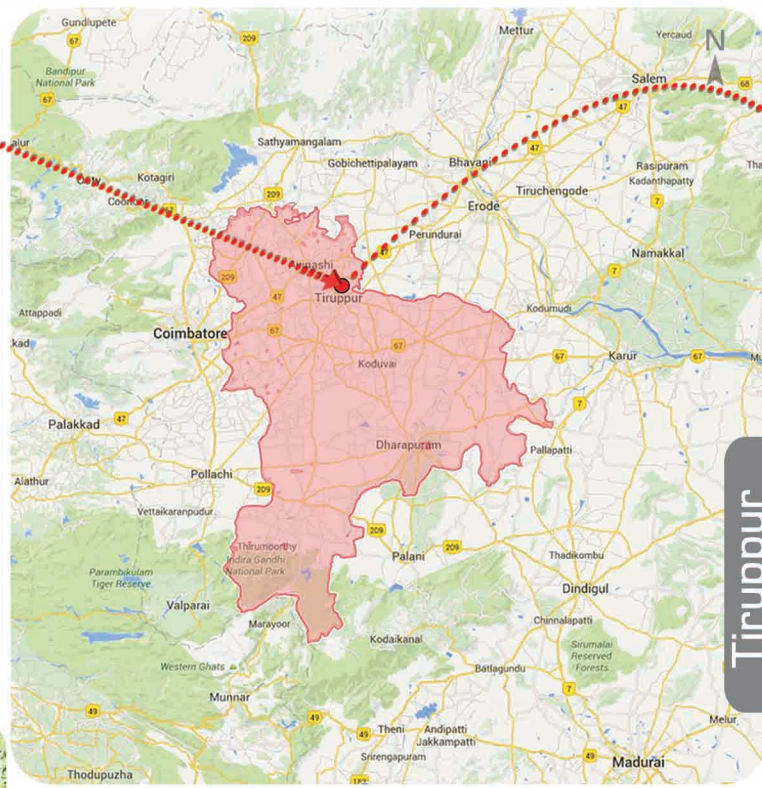
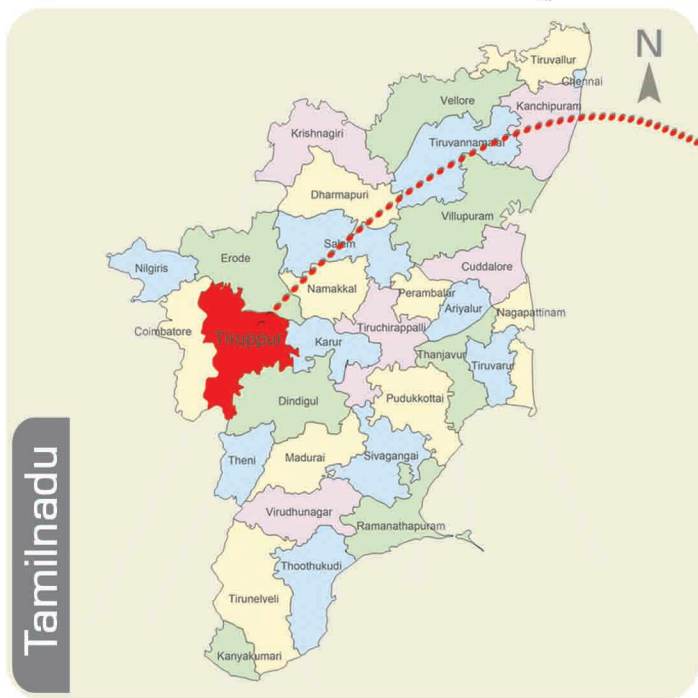




# Tiruppur city profile & key performance indicators



# Liveable city



**Municipal area (sq. km)**  
159.35

**Population 2011 (lakh)**  
8.77

**Population density (pph)**  
55

**Education**

- 341 secondary schools, 275 middle schools and 200 nursery schools
- Government teachers – 4646

**City highlights**

- Major textile and knit wear hub contributing to 90% of total cotton knit wear exports from India
- The textile industry provides employment to over six lakh people and contributed to exports worth 200 billion (US\$3.0 billion) in 2014-15
- Special industrial parks have been developed to support the textile industry including Nethaji apparel park, Tiruppur export knitwear industrial complex, SIDCO industrial estate and J.S. apparel park

**Sewerage**

- Coverage of toilet – 85.15%
- Coverage of sewerage – 11.97%
- Efficiency in collection of sewerage – 8.33%
- Existing STP is at Sarkar periyalayam with an efficiency of 46.66%

**Green space**

- 0.50 sqm /person – for plain areas as against 10-12 sqm /person
- 0.20 sqm / person – for built – up areas as against 25 sqm / person

**Water supply**

- Network coverage- 76.46%
- Per capita supply - 110 lpcd
- Extent of metering – 95.82%
- Reduction in UFW – 32.99% to 15%
- Quality of supply – 100%
- Efficiency in redressal of complaints – 90.05%
- Cost recovery in supply services – 61.66%
- Efficiency in collection of water supply related charges – 84.11%

**Power**

- Installed capacity- 324 MVA
- Maximum demand- 290 MVA
- Billing efficiency – 88%
- Collection efficiency – 99.8%
- AT & C losses – 11.61%

**Health facilities**

- 64 hospitals, 3 dispensaries, 45 emergency cares and specialized hospital
- 228 doctors within the city
- Doctor to bed ratio stands at 1:7 with 754 paramedical staffs

**Solid waste**

- Total solid waste generation - 520 MT/day
- Total bio-degradable solid waste - 234 MT/day
- Door to door collection is in practice
- Coverage - 100%
- Plastic waste being utilized for road laying

**Transport**

- NMT – 0.12 % footpath coverage
- Average travel distance – 1 Km
- Increase in public bus services- 15.98%
- Increase in traffic speed- 20 kmph to 40 kmph
- Two scheme proposals approved and fund allotted for development of cycle tracks (NMT)

**E- services**

- Tax due information
- Assessment searching and summaries
- Collection summary
- Birth and death registration summary

**Reforms**

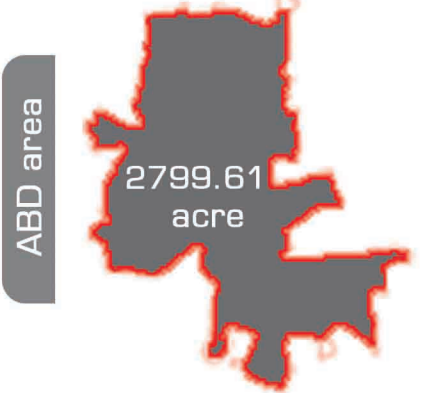
- AMRUT
- SBM
- TNIDB
- Coimbatore-Salem industrial corridor
- Digital India
- IPDS
- GIM

**Economy**

- High level of industrial and economic activities primarily in knitwear and associated industries.
- Leading foreign exchange earner of the state
- Sound industrial base with nearly 7000 industrial units, 450000 workers and strong export & domestic market.
- Highly enterprising population with entrepreneurship qualities

**Storm water drain**

- Existing network coverage – 74%
- Current length of storm water drain is 979.96 Km
- 52 locations – Inundation during monsoon
- Incidence of sewerage mixing in drains – 78%
- Incidence of water logging – 50%



ABD Population: 2,06,511



1.02 Lakh



## Liveable city

### 1 Engagement

- Round i**  
Engaging and seeking aspiration  
53,480
- Round ii**  
Selection of ABD and PC solution  
47,757
- Round iii**  
Comments on draft proposal  
1,593

### 2 Engagement platforms

Tiruppur City Municipal Corporation website

Zone wise citizen engagement

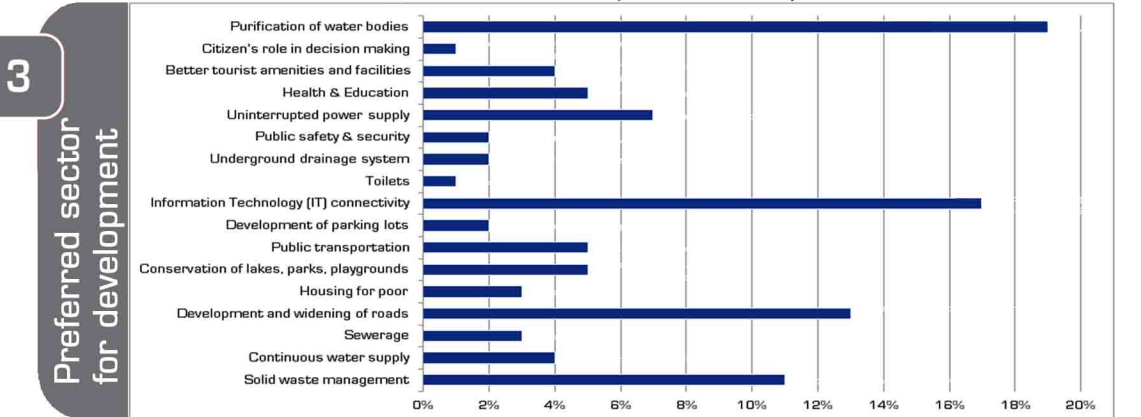
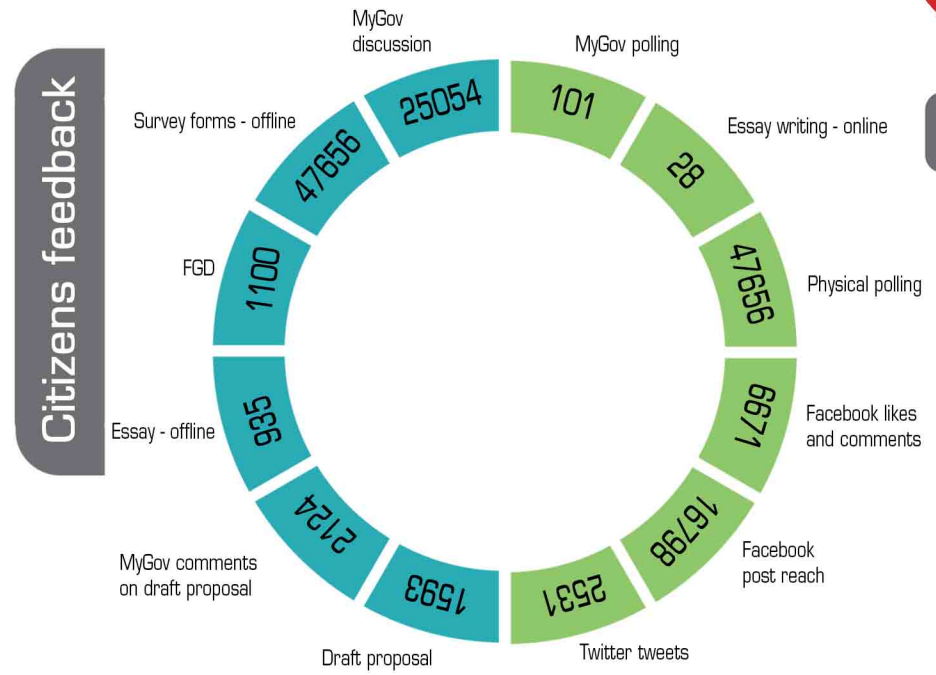
MyGov.in (Discussions, polls, essay competition)

Social media (Facebook, Twitter)

Email

#### Publicity modes

- Facebook
- Twitter
- Mail
- Schools & Colleges
- Newspapers



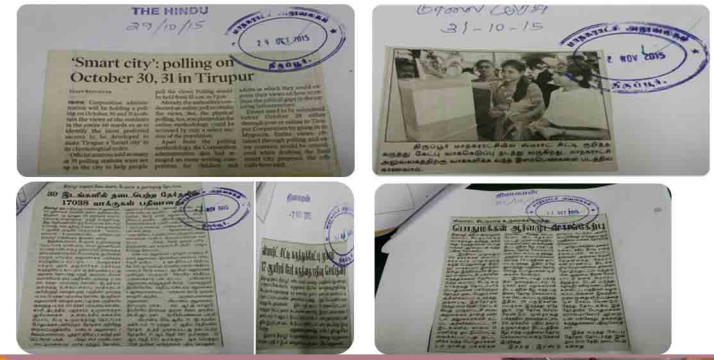
### Priority for Pan City

- Smart street light: 27.41%
- CCTV: 25.89%
- Water meter: 24.58%
- ICT & e governance: 11.80%
- Smart waste management: 10.32%
- Retrofitting: 70.65%
- Redevelopment: 11.40%
- Greenfield development: 17.95%



### ABD options - Replicable model

1. Redevelopment of ward 28
2. Redevelopment of ward 26
3. Retrofitting of ward 25, 26 and ward 27
4. Retrofitting of ward 8,9,12,24,25,26,27,31,42,43,45,46,47,48,49
5. Retrofitting of ward 42, 43 and 45
6. Greenfield development along Kangeyam road
7. Greenfield development along Dharapuram road



Workshops Social Media Events Website Newspapers Email Meetings



Questions answered

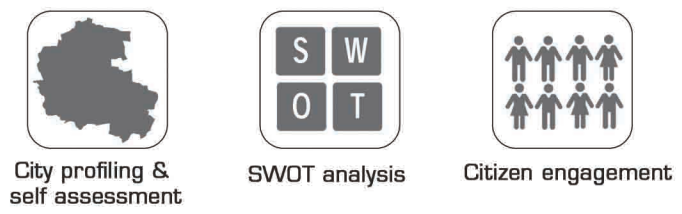
- Q 6
- Q 10
- Q 21
- Q 23



# 3 Tiruppur - City Vision and Goals

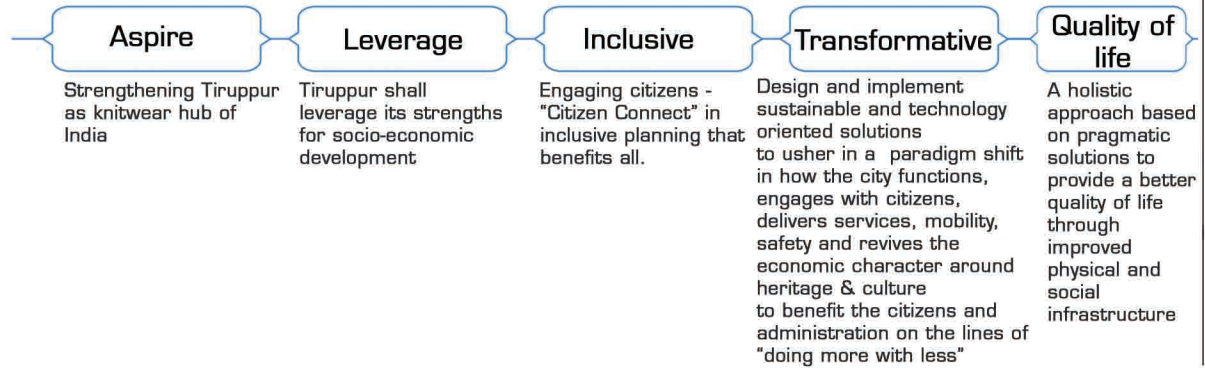
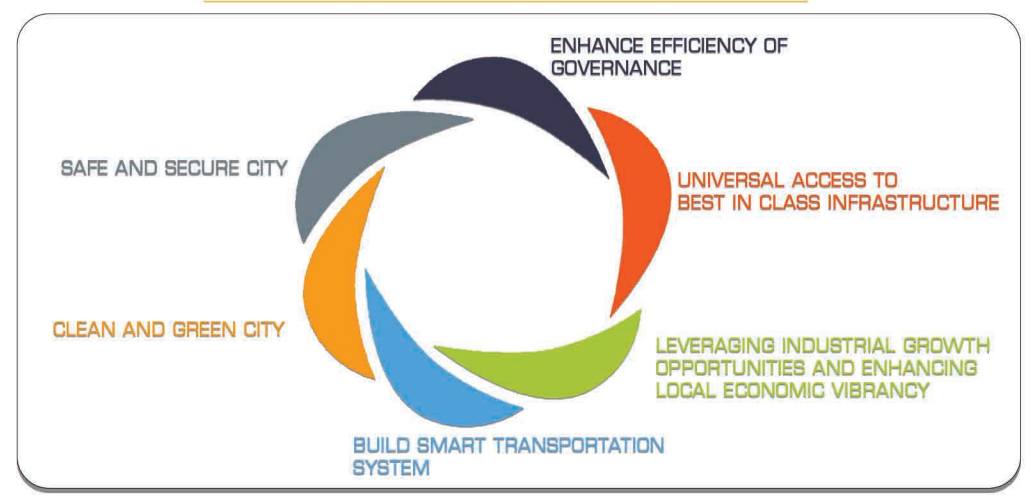


## Liveable city



**Vision**

"Tiruppur aspires to leverage its cluster identity by investing in inclusive and transformative solutions that enhance the quality of life for its citizens"



Vision elements

Goals	Sub-goals	Process & activities , KPI's
ENHANCE EFFICIENCY OF GOVERNANCE	SG1: Enhance efficiency of governance and ensure inclusive improved services delivery SG2: Two way communication between citizen and administration with ICT enabled government services	<ul style="list-style-type: none"> <li>Increase in digital literacy rate to 100%</li> <li>Percentage of G2C transactions made online to 90%</li> <li>Average resolution time for grievances resolution to be 1 day.</li> <li>Increase in efficiency of tax, user charge collection to 95%-100%</li> </ul>
LIVEABLE AND SLUM FREE CITY	SG3: To provide 100% housing for all income groups SG4: To provide 100% of citizens adequate water supply system with 150lpcd, 24X7 water supply of required quality, replacement of old water pipes to arrest leakages and reduce NRW with advanced water meter systems and efficient SCADA system SG5: Moving significantly in augmenting the storage capacities SG6: To provide adequate sanitation and wastewater management including sewerage connection to all properties, sewage network with 100% coverage, treatment system up to a minimum of secondary treatment and re-use of treated water SG7: To provide underground drainage system and lining of nallahs (drains) SG8: To establish social and community development facilities including skill development centres, e-service centres, up-gradation of infrastructure facilities in selected schools and colleges, e-counselling centres, smart libraries, etc. SG9: To provide core urban services to all slum households including adequate water supply, sewerage & sanitation, solid waste management, etc. SG10: To provide affordable housing to those slum households who are living in kuchha and semi-pucca houses/sub-standard condition. To make Thoothukudi slum free by 2025	<ul style="list-style-type: none"> <li>Availability of affordable housing units to 100%</li> <li>Health index and air quality improvements as per CPCB standards</li> <li>Augmenting the water storage capacities from 40%</li> <li>Increase in average daily hours of water supply from 8-10 hours per day to 24x7</li> <li>Increase in water connections to 100% HH</li> <li>Reduction in UFW to 15%</li> <li>Scientific disposal - 100%</li> </ul>
ENHANCING LOCAL ECONOMIC VIBRANCY	SG11: To promote marine and port based industries and to encourage ancillary industries/SMEs SG12: To develop planned business districts with smart infrastructure system and position Thoothukudi to play a major role in realizing the state vision, as reflected in the citizen survey SG13: To provide skill development, healthcare and education to poor and vulnerable communities with smart applications and provide opportunities for livelihood	<ul style="list-style-type: none"> <li>Increase in city GDP by 15%</li> <li>Increase in employment</li> </ul>
BUILD SMART TRANSPORTATION SYSTEM	SG14: To establish an integrated city mobility management system including transit services, traffic services, parking services, fibre optic based city network and safe city infrastructure SG15: To redesign and develop all key roads with provision for NMT and foot paths for safe pedestrianisation. Increased trip share of NMT with walkable footpaths and bicycle lane SG16: To implement smart parking system and establish multi-level parking SG17: To improve efficiency of public transport system SG18: To implement a traffic management system, ICT solutions with Adaptive Traffic Control System (ATCS) to manage network of road intersections and additionally provide camera based traffic violation detection system to improve speeds, availability of road to motorists and safe operation condition SG19: To ensure efficient urban mobility through implementation of bus-based transit system	<ul style="list-style-type: none"> <li>Achieve service level 1 as identified in CMP - public transport, pedestrian infrastructure facilities, NMT facilities, ITS facilities, travel speed along major corridors, parking space, road safety</li> <li>Increase in percentage of streets having unobstructed footpaths to 100%</li> <li>Increased trip share of NMT to 40% with walkable footpaths and bicycle lane</li> <li>Average travel speed increased by 25%</li> <li>Percentage of street (kms) having mixed land use to 30%</li> </ul>
CLEAN , GREEN CITY	SG20: To clean Buckle canal and develop canal promenade SG21: To introduce efficient ICT enable effective solid waste management solution SG22: To ensure proper treatment and disposal of sewage generated SG23: To eradicate open defecation, 100% sanitation over next 5 years SG24: Clean streets, public spaces with smart bins at every 100 metre SG25: To promote solar mission through implementation of solar PV roof tops on all government and institutional buildings in the city SG26: Smart public lighting to reduce consumption SG27: Increased level of solar usage SG28: To promote waste recycling through conversion of waste to energy SG29: To promote green living, cleaning of water bodies and to ensure untreated wastewater not polluting water bodies with monitoring through smart tools SG30: To implement the rain water harvesting system and replenish ground water SG31: To develop a number of open spaces within the city from almost nil to 15% benchmark SG32: To support and empower people with the tools and incentives to manage and improve their own environment and industrial pollution monitoring	<ul style="list-style-type: none"> <li>Decrease in carbon footprint</li> <li>Percentage of city area developed as open green public space- nil to 15% benchmark</li> <li>Access to toilets - 100%</li> <li>Smart public lighting to reduce average consumption by 20%</li> <li>Increase in solar power capacity atleast 15%-20%</li> </ul>
SAFE AND SECURE CITY	SG33: To implement laying of UG cables, shifting of all DTRs & smart energy metering SG34: To implement security and surveillance system throughout the city SG35: To reduce road accidents	<ul style="list-style-type: none"> <li>Wi-Fi access coverage to 100%</li> <li>Reduce road accidents by 90%</li> </ul>

**Vision** Tiruppur's vision comprises specific constituent development goals voiced by the aspirations of the citizens. Each of the goals listed below are geared towards making Tiruppur a more liveable city that is socially, economically and environmentally sustainable.

Questions answered: Q3, Q4, Q5 & Q16



# 4 Delineation of ABD



## Liveable city

### Citizen's choice

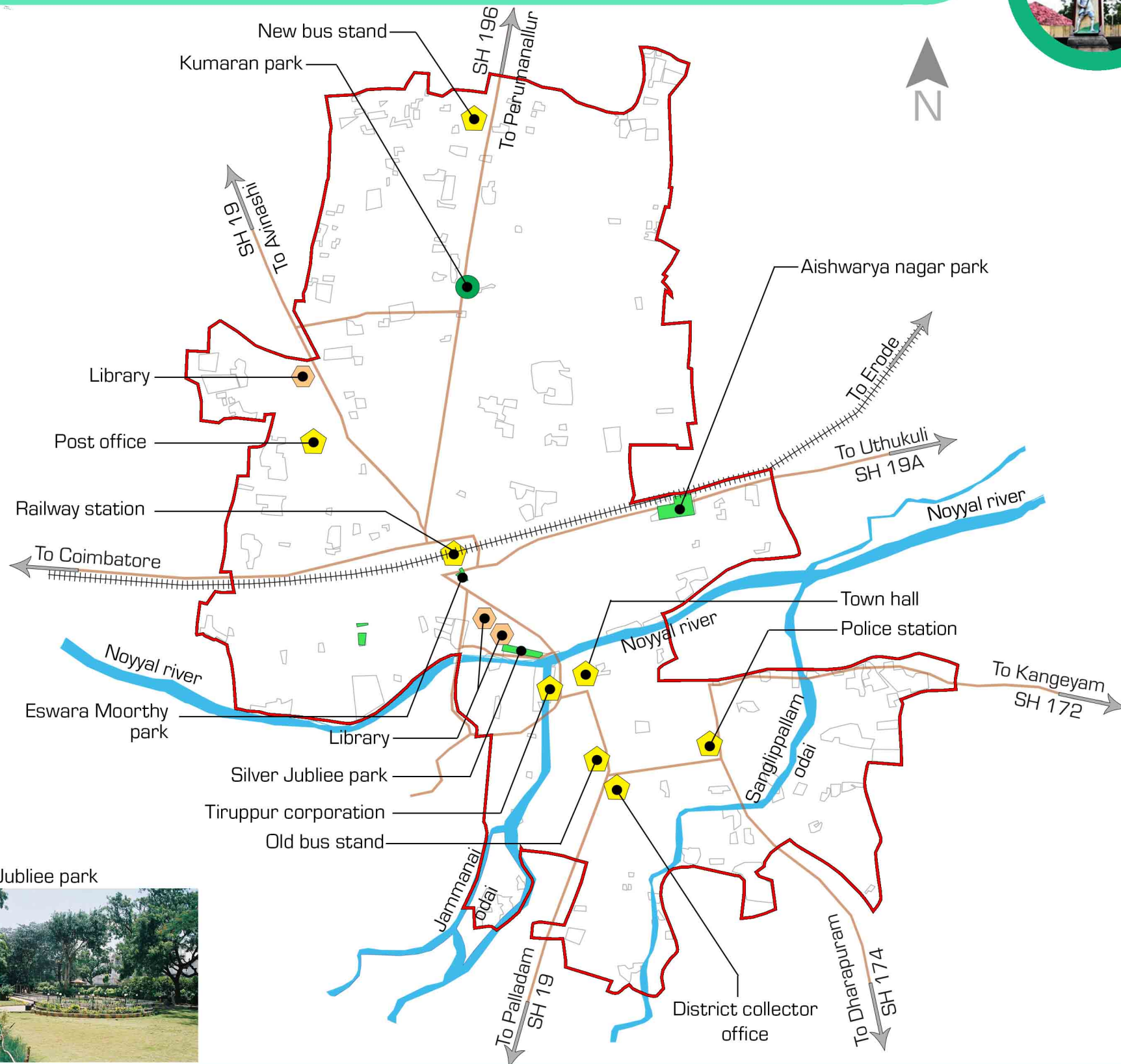
Retrofitting of wards 8, 9, 12, 24to27, 31, 42, 43, 45to49 (contiguous area) in CBD along Avinashi road and Kumaran road, the two major arterial roads and on either side of railway track.

### Natural ecological wealth

The Noyyal rises from the Vellingiri hills in the Western Ghats and it flows through Tiruppur after flowing through Coimbatore. The main impact of the industrialization in Tiruppur is the pollution of Noyyal river transforming it into an effluent discharge channel. Restoration of this natural ecology shall be taken up as one of main themes in this proposal.

### Education center

- 2 schools with in ABD boundary

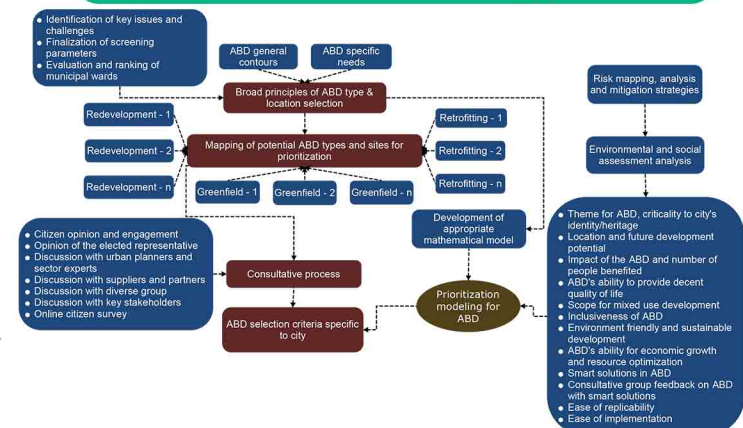


- Population of ABD - 2,06,511
- No of households - 41,307
- Slum population - 3,200
- ABD area - 2799.61 acres

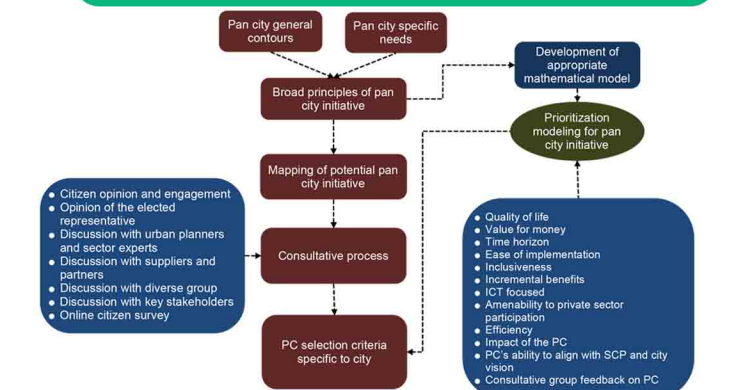
Union mill road junction



### Approach & methodology - ABD



### Approach & methodology - Pan city



Sanglippallam odai



Old bus stand



Silver Jubilee park



Tiruppur's vision comprises specific constituent development goals voiced by the aspirations of the citizens. Each of the goals listed below are geared towards making Tiruppur a more livable city that is socially, economically and environmentally sustainable

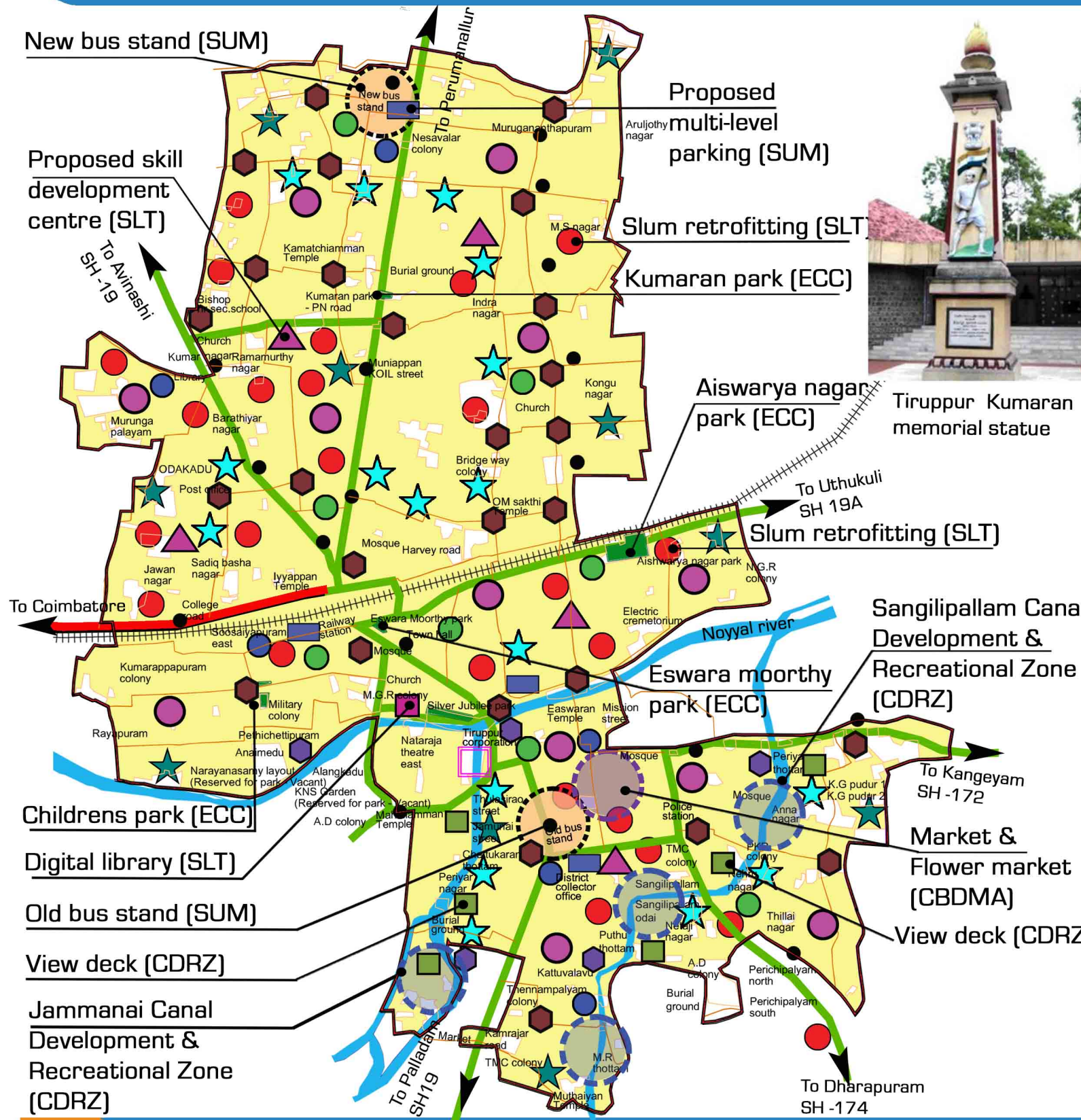
- Questions answered  
Q9  
Q11  
Q12  
Q16  
Q18



# 5 Conceptualization of TCC - ABD



## Liveable city



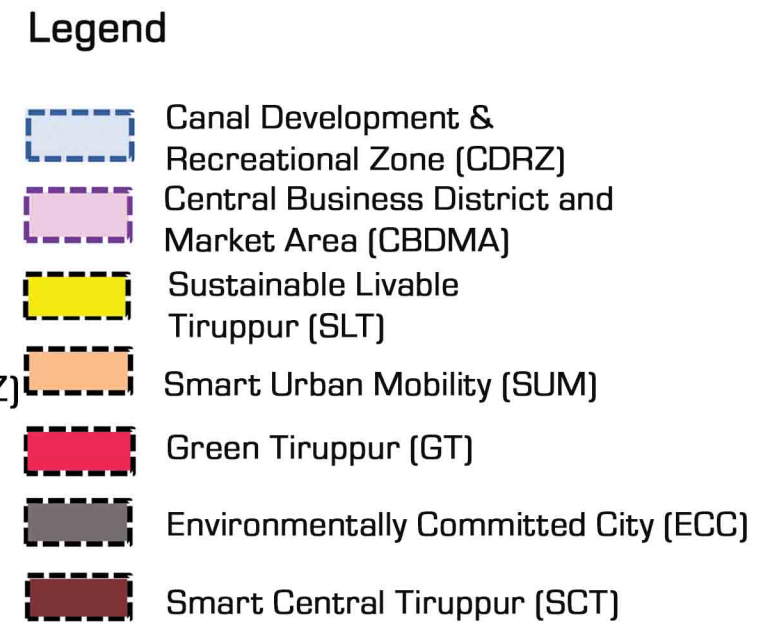
Tiruppur Kumaran memorial statue



Tiruppur spinning mill



Tiruppur corporation junction



7-Themes ..... 48 Projects

Questions answered  
Q9 Q16  
Q11 &  
Q12 Q18



# 6 Canal Development & Recreation Zone



**Liveable city**

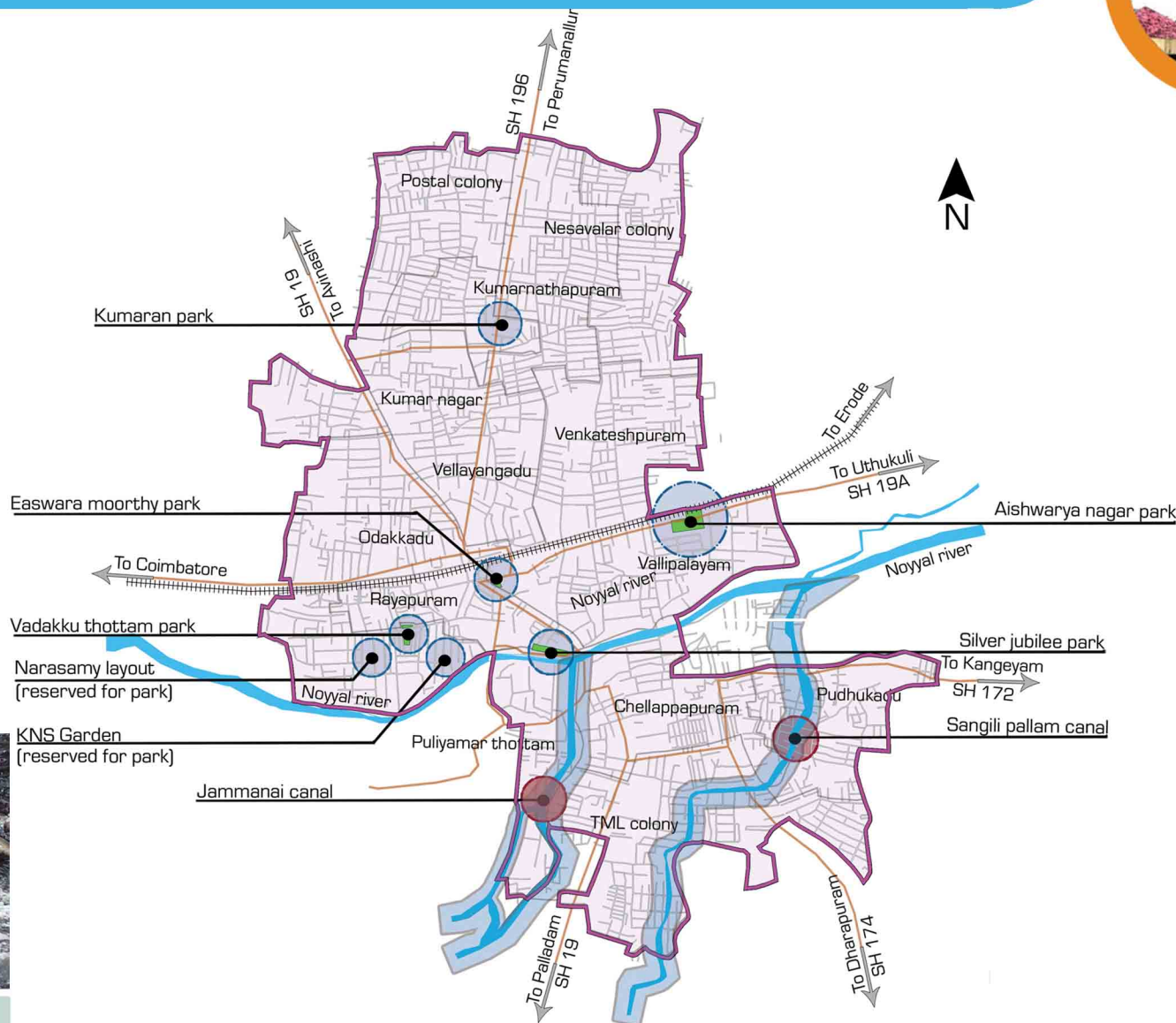
**CDRZ** Canal Development & Recreational Zone  
 CDRZ - 1 Canal development  
 CDRZ - 2 Canal promenade development  
 CDRZ - 3 Leisure park

**Existing conditions**

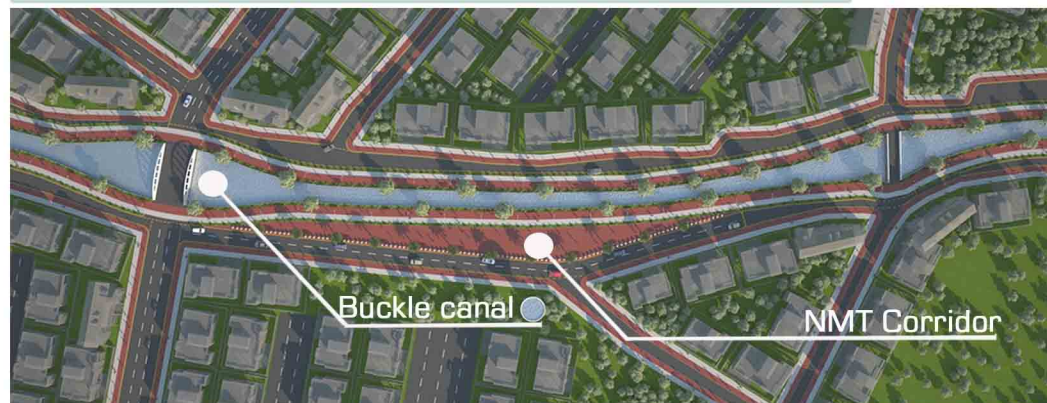
- Inadequate wastewater management mechanism
- Unmonitored public spaces mainly in the market areas and the canal stretches

**Natural ecological wealth:**

- The Noyyal rises from the Vellingiri hills in the Western Ghats and it flows through Tiruppur after flowing through Coimbatore.
- The main impact of the industrialization in Tiruppur is the pollution of Noyyal river transforming it into an effluent discharge channel.
- Restoration of this natural ecology shall be taken up as one of main themes in this proposal.



Existing canal front



Proposed Canal front development

**Canal Development & Recreation Zone**



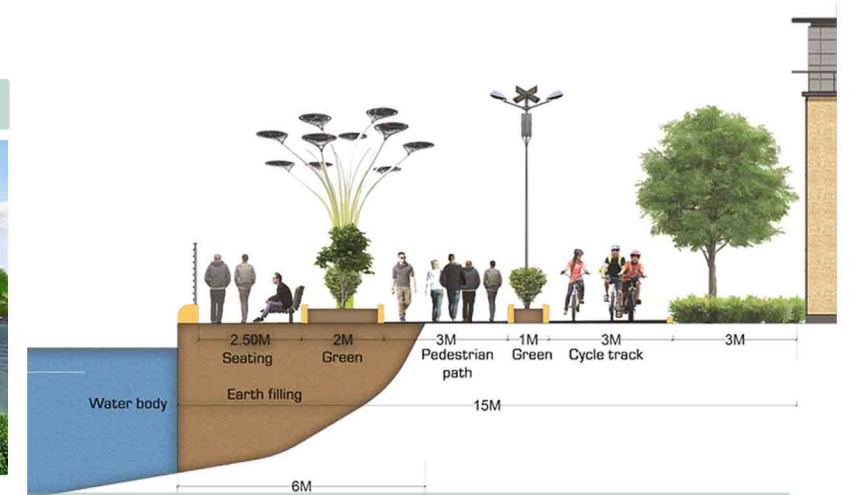
Canal front promenade



Canal promenade



Canal promenade



Detail A - Lake promenade section

**KPIs**

Clutter free  
**100%**

Heritage rejuvenation  
**50%**

To increase number of tourists  
**100%**

Questions answered  
Q9, Q1, Q12  
Q16, Q18, Q31  
Q34 & Q 35  
Q18



# 7 Central Business District and Market Area

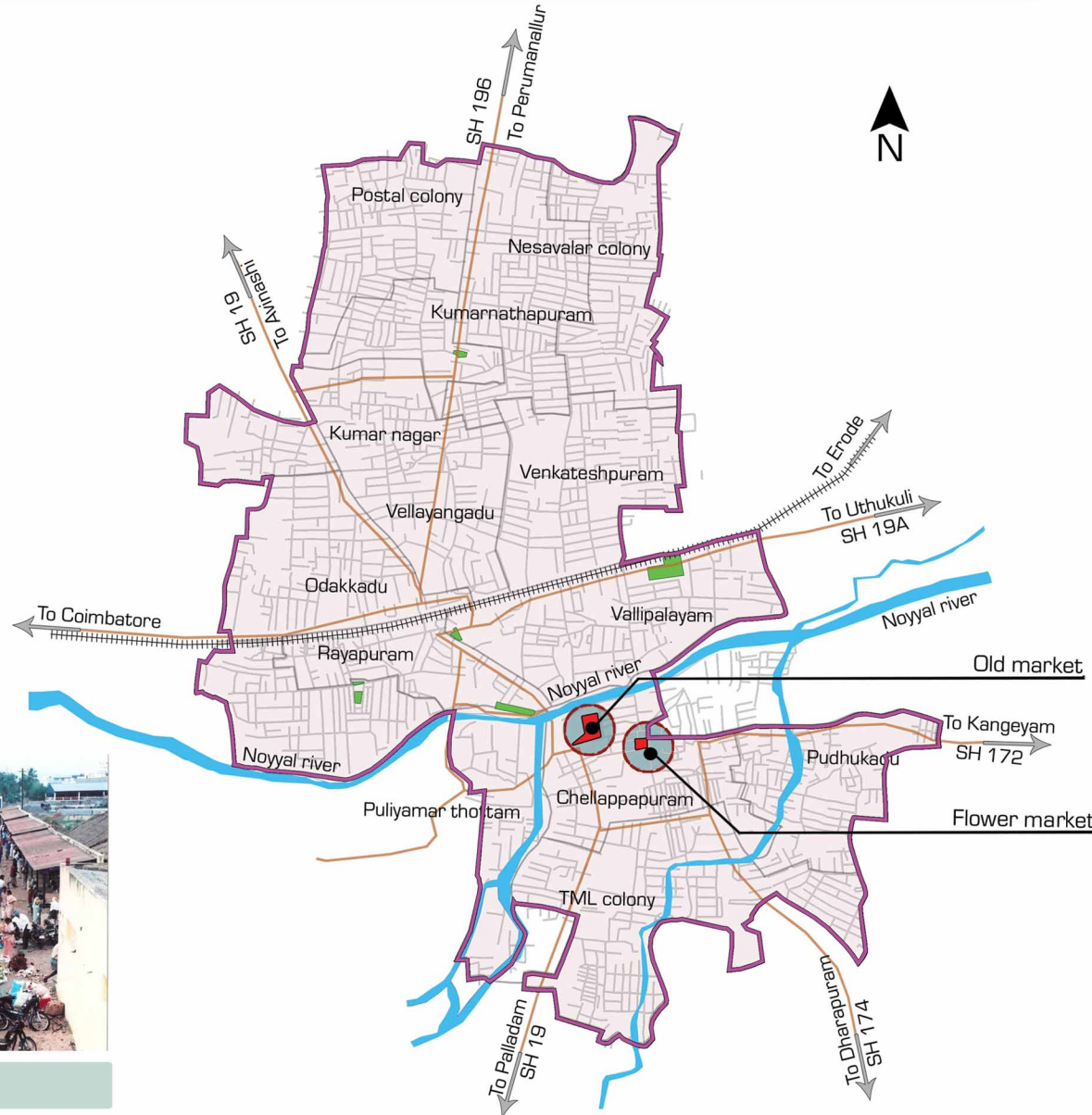


**Liveable city**

**CBDMA** Central Business District and Market Area  
 CBDMA - 1 Market complex for street vendors  
 CBDMA - 2 Development of infrastructure facilities

**CENTRAL BUSINESS DISTRICT** including connecting the CBD with public transport and NMT corridor with smart market complex for street hawkers and vulnerable communities.

- Existing conditions**
- Traffic & people congestion
  - Market delivery & servicing at same time – creates more burden on urban form
  - No clear signages for access to markets
  - No identified vendor zones



Existing market



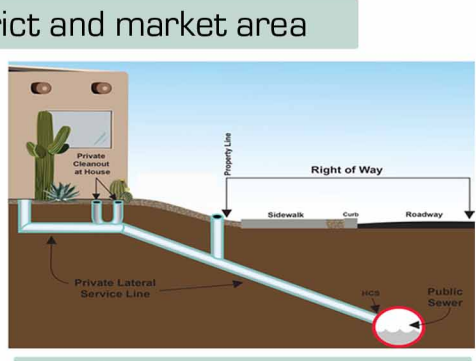
Existing fish market



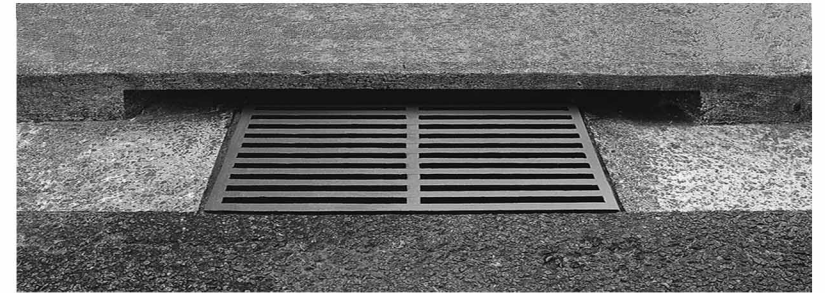
Power supply



Water supply



Sewerage network



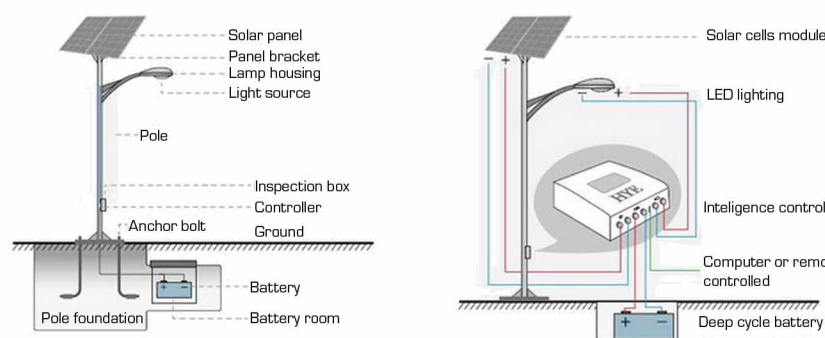
Storm water drain



Solid waste management



Smart roads



Smart street light structure

**KPIs**



Increase in footfall  
**10%**



Increase in employment  
**5%**



Market rejuvenation  
**100%**

Questions answered

Q9, Q11, Q12, Q16, Q18, Q31, Q34 & Q35



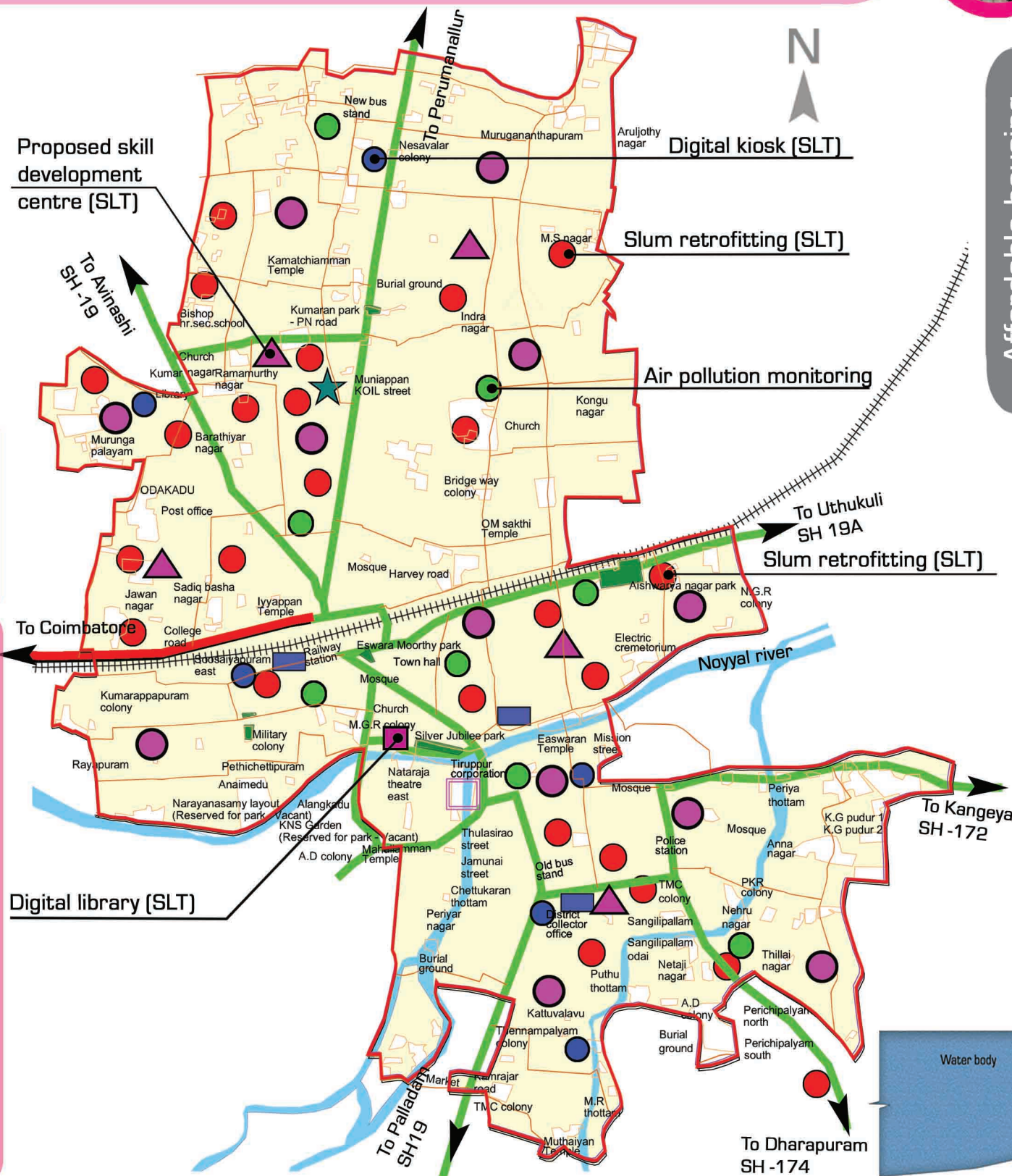


Existing conditions

- Untreated sewage disposal in water bodies
- Encroached water bodies
- Poor living conditions



- SLT 1 : Housing for existing HHS living in Kutcha & semi-pucca houses in slum area including slum infrastructure
  - SLT 1.1 : Housing for existing HHS living in kachcha & Kutcha & semi-pucca houses in slum area
  - SLT 1.2 : Slum infrastructure
- SLT 2 : Non-slum residential areas retrofitting
  - SLT 2.1 : Adequate water supply
  - SLT 2.2 : Sewerage collection & wastewater recycling
  - SLT 2.3 : Sanitation
  - SLT 2.4 : Solid waste management collection and transportation
  - SLT 2.5 : Solid waste management treatment
  - SLT 2.6 : Storm water drainage
- SLT 3 : Social and community development
  - SLT 3.1 : Smart school management software
  - SLT 3.2 : Smart class rooms, e-monitoring, etc.
  - SLT 3.3 : Green contract language and awareness
  - SLT 3.4 : Centre for excellence for smart city and smart eco-park
  - SLT 3.5 : Skill development centre
  - SLT 3.6 : Digital kiosk to overcome digital divide and e-municipality
  - SLT 3.7 : Digital library

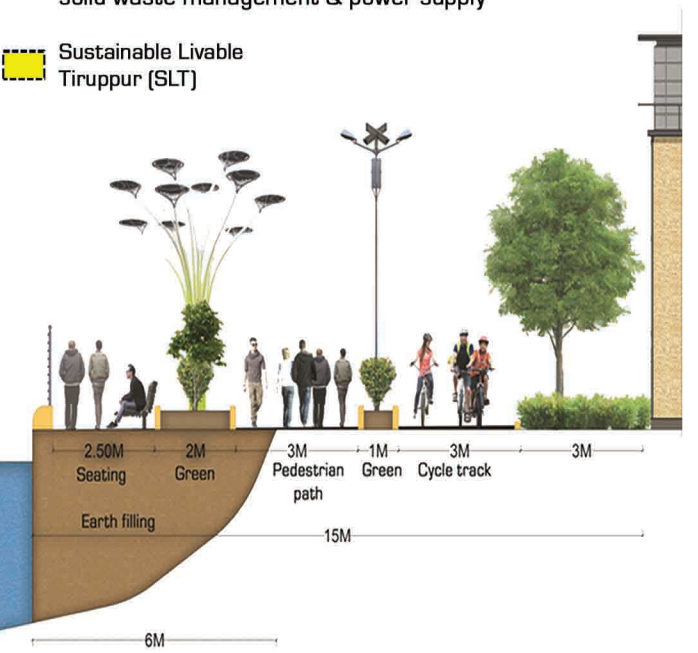


Affordable housing



Legend

- ▲ Skill development centres
- Digital kiosk
- Digital library
- Air pollution monitoring
- Notified slum area
- Water supply, sewerage system, storm water drain, solid waste management & power supply
- Sustainable Livable Tiruppur (SLT)

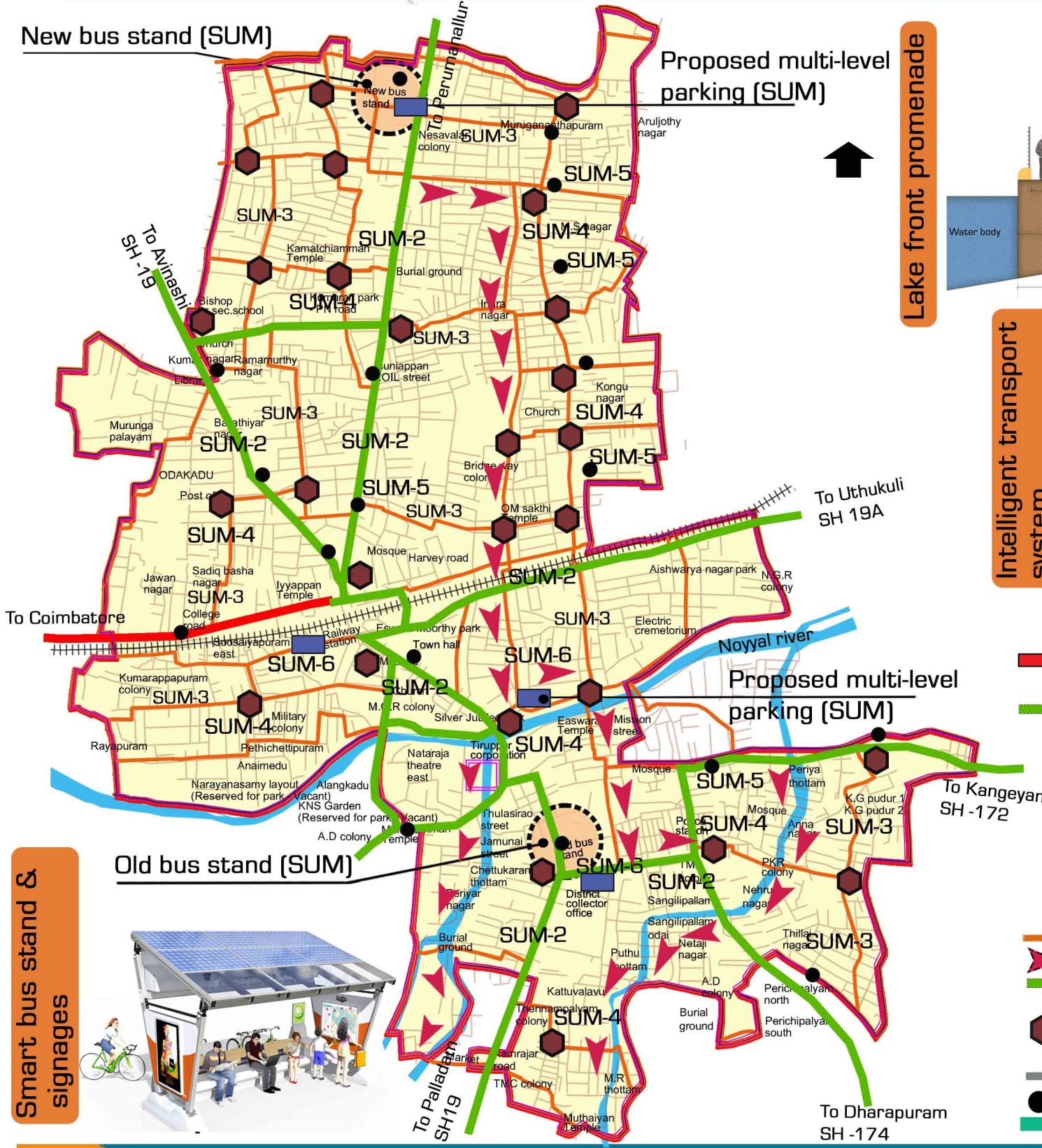


KPIs

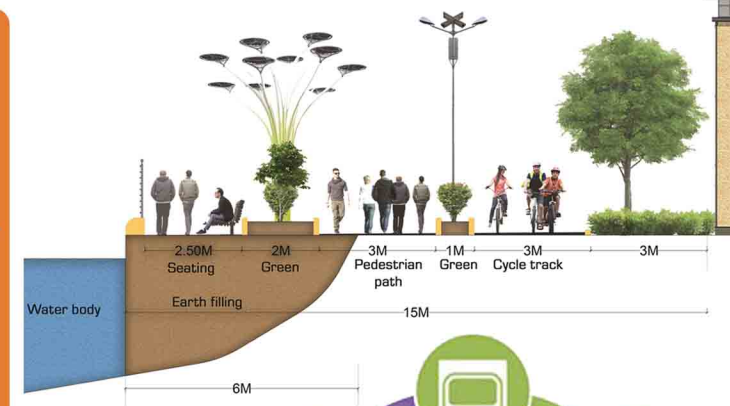
Affordable housing units <b>100%</b>	Augmenting water storage capacities from <b>9% to 33%</b>	Increase in daily supply of water from (8 to 10) hours to <b>24x7 supply</b>	Reduction in NRW to <b>15%</b>	Air quality improvement as per CPCB standards	Increase in water connections to <b>100% HH</b>	Basic amenities public toilets every <b>500m</b>
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Questions answered  
Q9, Q11  
Q12, Q16  
Q18, Q31  
Q34&Q35

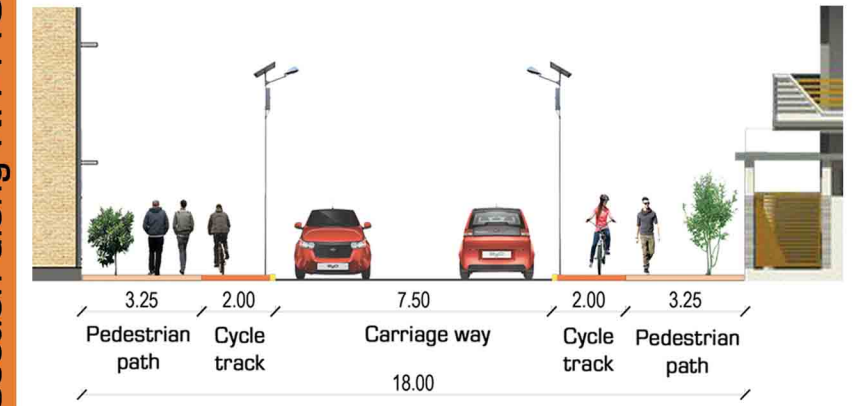




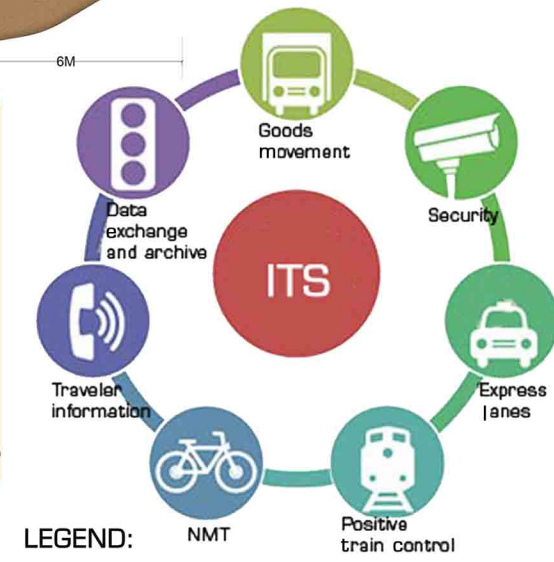
Lake front promenade



Section along NH-110



Intelligent transport system



- LEGEND:
- SUM - 1 - Public transit corridor improvement
  - SUM - 2 - Multi modal intelligent public transport system
    - \* Bus
    - \* Minibus
    - \* e-rickshaws
    - \* e-rickshaw/Bus parking
    - \* Smart bus stop/ e-rickshaw stops
    - \* Charging stations
    - \* GPS App
  - SUM - 3 - Retrofitting other roads
  - ▶ SUM - 4 - NMT corridor
    - SM - 4.1 - Pedestrian footpath and cycling track
    - SM - 4.2 - Pelican and puffin pedestrian crossing system
    - SM - 4.3 - Non vehicle street
  - SUM - 5 - Smart bus stand and signages
  - SUM - 6 - Multi level parking

Multi level parking



Existing conditions

- \* Poor road surface
- \* Vehicle conjection on roads
- \* Lack of footpaths
- \* Inefficient junctions
- \* Irregular parking
- \* Limited accessibility for differently abled

Electric car



Highlights

- \* Road section improvement providing pedestrian friendly footpaths and NMT
- \* Upgradation of junctions
- \* Pedestrian zones

Smart bus stand & signages



Pelican & puffin



Electric rickshaw



	Increase in foot path 0 to 100%		Increase in NMT 0 to 40%		% of street with mixed land use 30%		Differently abled friendly 100%		Average travel speed increase by 25%		Increase in ridership of public transport 0 to 30%	Questions answered Q18 Q31 Q34 & Q35
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# 10 Green Tiruppur & Environmentally Committed City



## Liveable city

### Existing Conditions

- Unattended open spaces
- Encroachment of public spaces
- No citizens ownership for maintaining own surrounding

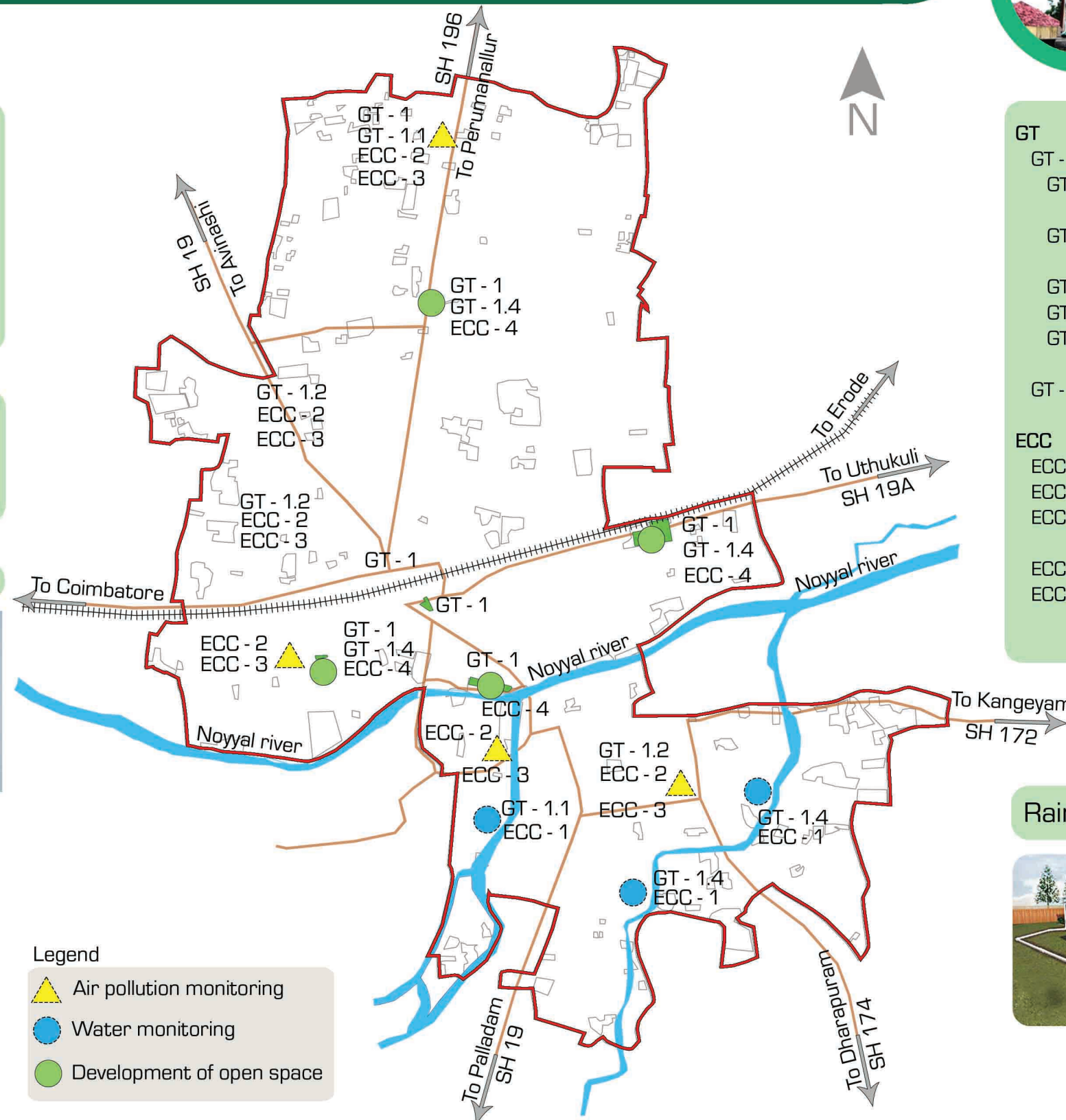
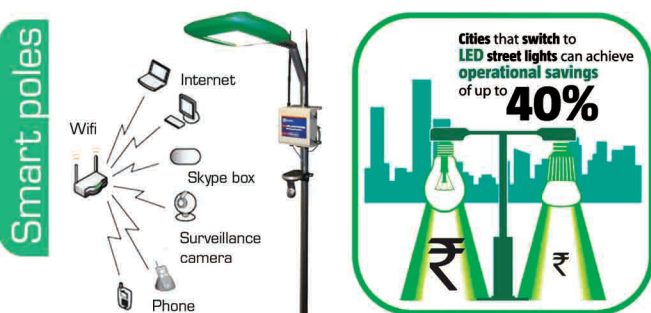
### Highlights

- NMT tracks connecting green
- Cycling and jogging tracks
- Landscape improvement

### Solar mission



### Waste to energy



**Legend**

- Air pollution monitoring
- Water monitoring
- Development of open space

- GT : Green Tiruppur**
- GT - 1 : Solar mission
  - GT - 1.1 : Installation of solar PV on roof top in all government and institutional buildings
  - GT - 1.2 : Installation of solar PV on roof top in all government and institutional buildings through PPP
  - GT - 1.3 : Energy efficient smart solar street lighting
  - GT - 1.4 : Solar umbrellas
  - GT - 1.5 : Retrofitting of all government and institutional buildings as energy efficient and green buildings
  - GT - 2 : Waste to energy
- ECC : Environmentally Committed City**
- ECC - 1 : Canal regeneration and cleaning
  - ECC - 2 : Environmental quality monitoring stations
  - ECC - 3 : Rainwater harvesting for all government owned institutional and office buildings
  - ECC - 4 : Development of open spaces in retrofitting area
  - ECC - 5 : Visible improvement in the area

### Rain water harvesting



### KPIs



Increase in green cover  
**15%**



Increase in solar power capacity atleast  
**15% to 20%**



Percentage of city area developed as open green public space nil to  
**15% benchmark**



Access to toilets from  
**49% to 100%**  
of population



Smart public lighting to reduce consumption by  
**20%**

Questions answered  
Q9, Q11, Q12, Q16, Q18, Q31, 34 & 35



# 11 Smart Central Tiruppur



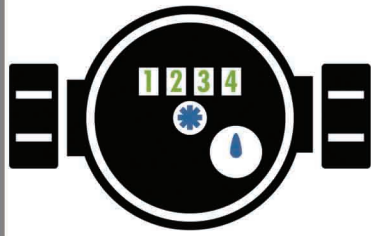
**Liveable city**

**Existing conditions**

- Inadequate wastewater management mechanism
- Unmonitored public spaces mainly in the market areas and the Noyyal river stretches



Smart water meter



**Highlights**

- Improved focus on children and child safety :CCTV surveillance network & analytics for 24x7 monitoring of key public areas
- Citizen safety (especially for women & elderly) with one touch emergency response App
- Panic button at key locations
- Crowd sourcing and community policing
- 24x7 ICOCC
- Women, child and differently abled friendly street

CCTV monitoring



Wi-fi enabled zone



**SCT Smart Central Tiruppur**

- SCT - 1 : Safe and assured electricity supply
  - SCT-1.1 : Underground electrical HT lines
  - SCT-1.2 : Underground electrical LT lines
  - SCT-1.3 : Shifting of DTRs, GIS substation/transformer replacement
  - SCT-1.4 : Smart electric meters
  - SCT-1.5 : Smart water meters and others meters
- SCT - 2 : Smart safety, surveillance & monitoring
  - SCT-2.1 : Robust IT connectivity and Wi-Fi zone
  - SCT-2.2 : CCTV city safety and monitoring system
  - SCT-2.3 : GPS enabled shuttle services
  - SCT-2.4 : Emergency response system

**Legend**

- Red pentagon: Junction monitoring

Smart electric meter



24 hrs



**KPIs**



Emergency response <15min



Wi-Fi coverage to 100%



Reduce road accidents by 85%

Questions answered Q9, Q11, Q12, Q16, Q18, Q31, Q34 & Q35





### Pan city solutions



#### Intelligent Transit System

- Automated fare collection system
- Automated vehicle location system
- Passenger information system
- Planning & scheduling system
- Depot management system
- Ticketing handheld device
- Smart card bus validators
- Station PIS display
- Bus camera based surveillances
- Vehicle tracking unit - buses
- Vehicle tracking unit - municipal vehicles (solid waste, engineering, official etc)
- Vehicle tracking unit - fire trucks
- Vehicle tracking unit - ambulance depot & terminal hardware
- Other recreational ticketing systems

#### Common City Payments & Services Processing Platform

- Service delivery points
- Communication units
- One App mobile platform
- EMV / Rupay card
- Bank card host system
- Service applications
- Mobile wallet integration

#### Safety & Security Platform

- CCTV cameras
- Civil work and poles
- Network etc.

#### Parking Management System

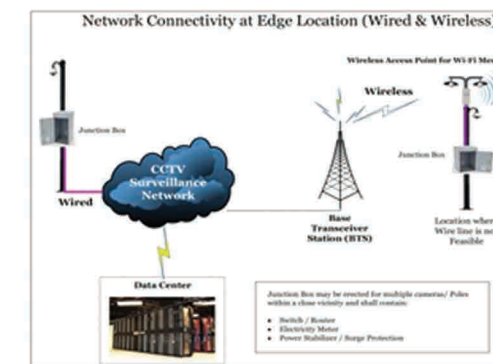
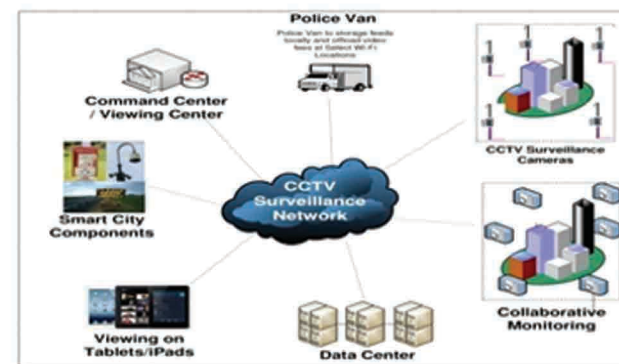
- On-street parking sensors
- Wireless aggregator
- Ticketing handheld device

#### Area Traffic Control System

- Adaptive traffic management system
- Junction controllers
- Traveller information displays
- Speed violation detection system
- Junction violation detection system

#### Fibre Optic Network and City Communications Backbone

- 96 core + 48 core + 12 core fiber
- Active network elements etc.



**Integrated & intelligent service platform across Tiruppur**



Traffic speed at intersections  
**25-30km/hr**



Integrated operations  
**100%**



Paid parking space coverage  
**70%**

Questions answered  
Q16  
Q19  
Q20  
Q22



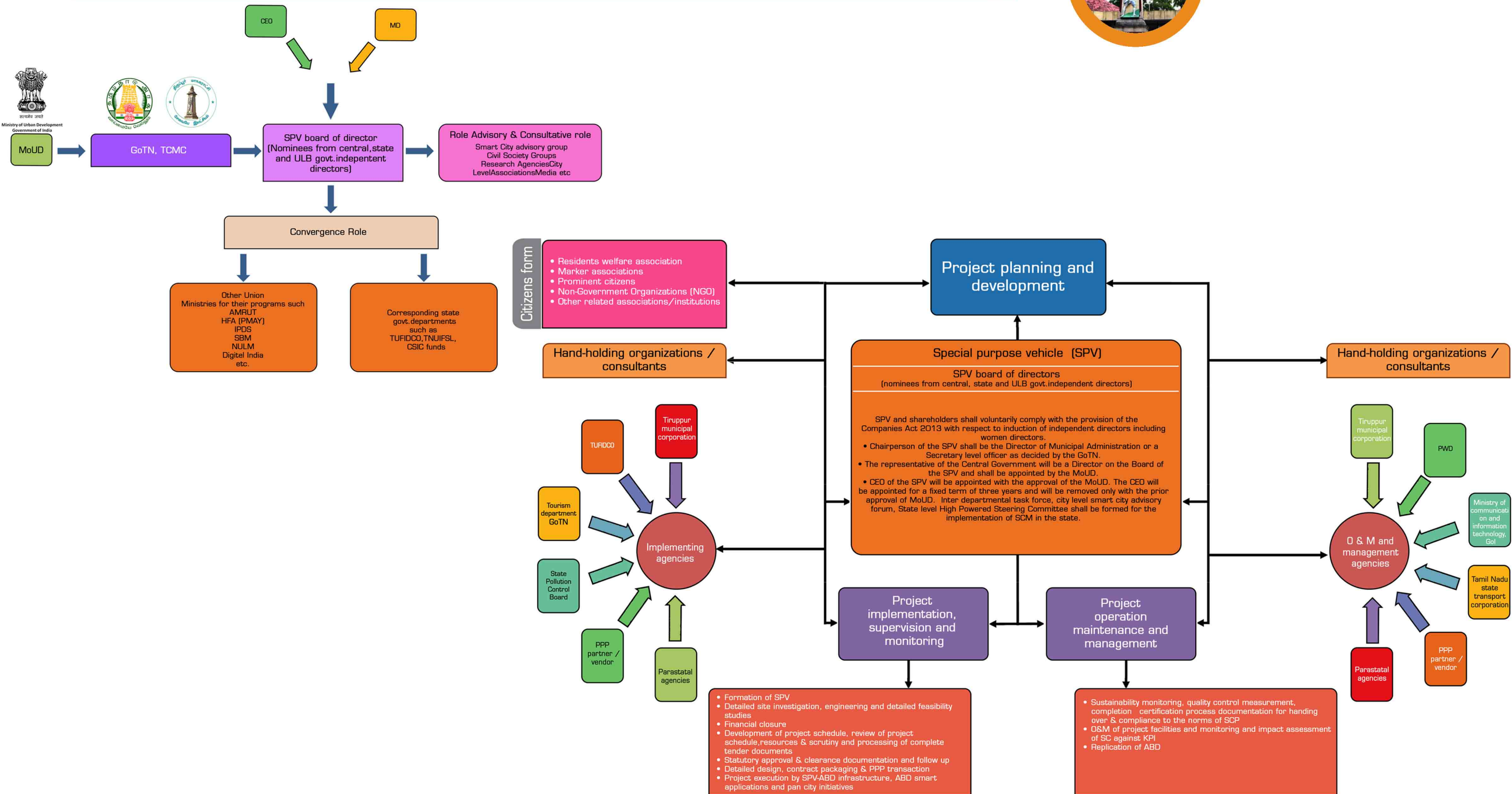




# 14(a) SPV Relationship & network 14(b) Stakeholder organogram



Liveable city



Questions answered  
Q 33  
Q 34  
Q 35  
Q 36





Capital cost (Summary)

Sl. No.	Item	Amount (in crore)	Percentage
1	Tiruppur City Central - Area Based Development (TCC-ABD)	1,039.73	82.80%
2	Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)	150.42	11.98%
3	Technical and administrative support	65.56	5.22%
	<b>Total</b>	<b>1,255.71</b>	<b>100.00%</b>

Capital cost - Component wise

Sl. No.	Component / Activities	Particulars	Amount in crore	%	%
A		Tiruppur City Central - Area Based Development (TCC-ABD)	1,039.73	100.00%	82.80%
	CDRZ	CDRZ 1 - 3 Canal Development and Recreational Zone	64.29	6.18%	
	CBDMA	CBDMA 1 - 2 Central Business District and Market Area	27.38	2.63%	
	SLT	SLT 1 - 3 Sustainable Livable Tiruppur	380.82	36.63%	
	SUM	SUM 1 - 6 Smart Urban Mobility	173.86	16.72%	
	GT	GT 1 - 2 Green Tiruppur	111.22	10.70%	
	ECC	ECC 1 - 5 Environmentally Committed City	40.05	3.85%	
	SCT	SCT 1 - 2 Smart Central Tiruppur	242.12	23.29%	
B		Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)	150.42	100.00%	11.98%
	ICOCC	ICOCC 1 - 17 Integrated City Operations Control Centre	45.79	30.44%	
	ITS	ITS 1 - 15 Intelligent Transit System	17.04	11.33%	
	PMS	PMS 1 - 3 Parking Management System	12.81	8.51%	
	ATCS	ATCS 1 - 5 Area Traffic Control System	14.55	9.67%	
	SSP	SSP 1 - 3 Safety & Security Platform	12.81	8.51%	
	FONCCB	FONCCB 1 - 2 Fibre Optic Network and City Communications Backbone	34.15	22.70%	
	CCPSP	CCPSP 1 - 7 Common City Payments & Services Processing Platform	13.27	8.82%	
C		Technical and administrative support	65.56	100.00%	5.22%
		<b>Total</b>	<b>1,255.71</b>	<b>100.00%</b>	<b>100.00%</b>

Project - package wise itemized cost of components and financial plan - Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)

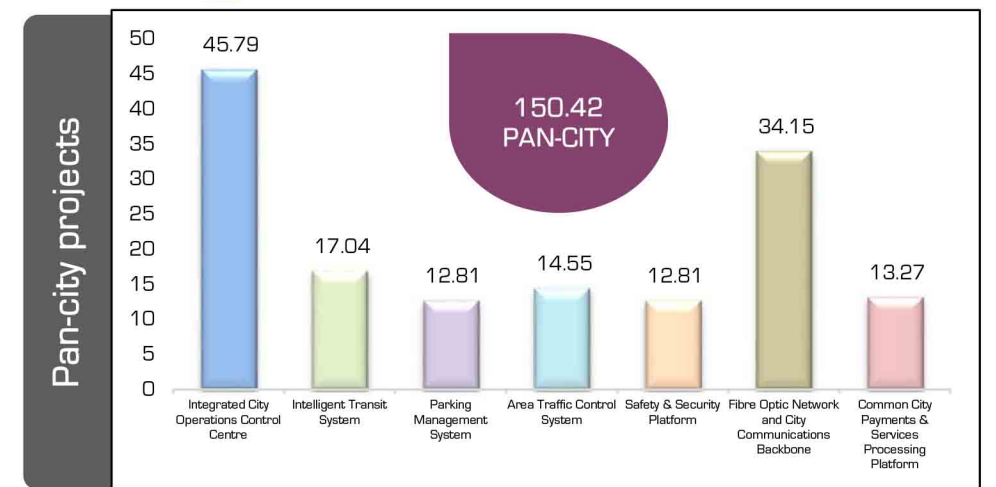
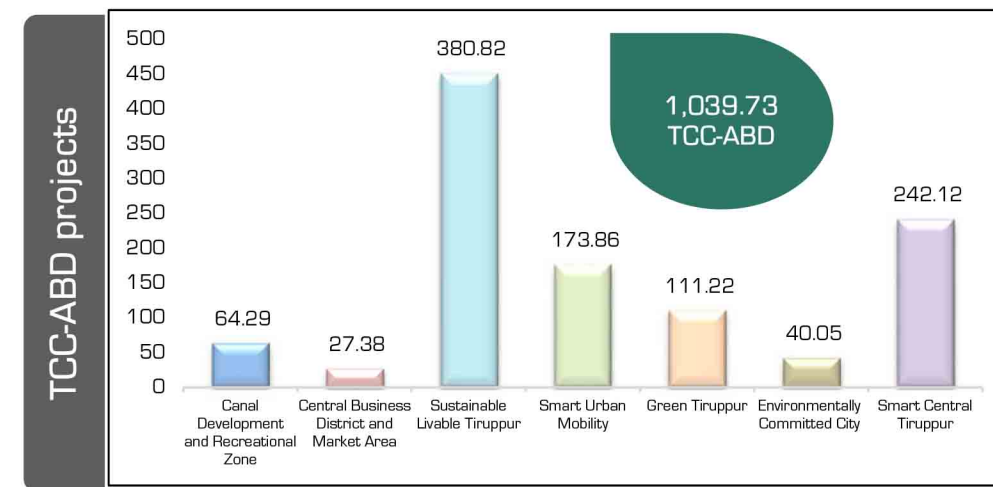
Sr. No.	Components of Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)	Total cost at escalated prices
ICOCC	Integrated City Operations Control Centre	45.79
ICOCC-1	Data centre construction	4.85
ICOCC-2	Server infrastructure	4.37
ICOCC-3	Network infrastructure	1.94
ICOCC-4	System softwares	3.88
ICOCC-5	Communication system	0.97
ICOCC-6	Video walls	3.64
ICOCC-7	Operations consoles	0.44
ICOCC-8	Security system	1.46
ICOCC-9	Storage system	2.91
ICOCC-10	Disaster recovery centre construction	1.94
ICOCC-11	DR ITS Cost	9.70
ICOCC-12	IT peripherals like printers, scanners etc	0.97
ICOCC-13	UPS & gen-sets	0.97
ICOCC-14	Incident management system	1.94
ICOCC-15	Business intelligence system	2.91
ICOCC-16	EMS/NMS	1.94
ICOCC-17	Parking Management Software	0.97
	<b>Sub-total cost</b>	<b>45.79</b>
ITS	Intelligent Transit System (ITS)	17.04
ITS-1	Automated fare collection system	1.46
ITS-2	Automated vehicle location system	1.94
ITS-3	Passenger information system	1.46
ITS-4	Planning & scheduling system	1.94
ITS-5	Depot management system	1.46
ITS-6	Ticketing handheld device	0.96
ITS-7	Smart card bus validators	2.62
ITS-8	Station PIS display	0.19
ITS-9	Bus camera based surveillances	0.87
ITS-10	Vehicle tracking unit - buses	2.18
ITS-11	Vehicle tracking unit - municipal vehicles (solid waste, engineering, official etc)	0.31
ITS-12	Vehicle tracking unit - fire trucks	0.44
ITS-13	Vehicle tracking unit - ambulance	0.87
ITS-14	Depot & terminal hardware	0.19
ITS-15	Other recreational ticketing systems	0.15
	<b>Sub-total cost</b>	<b>17.04</b>

TCC - ABD project cost INR 1039.73 crore

TCIOCCS - Pan city project cost INR 150.42 crore

Technical and administrative support cost INR 65.56 crore

Tiruppur SCP project cost INR 1255.71 crore



Project - package wise itemized cost of components and financial plan - Tiruppur City Central - Area Based Development (TCC-ABD)

Themes, Projects & Components	Indicative quantity	Unit	Indicative unit rate, INR	Total cost at escalated prices
<b>CDRZ</b>				<b>64.29</b>
CDRZ - 1	80000.00	Sq m	6000	48.00
CDRZ - 2	16.50	Km	5000000	8.25
CDRZ - 3	37385	sqm	2151.00	8.04
<b>CBDMA</b>				<b>27.38</b>
CBDMA-1	75000	Sq ft	3000	22.50
CBDMA-2	21039.00	Sqm	2318	4.88
<b>SLT</b>				<b>380.82</b>
SLT - 1				
SLT - 1.1	250.00	Nos	450,000	11.25
SLT - 1.2	1.00	LOT	102,000,000	10.20
SLT - 2				
SLT - 2.1	59.30	Km	12,627,541	74.88
SLT - 2.2	35.72	Km	53,258,219	190.24
SLT - 2.3	74.00	Nos	2,000,000	14.80
SLT - 2.4	103.27	TPD	1,215,369	12.55
SLT - 2.5	103.27	TPD	3,860,000	39.86
SLT - 2.6	22.86	Km	38,00,000	8.69
SLT - 3				
SLT - 3.1	1.00	LOT	13,163,640	1.32
SLT - 3.2	1.00	LOT	50,400,000	5.04
SLT - 3.3	1.00	LOT	7,400,000	0.74
SLT - 3.4	1.00	LOT	35,000,000	3.50
SLT - 3.5	1.00	LOT	25,500,000	2.55
SLT - 3.6	1.00	LOT	35,600,000	3.56
SLN - 3.7	1.00	LOT	16,500,000	1.65

Themes, Projects & Components	Indicative quantity	Unit	Indicative unit rate, INR	Total cost at escalated prices
<b>SUM</b>				<b>173.86</b>
SUM - 1	15.00	Km	13,205,000	19.81
SUM - 2	1	LOT	151,900,000	15.19
SUM - 3	75.46	Km	8000000	60.37
SUM - 4				
SM - 4.1	109.40	Km	2200000	24.07
SM - 4.2	226.00	Nos	300000	6.78
SM - 4.3	5.47	Km	16,453,70	0.90
SUM - 5	60.00	Nos	325000	1.95
SUM - 6	3	Nos	14,931,244	44.79
<b>GT</b>				<b>111.22</b>
GT - 1				
GT - 1.1	1.27	MW	8,000,000	10.12
GT - 1.2	7.17	MW	8,000,000	57.36
GT - 1.3	3707.00	Nos	47,000.00	17.42
GT - 1.4	27.00	Nos	65,000	1.76
GT - 1.5	1.00	LOT	80,000,000	8.00
GT - 2	1.44	MW	115,000,000	16.56

Themes, Projects & Components	Indicative quantity	Unit	Indicative unit rate, INR	Total cost at escalated prices
<b>ECC</b>				<b>40.05</b>
ECC - 1	1.00	LOT	49,500,000	4.95
ECC - 2	1.00	LOT	68,006,682	6.80
ECC - 3	1.00	LOT	30,57,472	0.13
ECC - 4	1.00	LOT	195,972,590	19.60
ECC - 5	1.00	LOT	83,988,253	8.40
<b>SCT</b>				<b>242.12</b>
SCT - 1				
SCT - 1.1	13.90	Km	12,500,000.00	17.37
SCT - 1.2	111.18	Km	1,100,000.00	12.23
SCT - 1.3	1.00	LOT	177,616,285	17.76
SUB - 1.4	61,961	Nos	5,500.00	34.08
SCT - 1.5	34,574	Nos	20,000.00	69.15
SCT - 2				
SCT - 2.1	111	Km	680,000.00	7.56
SCT - 2.2	225.00	Nos	3,534,956	79.54
SCT - 2.3	23	Nos	1,000,000.00	2.27
SCT - 2.4	1.00	LOT	21,600,000	2.16
<b>Total Tiruppur City Central - Area Based Development (TCC-ABD)</b>				<b>1,039.73</b>

Questions answered

- Q 9
- Q 31
- Q 37
- Q 38



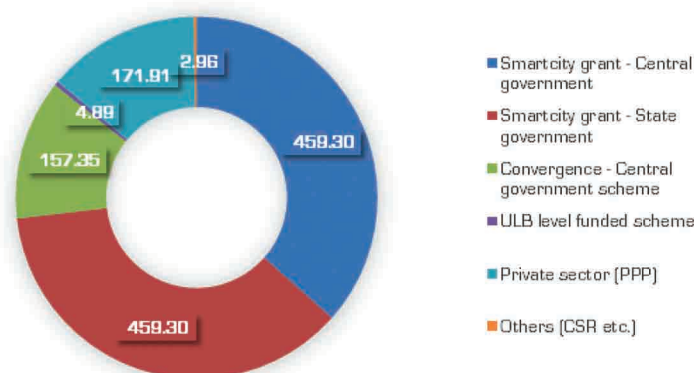


## Resource plan - SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

INR crore

Sources of funding	Figures in cr.
Smart city grant	1,255.71 Total
Central Government	459.30
State Government	459.30
Convergence	
Central Government Scheme	157.35
State Government Scheme	-
Private Sector (PPP)	171.91
ULB level funded schemes	4.89
External Agencies (DFID)	-
Others (CSR etc.)	2.96

Source of funding



Source of funding	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Government of India SCM fund	200.00	100.00	100.00	59.30	-	459.30
State Government SCM fund	200.00	100.00	100.00	59.30	-	459.30
ULB funding schemes	1.37	0.73	1.22	1.56	-	4.89
State Govt funding schemes	-	-	-	-	-	-
AMRUT	54.65	41.74	24.69	14.48	8.01	143.57
SBM	2.10	1.64	0.93	0.55	0.26	5.47
External aided fund	-	-	-	-	-	-
NULM	0.20	0.15	0.09	0.05	0.02	0.51
Digital India	-	-	-	-	-	-
Housing for all	1.08	0.84	0.48	0.28	0.13	2.81
IPDS	1.99	0.75	1.50	0.50	0.25	4.99
CSR	1.14	0.89	0.50	0.30	0.14	2.96
PPP	58.65	35.65	38.79	27.76	11.19	171.91
<b>Total</b>	<b>521.04</b>	<b>282.40</b>	<b>268.20</b>	<b>164.07</b>	<b>20.01</b>	<b>1,255.71</b>

## Financial plan - SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
CDRZ Canal Development and Recreational Zone	-	-	64.29	64.29
CDRZ - 1 Canal development	-	-	48.00	48.00
CDRZ - 2 Canal promenade development	-	-	8.25	8.25
CDRZ - 3 Leisure park	-	-	8.04	8.04

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
CBDMA Central Business District and Market Area	-	22.50	4.88	27.38
CBDMA-1 Market Complex for street vendors	-	22.50	-	22.50
CBDMA-2 Development of infrastructure facilities	-	-	4.88	4.88

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
SLT Sustainable Livable Tiruppur	146.44	47.26	187.12	380.82
SLT - 1 Housing for existing HHS living in kachha & semi pucca houses in slum area including slum infrastructure	-	-	-	-
SLT - 1.1 Housing for existing HHS living in kachha & semi pucca houses in slum area	2.81	-	8.44	11.25
SLT - 1.2 Slum infrastructure	-	-	10.20	10.20
SLT - 2 Non-slum residential areas retrofitting	-	-	-	-
SLT - 2.1 Adequate water supply	73.79	-	1.09	74.88
SLT - 2.2 Sewerage collection & wastewater recycling	60.90	-	129.34	190.24
SLT - 2.3 Sanitation	5.92	7.40	1.48	14.80
SLT - 2.4 Solid waste management collection and transportation	2.51	-	10.04	12.55
SLT - 2.5 Solid waste management treatment	-	39.86	-	39.86
SLT - 2.6 Storm water drainage	-	-	8.69	8.69

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
SLT - 3 Social and community development	-	-	-	-
SLT - 3.1 Smart school management software	-	-	1.32	1.32
SLT - 3.2 Smart class rooms, e monitoring, etc.	-	-	5.04	5.04
SLT - 3.3 Green contract language and awareness	-	-	0.74	0.74
SLT - 3.4 Centre for excellence for smart city and smart eco park	-	-	3.50	3.50
SLT - 3.5 Skill development centre	0.51	-	2.04	2.55
SLT - 3.6 Digital kiosk to overcome digital divide and e municipality	-	-	3.56	3.56
SLT - 3.7 Digital library	-	-	1.65	1.65

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
SUM Smart Urban Mobility	8.29	44.79	120.78	173.86
SUM - 1 Public transit corridor improvement	-	-	19.81	19.81
SUM - 2 Multi modal intelligent public transport system	-	-	15.19	15.19
SUM - 3 Retrofitting other roads	-	-	60.37	60.37
SUM - 4 NMT corridor	-	-	-	-
SM - 4.1 Pedestrian footpath and cycling track	8.29	-	15.78	24.07
SM - 4.2 Pelican and puffin pedestrian crossing system	-	-	6.78	6.78
SM - 4.3 Non vehicle street Smart bus stand and signage's	-	-	0.90	0.90
SUM - 5 Smart bus stand and signage's	-	-	1.95	1.95
SUM - 6 Multi-level parking	-	44.79	-	44.79

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
GT Green Tiruppur	4.89	57.36	48.97	111.22
GT - 1 Solar mission	-	-	-	-
GT - 1.1 Installation of solar PV on roof top in all Government and institutional buildings	-	-	10.12	10.12
GT - 1.2 Installation of solar PV on roof top in all Government and institutional buildings through PPP	-	57.36	-	57.36
GT - 1.3 Energy efficient smart solar street lighting	4.89	-	12.53	17.42
GT - 1.4 Solar umbrellas	-	-	1.76	1.76
GT - 1.5 Retrofitting of all Government and institutional buildings as energy efficient and green buildings	-	-	8.00	8.00
GT - 2 Waste to energy	-	-	16.56	16.56

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
ECC Environmentally Committed City	0.59	-	39.46	40.05
ECC - 1 Canal regeneration and cleaning	-	-	4.95	4.95
ECC - 2 Environmental quality monitoring stations	-	-	6.80	6.80
ECC - 3 Rainwater harvesting for all Govt. owned institutional and office buildings	-	-	0.31	0.31
ECC - 4 Development of open spaces in retrofitting area	0.59	-	19.01	19.60
ECC - 5 Visible improvement in the area	-	-	8.40	8.40

Themes, Projects & Components - TCC-ABD	Convergence fund	PPP	SCM fund	Total
SCT Smart Central Tiruppur	4.99	-	237.13	242.12
SCT - 1 Safe and assured electricity supply	-	-	-	-
SCT - 1.1 Underground electrical lines HT lines	-	-	17.37	17.37
SCT - 1.2 Underground electrical lines LT lines	-	-	12.23	12.23
SCT - 1.3 Shifting of DTRs, GIS Substation/transformer replacement	4.99	-	12.77	17.76
SUB - 1.4 Smart electric meters	-	-	34.08	34.08
SCT - 1.5 Smart water meters and others meters	-	-	69.15	69.15
SCT - 2 Smart safety, surveillance monitoring	-	-	-	-
SCT - 2.1 Robust IT connectivity and WIFI zone	-	-	7.56	7.56
SCT - 2.2 CCTV city safety and monitoring system	-	-	79.54	79.54
SCT - 2.3 GPS enabled shuttle services	-	-	2.27	2.27
SCT - 2.4 Emergency response system	-	-	2.16	2.16

Theme	Projects & components - Pan City	Convergence fund	PPP fund	SCM fund	Total
ICOCC Integrated City Operations Control Centre		-	-	45.79	45.79
ICOCC - 1 Data centre construction		-	-	4.85	4.85
ICOCC - 2 Server infrastructure		-	-	4.37	4.37
ICOCC - 3 Network infrastructure		-	-	1.94	1.94
ICOCC - 4 System softwares		-	-	3.88	3.88
ICOCC - 5 Communication system		-	-	0.97	0.97
ICOCC - 6 Video walls		-	-	3.64	3.64
ICOCC - 7 Operations consoles		-	-	0.44	0.44
ICOCC - 8 Security system		-	-	1.46	1.46
ICOCC - 9 Storage system		-	-	2.91	2.91
ICOCC - 10 Disaster recovery centre construction		-	-	1.94	1.94
ICOCC - 11 DR ITS Cost		-	-	9.70	9.70
ICOCC - 12 IT peripherals like printers, scanners etc		-	-	0.97	0.97
ICOCC - 13 UPS & gen-sets		-	-	0.97	0.97
ICOCC - 14 Incident management system		-	-	1.94	1.94
ICOCC - 15 Business intelligence system		-	-	2.91	2.91
ICOCC - 16 EMS/NMS		-	-	1.94	1.94
ICOCC - 17 Parking Management Software		-	-	0.97	0.97

Theme	Projects & components - Pan City	Convergence fund	PPP fund	SCM fund	Total
ITS Intelligent Transit System		-	-	17.04	17.04
ITS - 1 Automated fare collection system		-	-	1.46	1.46
ITS - 2 Automated vehicle location system		-	-	1.94	1.94
ITS - 3 Passenger information system		-	-	1.46	1.46
ITS - 4 Planning & scheduling system		-	-	1.94	1.94
ITS - 5 Depot management system		-	-	1.46	1.46
ITS - 6 Ticketing handheld device		-	-	0.96	0.96
ITS - 7 Smart card bus validators		-	-	2.62	2.62
ITS - 8 Station PIS display		-	-	0.19	0.19
ITS - 9 Bus camera based surveillances		-	-	0.87	0.87
ITS - 10 Vehicle tracking unit-buses		-	-	2.18	2.18
ITS - 11 Vehicle tracking unit-municipal vehicles (solid waste, engineering, official etc)		-	-	0.31	0.31
ITS - 12 Vehicle tracking unit-fire trucks		-	-	0.44	0.44
ITS - 13 Vehicle tracking unit-ambulance		-	-	0.87	0.87
ITS - 14 Depot & terminal hardware		-	-	0.19	0.19
ITS - 15 Other recreational ticketing systems		-	-	0.15	0.15

Theme	Projects & components - Pan City	Convergence fund	PPP fund	SCM fund	Total
PMS Parking Management System		-	-	12.81	12.81
PMS - 1 On-street parking sensors		-	-	5.34	5.34
PMS - 2 Wireless aggregator		-	-	3.20	3.20
PMS - 3 Ticketing handheld device		-	-	4.27	4.27

Theme	Projects & components - Pan City	Convergence fund	PPP fund	SCM fund	Total
ATCS Area Traffic Control System		-	-	14.55	14.55
ATCS - 1 Adaptive traffic management system		-	-	2.43	2.43
ATCS - 2 Junction controllers		-	-	7.76	7.76
ATCS - 3 Traveler information displays		-	-	1.75	1.75
ATCS - 4 Speed violation detection system		-	-	0.87	0.87
ATCS - 5 Junction violation detection system		-	-	1.75	1.75

Theme	Projects & components - Pan City	Convergence fund	PPP fund	SCM fund	Total
SSP Safety & Security Platform		-	-	12.81	12.81
SSP - 1 CCTV cameras		-	-	9.60	9.60
SSP - 2 Civil work and poles		-	-	0.80	0.80
SSP - 3 Network etc.		-	-	2.40	2.40

Theme	Projects & components - Pan City	Convergence fund	PPP fund	SCM fund	Total
FONCCB Fibre Optic Network and City Communications Backbone		-	-	34.15	34.15
FONCCB - 1 96 core + 48 core + 12 core fiber		-	-	6.40	6.40
FONCCB - 2 Active network elements etc.		-	-	27.75	27.75

Theme	Projects & components - Pan City	Convergence fund	PPP fund	SCM fund	Total
CCPSPP Common City Payments & Services Processing Platform		-	-	13.27	13.27
CCPSPP - 1 Service delivery points		-	-	1.22	1.22
CCPSPP - 2 Communication units		-	-	0.05	0.05
CCPSPP - 3 One app mobile platform		-	-	2.91	2.91
CCPSPP - 4 EMV / Rupay card		-	-	1.94	1.94
CCPSPP - 5 Bank card host system		-	-	2.13	2.13
CCPSPP - 6 Service applications		-	-	3.88	3.88
CCPSPP - 7 Mobile wallet integration		-	-	1.14	1.14

Smart city grant INR 918.60 crore      Central government scheme convergence INR 157.35 crore  
 Private sector (PPP) INR 171.91 crore      ULB level funded scheme INR 4.89 crore  
 Others [CSR] INR 2.96 crore

Questions answered

Q 38  
Q 40





Life time cost - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

S. No	Major	Minor	Projects	Capital cost, INR crore	Replacement cost over life cycle, Rs crore	Operation and maintenance cost per annum, % of capital assets	Total operation and maintenance cost, INR crore over the life cycle for SPV	Total life cycle cost, capital + replacement + O&M cost, INR crore for SPV	Total operation and maintenance cost, INR crore over the life cycle for PPP projects	Total life cycle cost, capital + replacement + O&M cost, INR crore for PPP projects	Remarks
<b>Tiruppur City Central - Area Based Development (TCC-ABD)</b>											
1	CDRZ - Canal Development and Recreational Zone	CDRZ - 1 CDRZ - 2 CDRZ - 3	Canal development Canal promenade development Leisure park	48.00 8.25 8.04	0.00 0.00 0.00	2% 2% 2%	24.51 4.21 4.11	72.51 12.46 12.15			
2	CBDMA - Central Business District and Market Area	CBDMA-1 CBDMA-2	Market Complex for street vendors Development of infrastructure facilities	22.50 4.88	0.00 0.24	1.25% 2.00%	2.49	7.61	7.18	29.68	(*)
3	SLT - Sustainable Livable Tiruppur	SLT - 1 SLT - 1.1 SLT - 1.2 SLT - 2 SLT - 2.1 SLT - 2.2 SLT - 2.3 SLT - 2.4 SLT - 2.5 SLT - 2.6 SLT - 3 SLT - 3.1 SLT - 3.2 SLT - 3.3 SLT - 3.4 SLT - 3.5 SLT - 3.6 SLT - 3.7	Housing for existing HHS living in kachha & semi pucca houses in slum area including slum infrastructure Housing for existing HHS living in kachha & semi pucca houses in slum area Slum infrastructure Non-slum residential areas retrofitting Adequate water supply Sewerage collection & wastewater recycling Sanitization Solid waste management collection and transportation Solid waste management treatment Storm water drainage Social and community development Smart school management software Smart class rooms, e monitoring, etc. Green contract language and awareness Centre for excellence for smart city and smart eco park Skill development centre Digital kiosk to overcome digital divide and e municipality Digital library	11.25 10.20 74.88 190.24 14.80 12.55 39.86 8.69 1.32 5.04 0.74 3.50 2.55 3.56 1.65	0.00 0.00 0.51 3.74 0.00 1.88 0.00 0.00 1.32 5.04 0.74 3.50 2.55 3.56 1.65	2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00% 2.00%	5.50 4.98 36.57 100.15 4.07 6.13 55.09 4.24 0.64 2.46 0.36 1.71 1.25 1.74 0.81	16.75 15.69 115.19 299.90 11.47 20.56 55.09 12.93 3.28 12.54 1.84 8.71 6.35 8.86 4.11	4.07	11.47	(*)
4	SUM - Smart Urban Mobility	SUM - 1 SUM - 2 SUM - 3 SUM - 4 SUM - 5 SUM - 6	Public transit corridor improvement Multi modal intelligent public transport system Retrofitting other roads NMT corridor Smart bus stand and signage's Multi-level parking	19.81 15.19 60.37 31.75 1.95 44.79	0.00 2.28 0.00 0.00 0.98 0.00	1.75% 1.75% 1.75% 1.75% 1.75% 1.75%	5.50 4.22 16.76 8.81 0.54	25.31 21.68 77.13 40.56 3.47	20.55	65.34	(*)
5	GT - Green Tiruppur	GT - 1 GT - 1.1 GT - 1.2 GT - 1.3 GT - 1.4 GT - 1.5 GT - 2	Solar mission Installation of solar PV on roof top in all Government and institutional buildings and other solar mission components Installation of solar PV on roof top in all Government and institutional buildings through PPP Energy efficient smart solar street lighting Solar umbrellas Retrofitting of all Government and institutional buildings as energy efficient and green buildings Waste to energy	10.12 57.36 17.42 1.76 8.00 16.56	0.00 0.00 5.23 0.35 0.00 0.83	1.75% 1.75% 1.75% 1.75% 1.75% 5.00%	4.72 84.11 8.13 0.82 3.73 21.14	14.84 84.11 30.78 2.92 11.73 38.53	26.76	84.11	(*)
6	ECC - Environmentally Committed City	ECC - 1 ECC - 2 ECC - 3 ECC - 4 ECC - 5	Canal regeneration and cleaning Environmental quality monitoring stations Rainwater harvesting for all Govt. owned institutional and office buildings Development of open spaces in retrofitting area Visible improvement in the area	4.95 6.80 0.31 19.60 8.40	0.50 0.68 0.00 0.00 0.00	1.50% 1.50% 1.50% 1.50% 1.50%	1.90 2.60 0.12 7.51 3.22	7.34 10.09 0.42 27.10 11.62			
7	SCT - Smart Central Tiruppur	SCT - 1 SCT - 2	Safe and assured electricity supply Smart safety, surveillance & monitoring	150.59 91.52	0.00 9.15	2.00% 5.00%	76.90 116.84	227.49 217.51			
<b>Subtotal of Tiruppur City Central - Area Based Development (TCC-ABD)</b>				<b>1039.73</b>	<b>54.24</b>		<b>489.38</b>	<b>1550.63</b>	<b>73.78</b>	<b>245.70</b>	
<b>Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)</b>											
1	IOCC		Integrated City Operations Control Centre	45.79	9.16	4.00%	27.59				
2	ITS		Intelligent Transit System	17.04	3.41	4.00%	10.27				
3	PMS		Parking Management System	12.81	2.56	4.00%	7.72				
4	ATCS		Area Traffic Control System	14.55	2.91	4.00%	8.77	26.23			
5	SSP		Safety & Security Platform	12.81	2.56	4.00%	7.72	23.08			
6	FONCB		Fibre Optic Network and City Communications Backbone	34.15	6.83	0.00%	0.00				
7	CCPSP		Common City Payments & Services Processing Platform	13.27	2.65	4.00%	8.00				
<b>Subtotal of Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)</b>				<b>150.42</b>	<b>30.08</b>		<b>70.06</b>	<b>49.32</b>			
<b>Technical and administrative support</b>				<b>65.56</b>							
<b>Total SCP -TCC-ABD and TCIOCCS life cycle cost</b>				<b>1255.71</b>	<b>84.32</b>		<b>599.43</b>	<b>1599.95</b>			

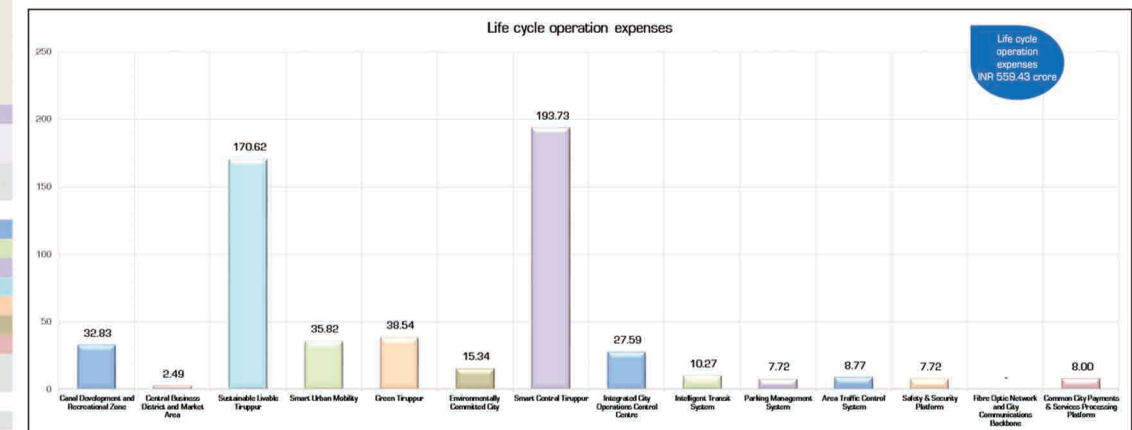
(\*) PPP - O&M and revenue not considered in SPV other than royalty payable by the concessionaire

Cash flow and project IRR - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

INR crore

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Outflows:</b>										
Total for TCC-ABD	393.88	216.46	227.38	137.17	64.85					
Total for TCIOCCS	45.13	15.04	28.58	61.67	0.00					
Technical and administrative support	38.13	23.42	2.00	2.00	0.00					
Other operating expenses	0.00	0.00	0.14	0.89	25.59	26.61	27.67	28.78	29.93	31.13
Capital expenses, phase wise investment and up gradation										
Provision for tax	0.00	0.72	1.42	2.23	0.00	0.00	0.00	0.00	0.00	0.00
Provision for CSR	0.00	0.06	0.11	0.16	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total outflow</b>	<b>477.14</b>	<b>255.69</b>	<b>259.62</b>	<b>204.13</b>	<b>90.43</b>	<b>26.61</b>	<b>27.67</b>	<b>28.78</b>	<b>29.93</b>	<b>31.13</b>
<b>Inflows:</b>										
Equity -scheme grant	400.00	200.00	200.00	118.60	0.00	0.00	0.00	0.00	0.00	0.00
Project revenue including interest income	0.00	3.51	7.09	11.33	56.91	51.59	56.26	61.40	67.07	73.78
Convergence scheme grant	62.52	46.75	29.41	17.71	8.82	0.00	0.00	0.00	0.00	0.00
PPP funding	58.52	35.65	38.79	27.76	11.19					
<b>Total Inflows</b>	<b>521.04</b>	<b>285.91</b>	<b>275.99</b>	<b>175.40</b>	<b>76.92</b>	<b>51.59</b>	<b>56.26</b>	<b>61.40</b>	<b>67.07</b>	<b>73.78</b>
<b>Net flows</b>	<b>43.90</b>	<b>30.21</b>	<b>15.66</b>	<b>-28.73</b>	<b>-13.52</b>	<b>24.98</b>	<b>28.58</b>	<b>32.62</b>	<b>37.13</b>	<b>42.65</b>
<b>Cumulative flows</b>	<b>43.90</b>	<b>74.11</b>	<b>89.78</b>	<b>61.05</b>	<b>47.54</b>	<b>72.52</b>	<b>101.10</b>	<b>133.72</b>	<b>170.85</b>	<b>213.50</b>
<b>Net flow to the Project for the IRR post tax</b>	<b>-18.62</b>	<b>-16.53</b>	<b>-13.74</b>	<b>-46.44</b>	<b>-22.33</b>	<b>24.98</b>	<b>28.58</b>	<b>32.62</b>	<b>37.13</b>	<b>42.65</b>
<b>Net flow to the Project for the IRR pre tax</b>	<b>-18.62</b>	<b>-15.82</b>	<b>-12.33</b>	<b>-44.21</b>	<b>-22.33</b>	<b>24.98</b>	<b>28.58</b>	<b>32.62</b>	<b>37.13</b>	<b>42.65</b>
<b>Net available flow to the Project</b>	<b>-18.62</b>	<b>-16.53</b>	<b>-13.74</b>	<b>-46.44</b>	<b>-22.33</b>	<b>24.98</b>	<b>28.58</b>	<b>32.62</b>	<b>37.13</b>	<b>42.65</b>
<b>Project IRR (Post Tax)</b>	<b>22.27%</b>									
<b>Project IRR (Pre Tax)</b>	<b>23.31%</b>									

Particulars	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total
<b>Outflows:</b>											
Total for TCC-ABD											1039.73
Total for TCIOCCS											150.42
Technical and administrative support											65.56
Other operating expenses	32.37	33.67	35.02	36.42	37.87	39.39	40.96	42.60	44.31	46.08	559.43
Capital expenses, phase wise investment and up gradation					84.32						84.32
Provision for tax	0.00	0.65	2.18	3.82	5.73	6.26	8.34	10.61	13.10	15.94	70.99
Provision for CSR	0.00	0.05	0.16	0.28	0.42	0.46	0.61	0.78	0.97	1.17	5.25
<b>Total outflow</b>	<b>32.37</b>	<b>34.37</b>	<b>37.36</b>	<b>40.52</b>	<b>128.34</b>	<b>46.11</b>	<b>49.92</b>	<b>54.00</b>	<b>58.37</b>	<b>63.19</b>	<b>1975.70</b>
<b>Inflows:</b>											
Equity -scheme grant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	918.60
Project revenue including interest income	80.71	88.35	96.72	105.81	116.19	120.22	131.51	143.80	157.16	172.24	1601.64
Convergence scheme grant	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	165.20
PPP funding											
<b>Total Inflows</b>	<b>80.71</b>	<b>88.35</b>	<b>96.72</b>	<b>105.81</b>	<b>116.19</b>	<b>120.22</b>	<b>131.51</b>	<b>143.80</b>	<b>157.16</b>	<b>172.24</b>	<b>2685.44</b>
<b>Net flows</b>	<b>48.34</b>	<b>53.98</b>	<b>59.36</b>	<b>65.29</b>	<b>-12.15</b>	<b>74.10</b>	<b>81.60</b>	<b>89.80</b>	<b>98.79</b>	<b>109.04</b>	<b>881.65</b>
<b>Cumulative flows</b>	<b>261.84</b>	<b>315.82</b>	<b>375.18</b>	<b>440.47</b>	<b>428.31</b>	<b>502.42</b>	<b>584.01</b>	<b>673.81</b>	<b>772.61</b>	<b>881.65</b>	
<b>Net flow to the Project for the IRR post tax</b>	<b>48.34</b>	<b>53.98</b>	<b>59.36</b>	<b>65.29</b>	<b>-12.15</b>	<b>74.10</b>	<b>81.60</b>	<b>89.80</b>	<b>98.79</b>	<b>109.04</b>	
<b>Net flow to the Project for the IRR pre tax</b>	<b>48.34</b>	<b>54.63</b>	<b>61.54</b>	<b>69.11</b>	<b>-6.43</b>	<b>80.37</b>	<b>89.93</b>	<b>100.41</b>	<b>111.89</b>	<b>124.98</b>	
<b>Net available flow to the Project</b>	<b>48.34</b>	<b>53.98</b>	<b>59.36</b>	<b>65.29</b>	<b>-12.15</b>	<b>74.10</b>	<b>81.60</b>	<b>89.80</b>	<b>98.79</b>	<b>109.04</b>	



Life time cost INR 1599.95 crore

Project IRR (Post Tax) 22.27%

Project IRR (Pre Tax) 23.31%

Questions answered

Q 38  
Q 39




**Financial plan - SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)**

(INR crore)

Code	Projects	No. of projects	Total cost:	Expenditure					Financing														O & M		Revenue for life cycle – component revenue excluding interest income, ULB income, etc.					
				Year 1	Year 2	Year 3	Year 4	Year 5	Convergence										PPP	SPV Financing			Total	Base year of operation of respective component		Total for life cycle operation expenses				
									ULB funding schemes	State Govt funding schemes	Amrut	SBM	External aided fund	NULM	Digital India	Housing for all	IPDS	CSR		PPP	Loan	Bond					SCM			
CDRZ	Canal Development and Recreational Zone	12	64.29	38.57	9.64	6.43	9.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64.29	64.29	1.50	32.83	11.69
CBDMA	Central Business District and Market Area	2	27.38	10.56	7.48	9.09	0.24	-	0.00	-	-	-	-	-	-	-	-	-	-	-	22.50	-	-	-	4.88	27.38	0.11	2.49	1.52	
SLT	Sustainable Livable Tiruppur	15	380.82	145.89	114.25	64.63	38.08	17.97	-	-	134.69	5.47	-	0.51	-	2.81	-	2.96	47.26	-	-	-	-	187.12	380.82	0.14	170.62	151.60		
SUM	Smart Urban Mobility	8	173.86	60.85	26.08	34.77	17.39	34.77	-	-	8.29	-	-	-	-	-	-	-	44.79	-	-	-	-	120.78	173.86	1.64	35.82	33.72		
GT	Green Tiruppur	6	111.22	31.14	16.68	27.80	35.59	-	4.89	-	-	-	-	-	-	-	-	-	57.36	-	-	-	-	48.97	111.22	0.73	38.54	119.43		
ECC	Environmentally Committed City	11	40.05	10.01	6.01	12.02	12.02	-	-	-	0.59	-	-	-	-	-	-	-	-	-	-	-	-	39.46	40.05	0.70	15.34	8.06		
SCT	Smart Central Tiruppur	9	242.12	96.85	36.32	72.63	24.21	12.11	-	-	-	-	-	-	-	-	4.99	-	-	-	-	-	-	237.13	242.12	8.88	193.73	-		
<b>Total for TCC-ABD</b>		<b>63</b>	<b>1,039.73</b>	<b>393.88</b>	<b>216.46</b>	<b>227.38</b>	<b>137.17</b>	<b>64.85</b>	<b>4.89</b>	<b>-</b>	<b>143.57</b>	<b>5.47</b>	<b>-</b>	<b>0.51</b>	<b>-</b>	<b>2.81</b>	<b>4.99</b>	<b>2.96</b>	<b>171.91</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>702.62</b>	<b>1,039.73</b>	<b>13.71</b>	<b>489.38</b>	<b>326.04</b>			
ICOCC	Integrated City Operations Control Centre	1	45.79	13.74	4.58	8.70	18.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45.79	45.79	1.26	27.59	-		
ITS	Intelligent Transit System	1	17.04	5.11	1.70	3.24	6.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.04	17.04	0.47	10.27	-		
PMS	Parking Management System	1	12.81	3.84	1.28	2.43	5.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.81	12.81	0.35	7.72	76.06		
ATCS	Area Traffic Control System	1	14.55	4.37	1.46	2.77	5.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.55	14.55	0.40	8.77	-		
SSP	Safety & Security Platform	1	12.81	3.84	1.28	2.43	5.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.81	12.81	0.35	7.72	-		
FONCCB	Fibre Optic Network and City Communications Backbone	1	34.15	10.25	3.42	6.49	14.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34.15	34.15	-	-	72.69		
CCPSPP	Common City Payments & Services Processing Platform	1	13.27	3.98	1.33	2.52	5.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.27	13.27	0.37	8.00	58.15		
<b>Total for TCIOCCS</b>		<b>7</b>	<b>150.42</b>	<b>45.13</b>	<b>15.04</b>	<b>28.58</b>	<b>61.67</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>150.42</b>	<b>150.42</b>	<b>3.21</b>	<b>70.06</b>	<b>206.91</b>		
<b>Technical and administrative support</b>		<b>-</b>	<b>65.56</b>	<b>38.13</b>	<b>23.42</b>	<b>2.00</b>	<b>2.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>65.56</b>	<b>65.56</b>	<b>-</b>	<b>-</b>	<b>-</b>		
<b>Total project cost for TCC-ABD and TCIOCCS</b>		<b>70</b>	<b>1,255.71</b>	<b>477.14</b>	<b>254.92</b>	<b>257.96</b>	<b>200.84</b>	<b>64.85</b>	<b>4.89</b>	<b>-</b>	<b>143.57</b>	<b>5.47</b>	<b>-</b>	<b>0.51</b>	<b>-</b>	<b>2.81</b>	<b>4.99</b>	<b>2.96</b>	<b>171.91</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>918.60</b>	<b>1,255.71</b>	<b>16.92</b>	<b>559.43</b>	<b>532.94</b>			

**Revenue for life cycle – component revenue excluding interest income, ULB income, etc. INR 532.94 crore**
**Total income including component revenue, interest income, ULB income, etc. INR 1601.64 crore**
**Total life cycle operation expenses cost INR 559.43 crore**





### Life time cost – SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

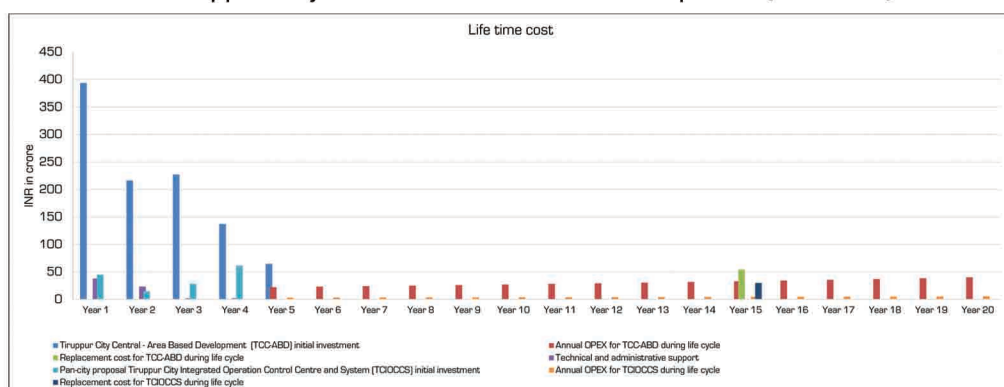
Life time cost (figures in crore)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total life time cost
Tiruppur City Central - Area Based Development (TCC-ABD) initial investment	393.88	216.46	227.38	137.17	64.85																1039.73
Annual OPEX for TCC-ABD during life cycle			0.14	0.89	22.38	23.27	24.20	25.17	26.18	27.22	28.31	29.45	30.62	31.85	33.12	34.45	35.82	37.26	38.75	40.30	489.38
Replacement cost for TCC-ABD during life cycle																					54.24
Technical and administrative support	38.13	23.42	2.00	2.00																	65.56
Pan-city proposal Tiruppur City Integrated Operation Control Centre and System (TCIOCCS) initial investment	45.13	15.04	28.58	61.67																	150.42
Annual OPEX for TCIOCCS during life cycle					3.21	3.34	3.47	3.61	3.76	3.91	4.06	4.22	4.39	4.57	4.75	4.94	5.14	5.34	5.56	5.78	70.06
Replacement cost for TCIOCCS during life cycle																					30.09
<b>Total</b>	<b>477.14</b>	<b>254.92</b>	<b>258.10</b>	<b>201.74</b>	<b>90.43</b>	<b>26.61</b>	<b>27.67</b>	<b>28.78</b>	<b>29.93</b>	<b>31.13</b>	<b>32.37</b>	<b>33.67</b>	<b>35.02</b>	<b>36.42</b>	<b>37.89</b>	<b>39.39</b>	<b>40.96</b>	<b>42.60</b>	<b>44.31</b>	<b>46.08</b>	<b>1899.46</b>

### Life time revenue – SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

Life time revenue (figures in crore)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total life time revenue
Canal Development and Recreational Zone				0.36	0.39	0.42	0.45	0.48	0.52	0.56	0.60	0.65	0.69	0.75	0.80	0.86	0.93	1.00	1.07	1.15	11.69
Central Business District and Market Area				0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15	1.52
Sustainable Livable Tiruppur			1.16	1.36	14.33	7.71	7.80	7.90	8.00	8.56	8.66	8.76	8.86	8.97	9.57	9.67	9.78	9.89	10.00	10.64	151.60
Smart Urban Mobility				0.85	1.13	1.22	1.31	1.40	1.51	1.62	1.74	1.88	2.02	2.17	2.33	2.50	2.69	2.89	3.11	3.34	33.72
Green Tiruppur				1.28	6.74	6.81	6.88	6.95	7.03	7.11	7.20	7.29	7.38	7.48	7.59	7.70	7.81	7.93	8.06	8.19	119.43
Environmentally Committed City				0.25	0.27	0.29	0.31	0.33	0.36	0.39	0.41	0.45	0.48	0.52	0.55	0.60	0.64	0.69	0.74	0.80	8.06
Smart Central Tiruppur																					
Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)					7.12	7.65	8.22	8.84	9.50	10.22	10.98	11.81	12.69	13.64	14.67	15.77	16.95	18.22	19.59	21.05	206.91
Other income for ULB like stamp duty revenues, land monetization, tax collections, incremental property tax income, incremental development fees					22.00	23.65	25.42	27.33	29.38	31.58	33.95	36.50	39.24	42.18	45.34	48.74	52.40	56.33	60.55	65.10	639.70
Interest income earned			3.51	5.93	7.18	4.88	3.80	5.80	8.09	10.70	13.67	17.08	20.95	25.27	30.01	35.24	40.19	46.72	53.91	61.81	429.00
<b>Total</b>	<b>3.51</b>	<b>7.09</b>	<b>11.33</b>	<b>56.91</b>	<b>51.59</b>	<b>56.26</b>	<b>61.40</b>	<b>67.07</b>	<b>73.78</b>	<b>80.71</b>	<b>88.35</b>	<b>96.72</b>	<b>105.81</b>	<b>116.19</b>	<b>120.22</b>	<b>131.51</b>	<b>143.80</b>	<b>157.16</b>	<b>172.24</b>	<b>1601.64</b>	

Life time revenue - present value	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total	
Canal Development and Recreational Zone				0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	4.98	
Central Business District and Market Area				0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.65	
Sustainable Livable Tiruppur			1.00	1.09	10.73	5.37	5.06	4.76	4.48	4.46	4.20	3.95	3.72	3.50	3.48	3.27	3.07	2.89	2.72	2.69	70.46	
Smart Urban Mobility				0.68	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	14.23	
Green Tiruppur				1.03	5.05	4.74	4.46	4.19	3.94	3.71	3.49	3.29	3.10	2.92	2.76	2.60	2.46	2.32	2.19	2.07	54.32	
Environmentally Committed City				0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	3.42	
Smart Central Tiruppur																						
Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)					5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	85.25	
Other income for ULB like stamp duty revenues, land monetization, tax collections, incremental property tax income, incremental development fees					16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	16.47	263.58	
Interest income earned			3.27	6.13	9.12	42.61	35.94	36.45	37.01	37.60	38.48	39.16	39.88	40.61	41.33	42.21	40.63	41.35	42.05	42.76	43.59	660.18
<b>Total</b>	<b>3.27</b>	<b>7.14</b>	<b>12.46</b>	<b>81.57</b>	<b>69.23</b>	<b>69.14</b>	<b>69.14</b>	<b>69.21</b>	<b>69.84</b>	<b>70.03</b>	<b>70.90</b>	<b>70.61</b>	<b>70.93</b>	<b>71.62</b>	<b>69.68</b>	<b>70.05</b>	<b>70.44</b>	<b>70.85</b>	<b>71.53</b>	<b>1157.05</b>		

### Life time cost – SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)



### Profit & loss – SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

Particulars	Construction					Commercial operation															Total	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20		
SPV Revenue																						
Total revenue from Canal Development and Recreational Zone				0.36	0.39	0.42	0.45	0.48	0.52	0.56	0.60	0.65	0.69	0.75	0.80	0.86	0.93	1.00	1.07	1.15	11.69	
Total revenue from Central Business District and Market Area				0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14	0.15	1.52	
Total revenue from Sustainable Livable Tiruppur			1.16	1.36	14.33	7.71	7.80	7.90	8.00	8.56	8.66	8.76	8.86	8.97	9.57	9.67	9.78	9.89	10.00	10.64	151.60	
Total revenue from Smart Urban Mobility				0.85	1.13	1.22	1.31	1.40	1.51	1.62	1.74	1.88	2.02	2.17	2.33	2.50	2.69	2.89	3.11	3.34	33.72	
Total revenue from Green Tiruppur				1.28	6.74	6.81	6.88	6.95	7.03	7.11	7.20	7.29	7.38	7.48	7.59	7.70	7.81	7.93	8.06	8.19	119.43	
Total revenue from Environmentally Committed City				0.25	0.27	0.29	0.31	0.33	0.36	0.39	0.41	0.45	0.48	0.52	0.55	0.60	0.64	0.69	0.74	0.80	8.06	
Total revenue from Smart Central Tiruppur																						
Total revenue from Components of Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)					7.12	7.65	8.22	8.84	9.50	10.22	10.98	11.81	12.69	13.64	14.67	15.77	16.95	18.22	19.59	21.05	206.91	
Other income for ULB like stamp duty revenues, land monetization, tax collections, incremental property tax income, incremental development fees					22.00	23.65	25.42	27.33	29.38	31.58	33.95	36.50	39.24	42.18	45.34	48.74	52.40	56.33	60.55	65.10	639.70	
Total income			1.16	4.15	52.03	47.79	50.45	53.31	56.37	60.11	63.63	67.40	71.45	75.80	80.95	85.95	91.32	97.08	103.26	110.43	1172.64	
Expenses																						
Operation and maintenance expenses for TCC-ABD and TCIOCCS			0.14	0.89	25.59	26.61	27.67	28.78	29.93	31.13	32.37	33.67	35.02	36.42	37.87	39.39	40.96	42.60	44.31	46.08	559.43	
Total Operating Expenses			0.14	0.89	25.59	26.61	27.67	28.78	29.93	31.13	32.37	33.67	35.02	36.42	37.87	39.39	40.96	42.60	44.31	46.08	559.43	
EBBITDA			1.02	3.26	26.44	21.18	22.78	24.53	26.44	28.98	31.26	33.74	36.44	39.38	43.08	46.56	50.35	54.47	58.95	64.35	613.21	
Depreciation						51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	51.48	823.69	
EBIT			1.02	3.26	-25.04	-30.30	-28.70	-26.95	-25.04	-22.50	-20.22	-17.75	-15.04	-12.10	-8.40	-4.92	-1.13	2.99	7.47	12.87	-210.48	
Term loan interest cost during Operation period																						
Financing Charges																						
Interest income earned			3.51	5.93	7.18	4.88	3.80	5.80	8.09	10.70	13.67	17.08	20.95	25.27	30.01	35.24	40.19	46.72	53.91	61.81	429.00	
EBT			3.51	6.95	10.44	-20.16	-26.50	-22.90	-18.86													





## Balance Sheet – SCP for Tiruppur City Central - Area Based Development (TCC-ABD) and Pan-City (TCIOCCS)

(INR crore)

Year No.	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Equity and liabilities																					
<b>Shareholder's fund</b>																					
Share capital	400.00	600.00	800.00	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	918.60	
Share capital private sector																					
Reserves & surplus		2.74	8.16	16.21	-3.95	-30.44	-53.34	-72.20	-86.55	-95.38	-98.52	-96.03	-88.15	-74.34	-53.65	-31.03	-0.91	37.41	84.72	142.29	
Total shareholder funds	400.00	602.74	808.16	934.81	914.65	888.16	865.26	846.39	832.05	823.22	820.07	822.57	830.45	844.26	864.95	887.57	917.68	956.01	1003.32	1060.88	
<b>Debt</b>																					
Total debt																					
Other grants	62.52	109.26	138.67	156.38	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	165.20	
PPP funding	58.52	94.17	132.96	160.72	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	171.91	
<b>Current liabilities</b>																					
Total current liabilities																					
Total equity and liabilities	521.04	806.17	1079.80	1251.91	1251.76	1225.27	1202.37	1183.50	1169.16	1160.33	1157.18	1159.68	1167.56	1181.37	1202.06	1224.68	1254.79	1293.12	1340.43	1397.99	
<b>Assets</b>																					
Land																					
Property, plant & equipment (net after capital grant)															84.32	84.32	84.32	84.32	84.32	84.32	
Capital work in progress	477.14	732.06	990.02	1190.86	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	1255.71	
Additional																					
Less depreciation					51.48	102.96	154.44	205.92	257.40	308.88	360.36	411.84	463.32	514.80	566.28	617.76	669.24	720.72	772.20	823.69	
Total fixed assets	477.14	732.06	990.02	1190.86	1204.23	1152.75	1101.27	1049.79	998.31	946.83	895.35	843.87	792.39	740.91	773.74	722.26	670.78	619.30	567.82	516.34	
Cash & bank balances	43.90	74.11	89.78	61.05	47.54	72.52	101.10	133.72	170.85	213.50	261.84	315.82	375.18	440.47	428.31	502.42	584.01	673.81	772.61	881.65	
Inventory																					
Total assets	521.04	806.17	1079.80	1251.91	1251.76	1225.27	1202.37	1183.50	1169.16	1160.33	1157.18	1159.68	1167.56	1181.37	1202.06	1224.68	1254.79	1293.12	1340.43	1397.99	
<b>Profit and loss account</b>																					
Total Assets	521.04	806.17	1079.80	1251.91	1251.76	1225.27	1202.37	1183.50	1169.16	1160.33	1157.18	1159.68	1167.56	1181.37	1202.06	1224.68	1254.79	1293.12	1340.43	1397.99	

## Financial analysis of Market Complex for Street Vendors - PPP project -1

(INR crore)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Investment	(7.88)	(6.75)	(7.88)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
O & M charges	-	-	-	(0.33)	(0.34)	(0.36)	(0.37)	(0.38)	(0.40)	(0.42)	(0.43)	(0.45)	(0.47)	(0.49)	(0.51)	(0.53)	(0.55)	(0.57)	(0.59)		
Net revenue after sharing with SPV	-	-	-	3.10	3.34	3.59	3.85	4.14	4.45	4.79	5.15	5.53	5.95	6.39	6.87	7.39	7.94	8.54	9.18	9.87	
Net cash flow	(7.88)	(6.75)	(7.88)	3.10	3.01	3.24	3.50	3.77	4.07	4.39	4.73	5.10	5.50	5.93	6.39	6.88	7.42	7.99	8.61	9.28	
Project IRR	15.05%																				

## Financial analysis of Solid Waste Management Treatment - PPP project -3

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Investment	(15.94)	(11.96)	(5.98)	(3.99)	(1.99)																
O & M charges	-	-	-	(0.70)	(0.73)	(0.75)	(0.78)	(0.82)	(0.85)	(0.88)	(0.92)	(0.95)	(0.99)	(1.03)	(1.07)	(1.12)	(1.16)	(1.21)	(1.26)		
Net revenue after sharing with SPV	-	-	-	5.49	5.91	6.35	6.83	7.34	7.89	8.48	9.12	9.80	10.53	11.32	12.17	13.09	14.07	15.12	16.26	17.48	
Net cash flow	(15.94)	(11.96)	(5.98)	1.51	3.22	5.62	6.07	6.55	7.07	7.63	8.23	8.88	9.58	10.33	11.14	12.01	12.95	13.96	15.05	16.22	
Project IRR	14.94%																				

## Financial analysis of Installation of Solar PV on Roof Top in all Government and Institutional Buildings through PPP - PPP project -5

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Investment	(16.06)	(8.60)	(14.34)	(18.35)																	
O & M charges	-	-	-	(1.13)	(1.17)	(1.22)	(1.27)	(1.32)	(1.37)	(1.43)	(1.49)	(1.55)	(1.61)	(1.67)	(1.74)	(1.81)	(1.88)	(1.96)	(2.03)	(2.11)	
Net revenue after sharing with SPV	-	-	-	7.14	7.50	7.87	8.27	8.68	9.12	9.57	10.05	10.55	11.08	11.63	12.22	12.83	13.47	14.14	14.85	15.59	
Net cash flow	(16.06)	(8.60)	(14.34)	(12.34)	6.32	6.65	7.00	7.36	7.74	8.14	8.56	9.01	9.47	9.96	10.48	11.02	11.59	12.19	12.81	13.48	
Project IRR	11.39%																				

## Financial analysis of Sanitation - Toilet Complex - PPP project -2

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Investment	(2.96)	(2.22)	(1.11)	(0.74)	(0.37)																
O & M charges	-	-	(0.14)	(0.16)	(0.17)	(0.18)	(0.19)	(0.19)	(0.20)	(0.21)	(0.22)	(0.23)	(0.24)	(0.25)	(0.26)	(0.27)	(0.28)	(0.29)	(0.30)	(0.31)	
Net revenue after sharing with SPV	-	-	1.10	1.19	1.27	1.35	1.43	1.52	1.60	1.68	1.76	1.85	1.93	2.01	2.09	2.18	2.26	2.34	2.43	2.51	
Net cash flow	(2.96)	(2.22)	(0.14)	0.29	0.72	1.17	1.25	1.32	1.40	1.47	1.54	1.62	1.69	1.77	1.84	1.91	1.98	2.05	2.13	2.20	
Project IRR	16.57%																				

## Financial analysis of Multi-Level Parking - PPP project -4

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	
Investment	(15.68)	(6.72)	(8.96)	(4.48)	(8.96)																
O & M charges	-	-	-	-	(0.92)	(0.95)	(0.99)	(1.03)	(1.07)	(1.12)	(1.16)	(1.21)	(1.27)	(1.33)	(1.40)	(1.47)	(1.54)	(1.62)	(1.70)	(1.78)	
Net revenue after sharing with SPV	-	-	-	-	8.45	9.08	9.77	10.50	11.29	12.13	13.04	14.02	15.07	16.20	17.42	18.72	20.13	21.64	23.26	25.01	
Net cash flow	(15.68)	(6.72)	(8.96)	(4.48)	(1.42)	8.13	8.77	9.47	10.21	11.02	11.88	12.81	13.80	14.87	16.02	17.26	18.59	20.02	21.56	23.22	
Project IRR	17.72%																				

## Sensitivity analysis

Particulars	IRR% (Post tax)	NPV INR crore	Remarks
Case - I : Base cost with base benefits	22.27%	106.44	
Case - II : Base cost escalated by 15 % with base benefits	10.07%	-38.11	
Case - III : Base cost with base benefits reduced by 15 %	22.56%	105.4	
Case - IV : Base cost escalated by 15 % with base benefits reduced by 15 %	9.95%	-39.15	
The maximum limit that the sensitivity analysis support the project cost and time overrun			11% of the increase in the project cost
The maximum limit that the project has capacity to absorb the increase in the O&M			1.73 times increase in the O&M cost

PPP project 1 IRR - 15.05%

PPP project 3 IRR - 14.94%

PPP project 5 IRR - 11.39%

PPP project 2 IRR - 16.57%

PPP project 4 IRR - 17.72%

Questions answered

Q 43



## **Exhibit No. 1**

**Tiruppur Municipal corporation resolution  
approving the SCP including financial plan**

**Tiruppur City Municipal Corporation**  
**Council Subject**

**Subject: 55**

In exercise of the resolution passed by and authorization conferred upon me by Empowered Standing Committee of Tiruppur City Municipal Corporation, I, M.Ashokan, Corporation Commissioner, Tiruppur, hereby resolve for approval of the SMART CITY PLAN including the Financial plan prepared and the Special Purpose Vehicle (SPV) set up for implementation of the same, for submission to the Chairman, High Powered Steering Committee (HPSC) of the State of Tamil Nadu for Smart Cities Mission, for necessary action at their end. Subject placed before the council for approval

**Office Note :** Subject may be approved

**RESOLUTION No 55 DATED. 27-03-2017 OF TIRUPPUR CORPORATION**

Approved.

Sd/- M. Ashokan  
Special Officer & Commissioner

/True Copy/

30/3/17

  
Commissioner  
Tiruppur City Municipal Corporation

## **Exhibit No. 2**

**Institutional arrangement with the  
existing SPV - NTADCL**

Copy of:

GOVERNMENT OF TAMIL NADU  
ABSTRACT

Tamil Nadu Corporation for Industrial Infrastructure Development limited -  
Implementation of Tiruppur Area Development Programme - Execution of  
concession agreement and Bulk Water Supply and Sewerage Offtake  
agreement -Approval- Orders issued.

Industries (MIF.I) Department

G.O.Ms.No.171

Dated 17.6.1997

Read again:

1. G.O.Ms.No.54, Industries (MIF.2) Dept, dt.16.2.94.

Read also:

(i) From M.D., TACID letter No.TCD/P&D/NTADCL/94/061  
dt.29.10.96.

(ii) Govt. letter No.22706/MIF.I/95-26 dated 20.12.96

(iii) Govt. letter No.22706/MIF.I/95-34 dated 6.3.97

(iv) From G.M., TACID, letter No.TCD/P&D/NTADCL/92/061  
dt.21.4.97

ORDER:

Tamil Nadu Corporation for Industrial Infrastructure Development Limited, an undertaking of Government of Tamil Nadu, in association with Tiruppur Exporters' Association and Infrastructure Leasing and Financial Services Limited have proposed to implement comprehensive infrastructure development scheme at an estimated cost of Rs.1313.20 crores in Tiruppur. A Public Limited Company styled as "New Tiruppur Area Development Corporation Limited (NTADCL)" has been formed to implement the various development scheme at an estimated cost of Rs.569.20 crores is proposed to be entrusted to a "Build, own, operate and Transfer" (B.O.O.T.) Operator, who would be selected through the tender process.

... 2

2. In this connection, the M.D., TACID has sent two draft Agreements viz.(a) Concession agreement and (b) Bulk Water Supply and Sewerage Offtake agreement, and requested the Government's approval for executing the same. The concession agreement inter-alia gives NTADCL the right to draw water, build the project facilities, own them and operate and maintain them for 30 years with an obligation of transfer to the Government on conclusion. Bulk Water Supply and Sewerage Offtake Agreement defines the contractual agreement between Tiruppur Municipality, Government of Tamil Nadu and NTADCL. Discussions were held on 16.12.96 and 25.2.97 with representatives of the departments and public sector undertakings concerned to discuss the outstanding issues relating to the above-mentioned two Agreements. Based on the decisions taken in the above meetings, the M.D., TACID, in consultation with IL&FS has made necessary modifications to the two draft agreements and sent the revised draft Agreements to the Government for approval.

3. The Government, after careful examination, approve the two revised draft Agreements namely Concession Agreement, Bulk Water Supply and Sewerage Offtake Agreement subject to the following modifications/conditions:-

(1) The conditions specified in the Resolution passed by Tiruppur Municipality in the Municipal Council Resolution No.1779 dt.31.3.97 should be incorporated in the draft Agreements at the appropriate place.

A. CONCESSION AGREEMENT:

(2) Approval of the concerned C.E.(WRO), P.W.D., may be obtained and relevant map enclosed in Schedule 'A' of the concession Agreement.

(3) The area approved by concerned C.E., PWD, near the river Cauvery will be the pumping Area. This should be mentioned.

....3



(4) The water charges may be collected from NTADCL as is being done for the other industries while drawing water from river. This may be incorporated in the Agreement.

(5) To consider the exemption of stamp duty on the assets mortgaged for raising resources for implementing the scheme, separate proposals may be sent by M.D., TACID to Inspector General of Registration quantifying probable loss of stamp duty on account of this for issuing necessary notification under Indian Stamp Act (9)(i)(e) of Concession Agreement.

(6) Regarding remission of sales tax on "Works Contract" instead of waiver of sales tax, deferral of sales tax for a period of 15 years to be repaid thereafter in annual installments during the concession period may be considered for which a policy decision has to be taken (9)(1)(f) of Concession Agreement.

(7) In Para 27.7 of Concession Agreement, the words "to all operations of water supply in Cauvery basin" may be replaced with the words "to all operations of water supply in specified river basins in the State of Tamil Nadu".

8) The responsibility of rehabilitation of the persons displaced by the land acquisition shall rest with the organisation which acquires the land (42.8 of concession agreement).

#### B. BULK WATER SUPPLY AND SEWERAGE OFFTAKE AGREEMENT

(9) The standards of the drinking and sewerage water prescribed in Schedule 'C', 'D' and 'E' shall be fixed based on the Standards prescribed in Tamil Nadu Pollution Control Act and Rules.

(10) If the Industrial Effluent Treatment Plants are Common Effluent Treatment Plants, then the approval of Tamil Nadu Pollution Control Board should be obtained for changing the design and construction. Para (II) (C) 1 of Bulk Water Supply and Sewerage Offtake Agreement)

(11) The quality of sewerage water should be tested (as being done at offtake point) before discharging the treated sewerage water into the river and it should be ensured that it is within the standards specified in schedule 'C' (para 9.3 of Bulk Water Supply and Sewerage Offtake Agreement.)

4. The M.D., TACID is requested to ensure that all the conditions/modifications indicated in para 3 above are incorporated in the Agreements before execution.

5. This order issues with the concurrence of Finance Department -vide its U.O.NO./95/ADS/(G)/97 dated 17.6.1997.

(BY ORDER OF THE GOVERNOR)

P.C. CYRIAC,  
SECRETARY TO GOVERNMENT

To  
The M.D., TACID Ltd., 68, Greams Road, Chennai-6.  
Secretary to Government,  
MAWS/PWD/CT&RE/E&F/REVENUE/ENERGY/FINANCE/ departments.  
The Director of Municipal Administration, Chepauk, Chennai-5.  
Municipal Commissioner, Tiruppur through Director of Municipal  
Administration, Chepauk, Chennai-5.

Copy to:  
Industries (OP.II) Dept., Chennai-9.  
The Chief Ministers Office, Chennai-9.  
s.f./s.cs.

/true copy/

*Pon. Le...*  
*23/9/98*  
SECTION OFFICER

*Lo 6007*  
*23/9/98*



## BACK GROUND NOTES

Tiruppur is a symbol of local enterprise and its contribution to national economy by way of cotton knitwear exports, accounts for over 90% of the country's exports in this sector. Exports have risen to US \$ 1 billion in the year ending March 1998. The town has a good growth potential thanks to its geographic location within the Cauvery and Bhavani river basin and the close proximity of transportation corridors of Western part of the Tamil Nadu State.

2. The Government of Tamil Nadu (GoTN) have authorised the TACID to develop infrastructure facilities in and around Tiruppur area known as Tiruppur Local Planning Area (TLPA) admeasuring 217 sq.km. Accordingly, TACID developed a comprehensive "Tiruppur Area Development Programme" (TADP). TADP was conceived as an integrated infrastructure development scheme at an estimated cost of Rs.1313.20 crores.

3. TADP is an environmental management and social improvement program, which would significantly improve the environment and social condition in the project areas, through provision of potable piped water supply, facilities for sanitation and domestic wastewater collection, treatment and disposal. It aims to provide water supply to industries and households in TLPA. In addition to this villages in four wayside unions of Perundurai, Uthukuli, Chennimalai and Tiruppur, which lie along the water transmission line corridor will also be provided drinking water. It also aims to provide comprehensive Sewerage system and also on-site sanitation facilities for slums (low cost sanitation) within Tiruppur Municipal Area.

4. "New Tiruppur Area Development Corporation Limited" (NTADCL) a Special Purpose Vehicle (SPV) has been formed as a public limited company. It was incorporated under the Companies Act, 1956, with Government of India (through Ministry of Commerce), GoTN (through TACID), Tiruppur Exporters Association (TEA) and Infrastructure Leasing and Financial Services Limited (IL&FS), Mumbai as the initial equity holders. NTADCL was entrusted with the work of implementation of various development schemes in Tiruppur at an estimated cost of around Rs.700 crores under Build, Own, Operate and Transfer (BOOT) framework. Under this framework all the assets created by NTADCL would be handed over to the Government or its designated agencies, at no cost, at the end of the concession period.

5. Under the TADP, facilities would be constructed and operated by NTADCL, for concession period of 30 years through a BOOT agency. The various development schemes are proposed to be entrusted to a BOOT operator, who would be selected through the tender process.



6. In this connection the NTADCL has prepared two draft agreements viz Concession Agreement and Bulk Water Supply and Sewerage Offtake Agreement. The Concession Agreement *inter alia* gives NTADCL, the right to draw water, build the project facilities. Bulk Water Supply and Sewerage Offtake Agreement defines the contractual agreement between Tiruppur Municipality, Government of Tamil Nadu and NTADCL.

7. The draft Agreements were approved by GoTN in their G.O.Ms.No.171, Industries (MIF-1) Department, Dated 17.6.98 subject to the following modifications / conditions:-

A.GENERAL.

(1) The conditions specified in the Resolution passed by Tiruppur Municipality in the Municipal Council Resolution No.1779 dt.31.3.97 should be incorporated in the draft Agreements at the appropriate place.

B. CONCESSION AGREEMENT

(2) Approval of the concerned C.E.(WRO), P.W.D., may be obtained and relevant map enclosed in Schedule 'A' of the concession Agreement.

(3) The area approved by concerned C.E., PWD., near the river Cauvery will be the pumping Area. This should be mentioned.

(4) The water charges may be collected from NTADCL as is being done for the other industries while drawing water from river. This may be incorporated in the Agreement.

(5) To consider the exemption of stamp duty on the assets mortgaged for raising resources for implementing the scheme, separate proposals may be sent by M.D., TACID to Inspector General of Registration quantifying probable loss of stamp duty on account of this for issuing necessary notification under Indian Stamp Act [(9)(i)(e) of Concession Agreement].

(6) Regarding remission of sales tax on "Works Contract" instead of waiver of sales tax, deferral of sales tax for a period of 15 years to be repaid thereafter in annual installments during the concession period may be considered for which a policy decision has to be taken [(9)(1)(f) of Concession Agreement].

(7) In Para 27.7 of Concession Agreement, the words "to all operations of water supply in Cauvery basin" may be replaced with the words "to all operations of water supply in specified river basins in the State of Tamil Nadu".

.....3

(8) The responsibility of rehabilitation of the persons displaced by the land acquisition shall rest with the organisation which acquires the land (42.8 of concession agreement).

### C. BULK WATER SUPPLY AND SEWERAGE OFFTAKE AGREEMENT

(9) The standards of the drinking and sewerage water prescribed in Schedule 'C', 'D' and 'E' shall be fixed based on the Standards prescribed in Tamil Nadu Pollution Control Act and Rules.

(10) If the Industrial Effluent Treatment Plants are Common Effluent Treatment Plants, then the approval of Tamil Nadu Pollution Control Board should be obtained for changing the design and construction. Para (H) (C) 1 of Bulk Water Supply and Sewerage Offtake Agreement).

(11) The quality of sewerage water should be tested (as being done at offtake point) before discharging the treated sewerage water into the river and it should be ensured that it is within the standards specified in schedule 'C' (para 9.3 of Bulk Water Supply and Sewerage Offtake Agreement.)

8. The NTADCL has now revised the agreement based on the comments of the World Bank (one of the lending institutions for the project) and also based on the remarks of the Government and sent the modified draft agreements for approval of the Government. The Departments involved in the issues included in these agreements are PWD, Highways, Energy, CT, RD, Finance, MAWS and E&F.

9. Since the Bulk Watersupply and Sewerage Offtake Agreement has to be signed by Tiruppur Municipality also, the draft agreements have been forwarded to Commissioner of Municipal Administration for onward transmission to Tiruppur Municipality to obtain the clearance of the Council.

10. A copy of the Agreements were sent to PWD, CT and Finance for their remarks. An initial discussion with the representatives of a few departments were also held by Secretary, MAWS on 8.10.98. The following are some of the major issues discussed in this meeting:-

- a) whether Government can accept the condition of providing un-interrupted power supply for the project (Sections 2.7, 6.1(f) and 8.2 in Concession Agreement).
- b) Financial concessions in the form of waiver/deferral of sales tax on works contracts and stamp duty (Sections 2.9 and 8.2 in Concession Agreement).

c) the need for ground water legislation to prevent drawing of ground water for non-domestic purpose in the service area of the project (Sections 2.8 and 8.2(t) in Concession Agreement).

d) the feasibility of the condition that no quarrying of sand must be done within 10 Km of the site of water abstraction for the project (Sections 2.3(a)(iii) in Concession Agreement).

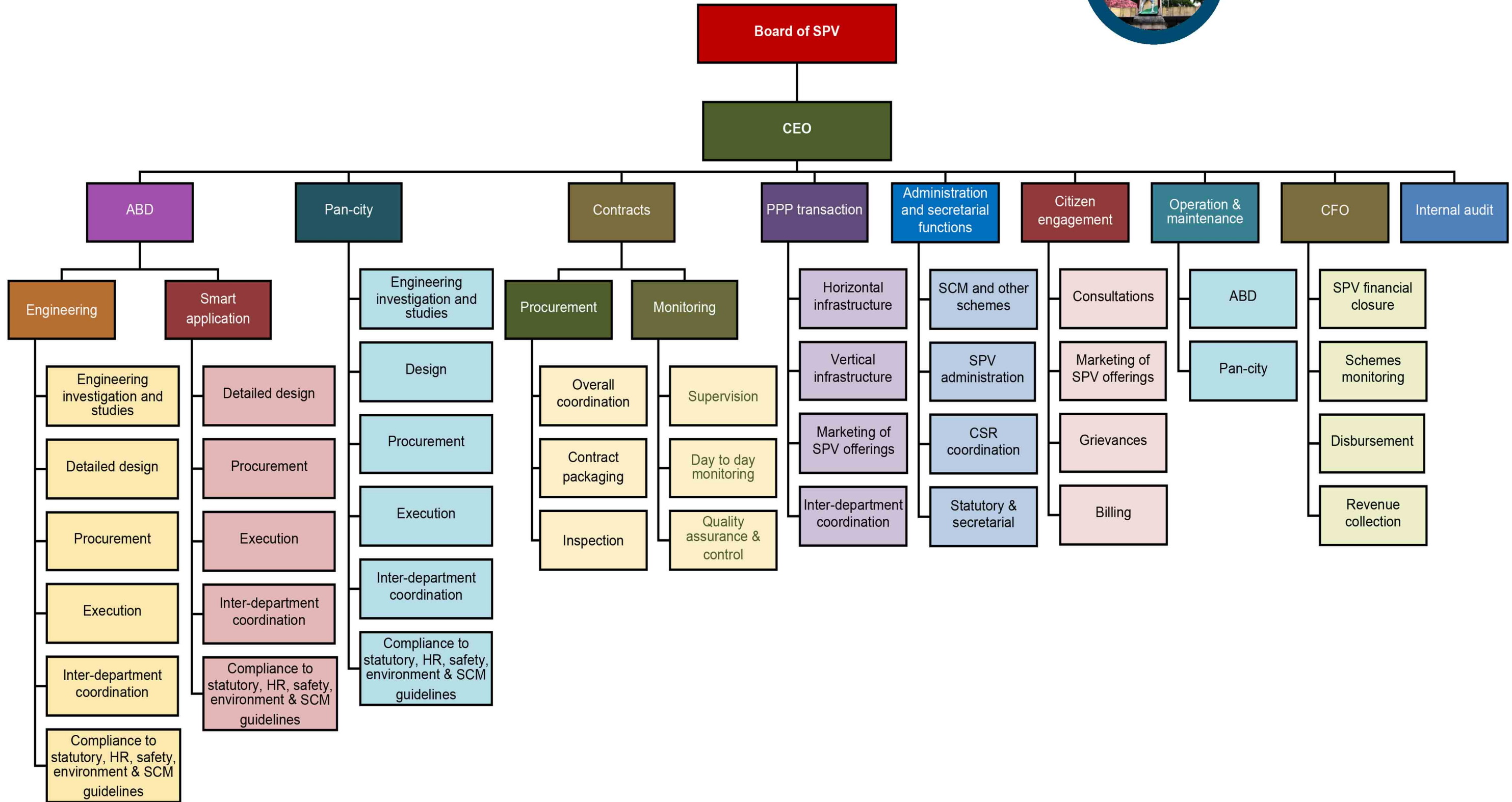
11. Since the project is in the final stage of financial closure these Agreements have to be approved very urgently. NTADCL will organise a Presentation of salient features of agreement in the meeting under the Chairmanship of Chief Secretary to be held on 28.10.98 in order to get Government's clear reaction on the issues involved.

S.Malathi,  
Secretary to Government

## **Exhibit No. 3**

HR plan for SPV





Supporting team - Managers, executives, environmentalist, safety specialist, engineers, HR assistant, accountant, supervisors, surveyors, officestaffs

## **Exhibit No. 4**

Minutes of HPSC held on March 29,  
2017 approving the SCP

**MINUTES OF THE FOURTH STATE LEVEL HIGH POWERED STEERING COMMITTEE MEETING HELD ON 29.03.2017 AT 10.30 A.M FOR SMART CITY MISSION**

The fourth meeting of the **State Level High Powered Steering Committee** for **Smart City Mission** was held in the Old Conference Hall, Secretariat on 29.03.2017 at 10.30 A.M under the Chairmanship of **Dr.Girija Vaidyanathan, I.A.S.,** Chief Secretary to Government, Secretariat, Chennai 600 009.

The Following members attended the meeting:

1	Thiru K.Shanmugam, I.A.S., Addl Chief Secretary to Government, Finance Department, Secretariat, Chennai - 600 009	Member
2	Thiru P.W.C. Davidar, I.A.S., Chairman and Managing Director, TUFIDCO.	Member-Secretary
3	Thiru K.Phanindra Reddy, I.A.S., Principal Secretary to Government Municipal Administration and Water Supply Department Secretariat, Chennai - 600 009.	Member
4	Thiru S.Krishnan, I.A.S., Principal Secretary to Government, Planning Development and Special Initiatives Department Secretariat, Chennai - 600 009.	Member
5	Thiru. Dheeraj Kumar, I.A.S., Managing Director, Tamil Nadu Water Supply & Drainage Board, Chepauk, Chennai - 600 009	Member
6	Dr. D.Karthikeyan, I.A.S., Commissioner, Greater Chennai Corporation	Member
7	Thiru G.Prakash, I.A.S., Commissioner of Municipal Administration, Chepauk, Chennai 600 005.	Member

## **INVITEES**

1	Tmt. R. Jaya, I.A.S., Special Secretary to Government, MA&WS Dept. Secretariat, Chennai 600 009.
2	Thiru K.S. Kandasamy, I.A.S., Deputy Commissioner, Greater Chennai Corporation, Chennai 600 003.
2	Thiru K. Rajamani, I.A.S., Commissioner, Thoothukudi Corporation
3	Thiru N.Ravichandran Commissioner, Tirchy Corporation
4	Thiru N.Manohar, Commissioner, Dindigul Coporation
5	Thiru. Sivasubramaniam, Commissioner, Tirunelveli Corporation
6	Thiru. Seeni Ajmalkhan, Commissioner, Erode Corporation
7	Thiru M.Ashokan, Commissioner, Tiruppur Corporation

The Principal Secretary to Government, MA&WS Department detailed the status of the Smart Cities allocated to Tamil Nadu. Further, the Chairman and Managing Director, TUFIDCO elaborated the process adopted such as Citizen Engagement, Impact on the population, the rationale behind selection for Area Based Development and PAN city Development Strategy by the Corporations for finalizing the remaining 6 Smart Cities proposals before the Committee.



The Committee reviewed the tabled proposals presented by the 6 Corporations and deliberated in detail. The Committee accepted the rationale behind the strategy adopted by all the 6 Cities. The Committee requested to incorporate all the basic service projects in the ABD area and also explore the possibility of more PPP projects. The Committee directed that all the Smart Cities Proposals should include waste water treatment to secondary / tertiary level to the maximum extent and to utilize the same for other purposes. The Committee also agreed that the proposals are now robust and well-rounded such as would benefit both the concerned cities and serve as a role model for the future planning of other cities in Tamilnadu. On discussion, the committee directed that the proposals be recommended to Ministry of Urban Development, Government of India on-time for final approval and implementation thereafter.

  
Principal Secretary/Chairman & Managing Director,  
TUFIDCO & Mission Director (Smart Cities)

## **Exhibit No. 5**

Covering letter addressed to SCP  
Mission Director from GoTN SCP  
Mission Director

# Tamilnadu Urban Finance and Infrastructure Development Corporation Limited



(A Government of Tamilnadu Undertaking)

Regd. Office : No. 490/1-2, Anna Salai, Nandanam, Chennai - 600 035.

Phone : 24329800, 24329801  
24329802  
Fax : 24350814  
Grams : TUFIDCO  
E-mail : tufidco@gmail.com

Lr.No. TUFIDCO/SCP/044/AM (M)/2016

30.03.2017

From

Thiru P.W.C.Davidar, I.A.S.,  
Principal Secretary to Government/  
Chairman and Managing Director, TUFIDCO  
Mission Director, Smart Cities Mission  
Tamil Nadu.

To

The Mission Director, Smart Cities Mission/  
Additional Secretary to Government of India  
Ministry of Urban Development  
New Delhi - 110 011

Sir,

Sub: Smart Cities Mission - Smart City Proposals of the 6 Cities of Tamil Nadu - Forwarded - Regarding

I am directed to inform you that, the fourth meeting of the State Level High Powered Steering Committee of the Smart Cities Mission of the State of Tamil Nadu under the Chairmanship of the Chief Secretary to Government, held on 29.03.2017, reviewed the Smart City Proposals of the 6 Mission Cities of the State viz., Tiruchirapalli, Tirunelveli, Thoothukudi, Erode, Tiruppur and Dindigul and resolved to forward the said proposals for participation in the Stage III National Level Challenge. Accordingly the proposals are forwarded.

Yours Faithfully,  
For TUFIDCO,

For Chairman and Managing Director

**tufidco**

Web : [www.tufidco.in](http://www.tufidco.in)

## **Exhibit No. 6**

Covering letter from Tiruppur  
Corporation for submission of SCP



**MUNICIPAL ADMINISTRATION AND WATER SUPPLY DEPARTMENT**

From

To

M.Ashokan, M.Sc.,  
Commissioner,  
Tiruppur City Municipal Corporation,  
Tiruppur.

The Mission Director,  
Smart Cities Mission,  
Ministry of Urban Development,  
Government of India,  
Nirman Bhawan,  
Dr Maulana Azad road,  
New Delhi 110011.

**Roc.No. E2/ 1534/2016, Dated. 30-03-2017**

Sir,

Sub: Submission of Smart City Proposal (SCP) for Tiruppur Smart city – reg.

-----

This has reference to the Smart city proposal under the Smart City challenge – Stage 2 for Tiruppur. Please find enclosed the following:

1. Five hard copies of the SCP for Tiruppur city
2. Five soft copies of the SCP for Tiruppur city
3. Resolution of the Tiruppur City Municipal Corporation for the approval of the SCP including the financial plan and setting up of the Special Purpose Vehicle (SPV).
4. Institutional arrangement with the existing SPV – New Tiruppur Area Development Corporation Limited (NTADCL)
5. Covering letter addressed to SCP Mission Director from GoTN SCP Mission Director, dated March. 30, 2017
6. Support letter from TANGEDCO for implementing SCP dated Dec. 23, 2015
7. Minutes of the High powered steering committee for the approval of the Smart City mission dated March 29, 2017
8. Letter from TNUIFSL dated Dec. 18, 2015 stating the availability of externally aided funds for implementation of urban infrastructure projects by the ULBs in Tamil Nadu.
9. Letter from Police Department, Tiruppur dated Oct. 7, 2015 providing suggestions for inclusion of smart solutions in traffic management for SCP
10. Letter from Police Department, Tiruppur dated Oct. 7, 2015 providing suggestions for inclusion of crime monitoring solutions in preparation of SCP for Tiruppur

11. Letter from Tiruppur Electricity Distribution Circle dated Oct. 7, 2015 providing suggestions for inclusion of smart solutions in energy supply and energy distribution while preparing SCP for Tiruppur.
12. Executive summary for Tiruppur SCP

Kindly acknowledge the receipt of the documents.

  
Commissioner  
Tiruppur City Municipal Corporation.  
30/3/17

Encl.:

Tiruppur SCP 5 hard copies and 5 soft copies

## **Exhibit No. 7**

**Letter of support - TANGEDCO for  
implementing SCP in Tamil Nadu**



POWERING TAMILNADU'S PROGRESS

### To whomsoever it may concern

Consequent to the 12 Corporations getting selected as Smart Cities, TANGEDCO has brought to the knowledge of the Corporation, the implementation of schemes that are in operation and in full agreement to the convergence of the schemes in the Smart City Mission. The department is very much interested in getting involved and providing necessary support in the implementation and operation of the sub projects identified under Area Based Development and Pan City Solutions, provided that there is funding by the Government of India/ Government of Tamil Nadu.

We confirm, No objection (NOC) towards implementation of the identified projects and wish Corporation for successful submission of Smart City Proposal to Government of India.

*Om*  
23/12/15  
Chief Engineer/Planning & Resource Centre  
TANGEDCO



## **Exhibit No. 8**

Letter of support - TNUIFSL stating the availability of externally aided funds for implementation of urban infrastructure projects by the ULBs in Tamil Nadu

**Kakarla Usha, I.A.S.,**  
Managing Director

18 December 2015

Tamil Nadu Urban Infrastructure Financial Services Limited operates three externally aided projects for funding urban infrastructure projects implemented in Tamil Nadu as detailed below:

i) KfW assisted Sustainable Municipal Infrastructure Financing in Tamil Nadu – Phase-II – Part-1 (SMIF-TN-II-1) Program with an outlay of Euro 80 mn (equivalent to about Rs.578.16 crores). The entire amount is allotted for investment in urban infrastructure projects.

ii) KfW assisted Sustainable Municipal Infrastructure Financing in Tamil Nadu – Phase-II – Part-2 (SMIF-TN-II-2) Program with an outlay of Euro 107.75 mn (equivalent to about Rs.877.39 crores). Of the above Euro 100 mn (equivalent to about Rs.814.30 crores) is allotted for investment in urban infrastructure projects.

iii) World Bank assisted Tamil Nadu Sustainable Urban Development Project (TNSUDP) with an outlay of US \$ 600 mn (equivalent to about Rs.3831 crores) of which the World Bank financing is US \$ 400 mn (equivalent to about Rs.2554 crores). Of the above US \$ 384 mn (equivalent to about Rs.2451.84 crores) is allotted for investment in urban infrastructure projects.

Further, resources may also be mobilized from the capital markets on pooled finance mechanism for funding urban infrastructure projects. A sum of Rs.222.30 crores has already been mobilized and utilized for implementing urban infrastructure projects within the State. Further resources under the pooled finance mechanism will be mobilized based on the requirement for implementing urban infrastructure projects by the Urban Local Bodies in Tamil Nadu.



Kakarla Usha  
Managing Director

## **Exhibit No. 9**

Letter of support - Police department for  
inclusion of smart solutions in traffic  
management for SCP

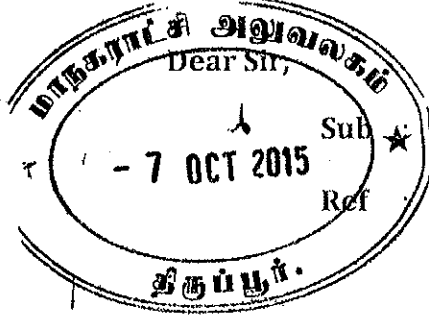


POLICE DEPARTMENT

From  
Commissioner of Police,  
Tiruppur City,  
Tiruppur.

To  
The Commissioner,  
Tiruppur City Municipal Corporation,  
Kumaran Road, State Highway 169,  
Tiruppur - 641 601.

C.No.249(1)/X-IS-TPC/2015, Date :07.10.2015



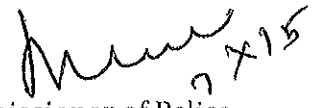
Suggestion for inclusion of Smart solutions in traffic management sector for Smart City Tiruppur - Reg.  
Stakeholder consultation by Tiruppur City Municipal corporation conducted on 06<sup>th</sup> October 2015 at Velan Hotel, Tiruppur.

\*\*\*\*\*

With respect to the above, we like to provide our suggestions and place certain recommendations in traffic management within Tiruppur City for preparing this Smart City Proposal (SCP). Out of the total vehicles registered in Tiruppur City. Two wheelers alone constitute nearly 91% of the total. Traffic congestion in peak hours can be mitigated by providing following solutions.

1. Providing automated synchronous signals at all major and minor intersections within the city.
2. Solutions for reducing/preventing the accidents during pedestrian crossing.

We believe that the above mentioned solutions are in line with smart cities Mission statement and guidelines stipulated by MoUD and we believe you to consider the above mentioned suggestions while preparing the SCP.

  
Commissioner of Police,  
Tiruppur City.

## **Exhibit No. 10**

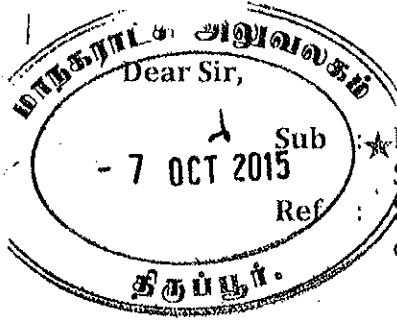
Letter of support - Police department for  
inclusion of crime monitoring solutions for SCP

POLICE DEPARTMENT

From  
Commissioner of Police,  
Tiruppur City,  
Tiruppur.

To  
The Commissioner,  
Tiruppur City Municipal Corporation,  
Kumaran Road, State Highway 169,  
Tiruppur - 641 601.

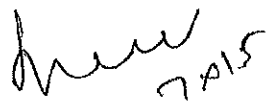
C.No.249(1)/X-IS-TPC/2015, Date :07.10.2015



Sub : Request for inclusion of crime monitoring solutions in preparation of Smart City Proposal (SCP) for Tiruppur City - Reg.  
Ref : Stakeholder consultation by Tiruppur City Municipal corporation conducted on 06<sup>th</sup> October 2015 at Velan Hotel, Tiruppur.

\*\*\*\*\*

We are happy that Tiruppur City Municipal Corporation is Eligible to become a Smart City. As per the Smart City guidelines and as per the stakeholder consultation. We understood that the SCP should necessarily contain an IT/ICT based solution and in this regard, we would like to highlight that a proposal for crime surveillance for the city through CCTV cameras can be included in this SCP. This would be of a greater help and will deliver a positive impact on the quality of life of the citizens of Tiruppur by reducing the crime rate and improving the safety & security standards of Tiruppur City.

  
Commissioner of Police,  
Tiruppur City.



## **Exhibit No. 11**

Letter of support - Electricity board for inclusion  
of smart solutions in energy supply &  
distribution for SCP

TANGEDCO

From  
Er.G.Sivasamy,  
Executive Engineer, (O&M),  
Tiruppur Elec District Circle,  
Tiruppur - 641 603.

To  
The Commissioner,  
Tiruppur City Municipal Corporation,  
Kumaran Road, State Highway 169,  
Tiruppur - 641 601.

NO. EE/O&M/TEDC/TPR/CI/E, TMR/D.No./2015-16 Dt:07.10.2015

Dear Sir,

- 7 OCT 2015

Ref :

Request for inclusion of Smart Solutions in energy supply sector for Smart City Tiruppur - Reg.

Stakeholder consultation by Tiruppur City Municipal Corporation conducted on 06<sup>th</sup> October 2015 at Velan Hotel, Tiruppur.

\*\*\*\*\*

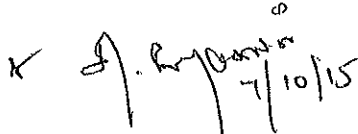
With respect to the above subject and with reference to the above. We have pool of solutions in power supply and generation which we prefer to be included in the Smart City Proposals for Tiruppur which is to be submitted to GoI. As per Smart cities Mission statement and guidelines stipulated by MoUD we put forth the following suggestions and inputs.

1. Replacement of existing HT/LT lines with underground cables.
2. Provision for renewable sources of energy - preferably solar roof top panels.
3. Provision for digital energy meters for service connections.

Also, we would like to highlight that, we are in the process of preparing a DPR under IPDS for strengthening of transmission and distribution network including metering. The same can also be included in the Smart city proposal for Tiruppur.

Thanking you,

Yours faithfully,

  
Executive Engineer (O&M),  
Tiruppur Elec District Circle,  
Tiruppur.

## **Exhibit No. 12**

### **Executive summary**





## **THE SMART CITY CHALLENGE**

### **STAGE 2**

---

"Tiruppur aspires to leverage its cluster identity by investing in inclusive and transformative solutions that enhance the quality of life for its citizens"

India's knitwear export hub, Tiruppur, known for the cluster activity is a dominant player in knitting garment sector and contributes 10% of the total exports from Tamil Nadu. Tiruppur cluster, engaged in the textile value chain, with an ability to compete in the International markets has spurred up the textile industry in India for the past three decades. Fifth largest urban agglomeration in Tamil Nadu and administrative headquarters of Tiruppur district, it is a regional, economic and political hub with excellent rail & road connectivity.

In line with GoI's SCM observation that "citizen involvement is much more than a ceremonial participation in governance", highly stakeholder focused and citizen-centric approach was adopted. More than 102,524 people actively participated in citizen engagement through various media and channels. Vision, goals, selection of area-based development (ABD); Pan-City (PC) solutions developed are stakeholder focused with a citizen-centric approach based on people's aspirations and local needs.

Tiruppur's vision comprises specific constituent development goals voiced by the aspirations of the citizens. With an aim to make a more livable city, each of the goals works towards making Tiruppur that is social, economically, and environmentally sustainable.

- Goal 1: Enhanced efficiency of governance
- Goal 2: Livable and slum-free city
- Goal 3: Leveraging industrial growth opportunities and enhancing local economic vibrancy
- Goal 4: Build smart transportation
- Goal 5: Clean and green city
- Goal 6: Safe and secure city

#### **Area Based Development (ABD)**

The 'Tiruppur City Central' (TCC)-ABD will retrofit 2799.61 acres located in the heart of the city at the cost of INR 1039.73 crore. The area encompasses Noyyal River that runs through the ABD area as a spine and is the CBD area with a significant presence of wholesale, retail and water

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**SMART CITY CODE:**

**EXECUTIVE SUMMARY**

**TN-05-TRP**



## **THE SMART CITY CHALLENGE**

### **STAGE 2**

bodies. Envisaged as a transformational project, TCC-ABD converts the heart of the city and is replicable in other parts of Tiruppur as well as other cities of the state. TCC-ABD focused on seven themes with 48 projects including sub-projects and designed in line with the identified strategic focus areas, vision, and goals.

The TCC-ABD components revolve around the six strategic focus, six goals, and 35 sub goals identified in the visioning exercise with embedded smart components that support following themes.

- Theme #1: Canal development & recreational zone
- Theme #2: Central business district and market area
- Theme #3: Sustainable, Livable Tiruppur
- Theme #4: Smart urban mobility
- Theme 5#: Green Tiruppur
- Theme 6#: Environmentally committed city
- Theme 7#: Smart central Tiruppur

#### **Pan-City**

ICT based Pan-City solutions encompass Integrated Operation Control Centre, and System and the key components include:

- Integrated city operations control center
- Intelligent transit system
- Parking management systems
- Area traffic control system
- Safety and security platform
- Fiber optic network and city communications backbone
- Common city payments and services processing platform



## THE SMART CITY CHALLENGE

### STAGE 2

#### Project cost

Sl. No.	Item	Amount (in crore)	Percentage
1	Tiruppur City Central - Area Based Development (TCC-ABD)	1039.73	82.80%
2	Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)	150.42	11.98%
3	Technical and administrative support	65.56	5.22%
	<b>Total</b>	<b>1255.71</b>	<b>100.00%</b>

#### Component wise project cost

Sl. No.	Particulars	Amount in crore
<b>A</b>	<b>Tiruppur City Central - Area Based Development (TCC-ABD)</b>	<b>1039.73</b>
	Canal Development and Recreational Zone	64.29
	Central Business District and Market Area	27.38
	Sustainable Livable Tiruppur	380.82
	Smart Urban Mobility	173.86
	Green Tiruppur	111.22
	Environmentally Committed City	40.05
	Smart Central Tiruppur	242.12
<b>B</b>	<b>Tiruppur City Integrated Operation Control Centre and System (TCIOCCS)</b>	<b>150.42</b>
	Integrated City Operations Control Centre	45.79
	Intelligent Transit System	17.04
	Parking Management System	12.81
	Area Traffic Control System	14.55
	Safety & Security Platform	12.81
	Fiber Optic Network and City Communications Backbone	34.15
	Common City Payments & Services Processing Platform	13.27
<b>C</b>	<b>Technical and administrative support</b>	<b>65.56</b>
	<b>Total</b>	<b>1,255.71</b>

SMART CITY CODE:

EXECUTIVE SUMMARY

TN-05-TRP





## THE SMART CITY CHALLENGE

### STAGE 2

#### Resource plan

Sl. No.	Source	Amount (in crore)	Percentage
1	Smart City Grant - Central Government	459.30	36.58%
2	Smart City Grant - State Government	459.30	36.58%
3	Convergence Central Government Scheme	157.35	12.53%
4	Convergence State Government Scheme	-	-
5	Private Sector (PPP)	171.91	13.69%
7	ULB level funded schemes	4.89	0.39%
8	External agencies	-	-
10	Others- CSR	2.96	0.24%
	<b>Total</b>	<b>1255.71</b>	<b>100%</b>

#### Details of convergence plan:

- SCM financing - INR 918.60 crore (Gol funding INR 459.30 crore and GoTN funding INR 459.30 crore)
- Gol convergence schemes - INR 157.35 crore (AMRUT funding - INR 143.57 crore; Housing for All - INR 2.81 crore; IPDS funding - INR 4.99; SBM funding - INR 5.47 crore NULM funding INR 0.51 crore)
- ULB schemes - INR 4.89 crore
- CSR funding - INR 2.96 crore
- PPP projects - INR 171.91 crore

The lifetime cost of the SCP (both TCC-ABD and Pan-City) for the first 20 years - INR 1899.46 crore (present value of INR 1421.14 crore discounted at a rate of 7.5%).

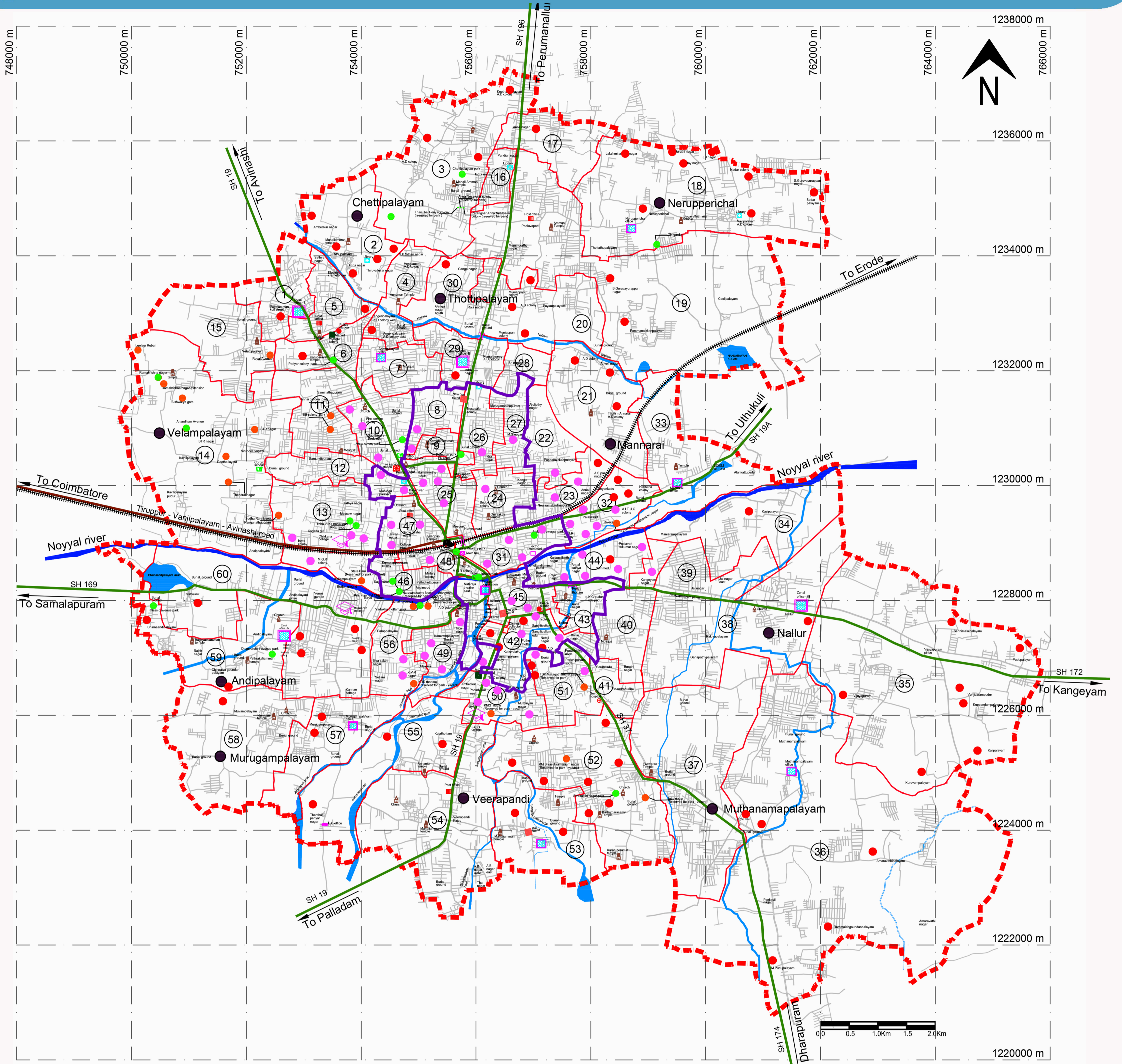
Project IRR: 22.27 % (post tax) and the SPV have comfortable, positive cash position after meeting the operation and maintenance expenses.

**SMART CITY CODE:**

**EXECUTIVE SUMMARY**

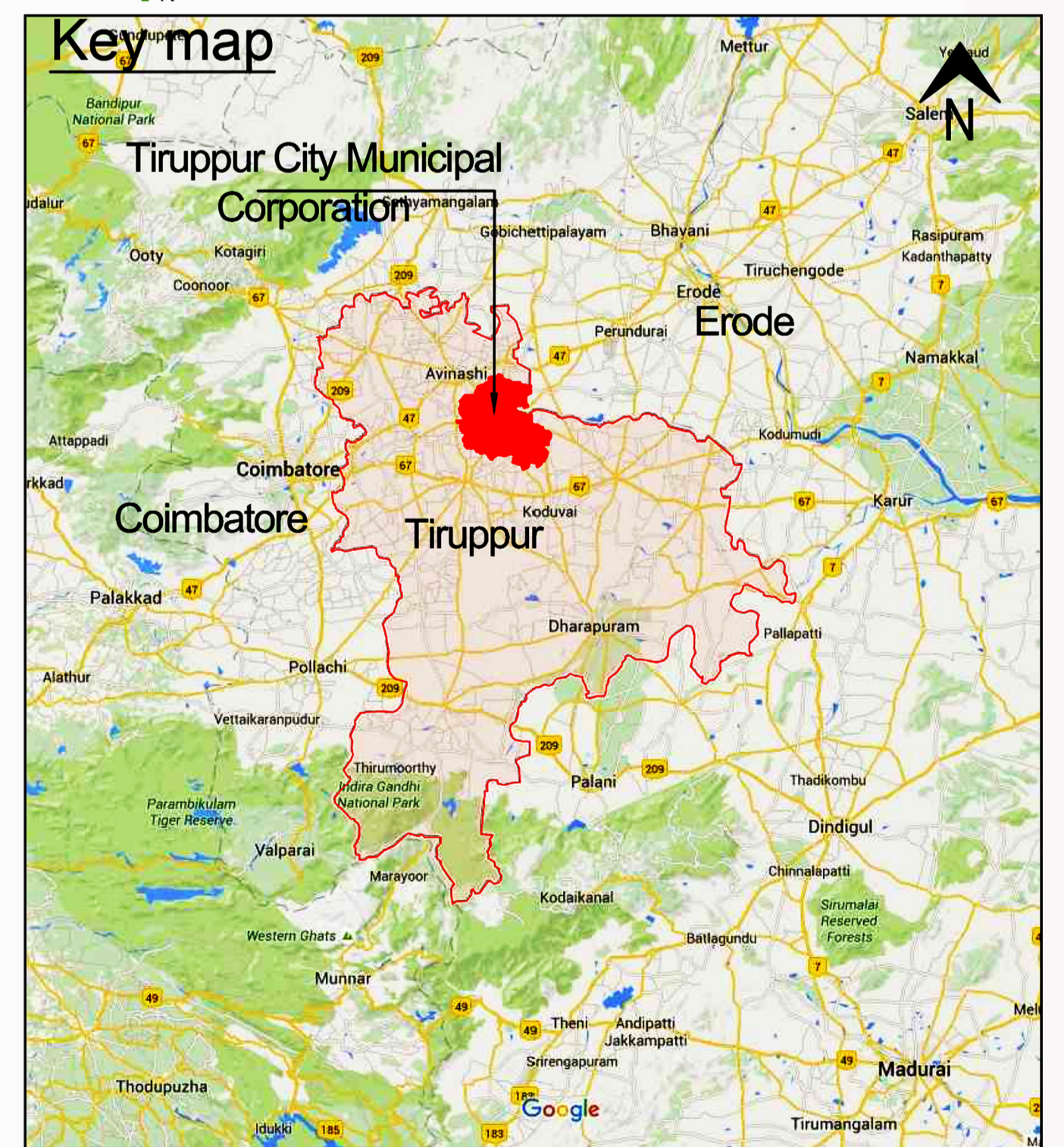
**TN-05-TRP**



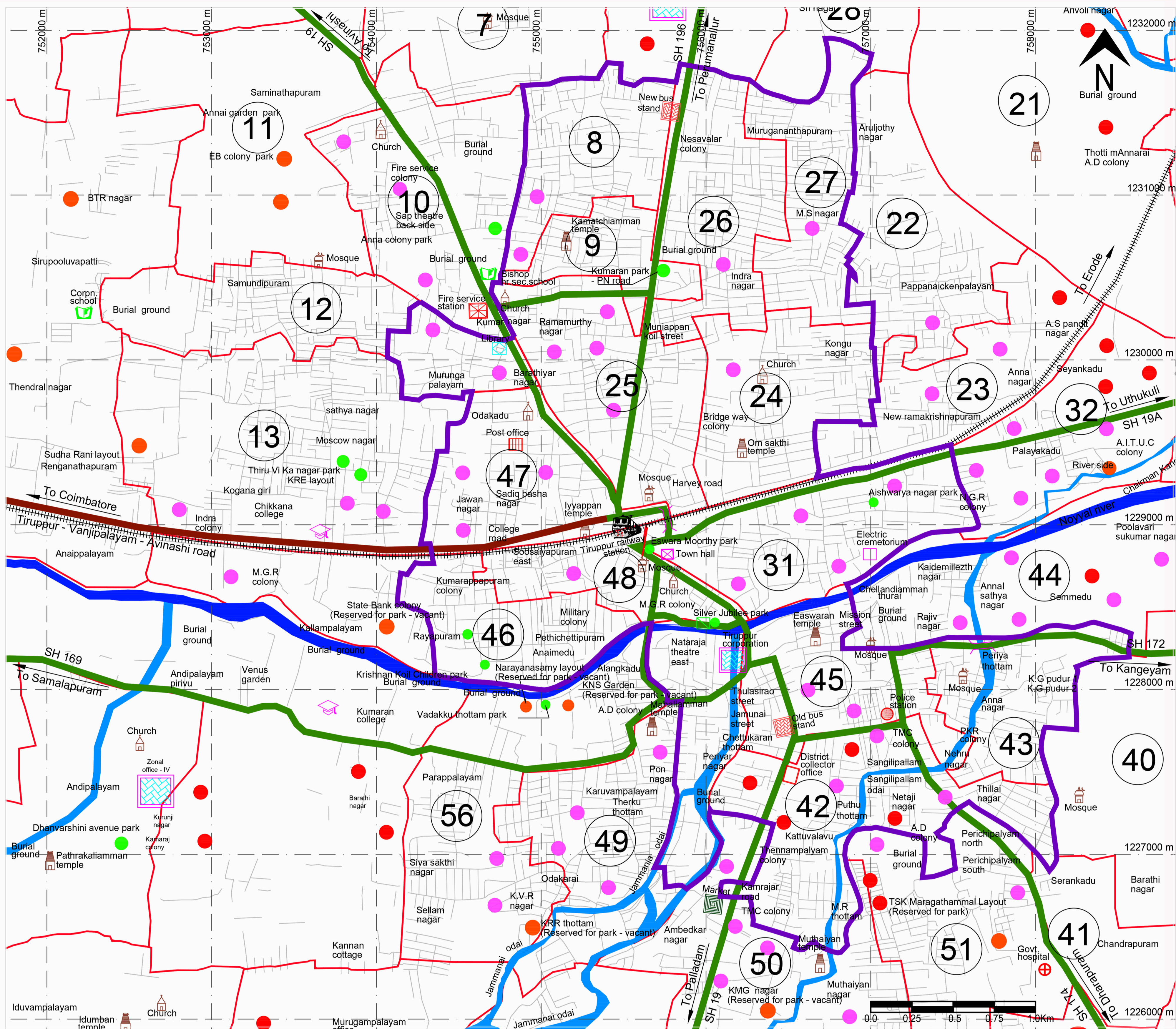


### Legend

- |                       |  |                         |  |
|-----------------------|--|-------------------------|--|
| 1. Municipal boundary |  | 15. Proposed park       |  |
| 2. Ward boundary      |  | 16. Post office         |  |
| 3. ABD boundary       |  | 17. Library             |  |
| 4. Ward number        |  | 18. Hospital            |  |
| 5. Noyyal river       |  | 19. School              |  |
| 6. Water body         |  | 20. College             |  |
| 7. State highway      |  | 21. Police station      |  |
| 8. Major road         |  | 22. Fire station        |  |
| 9. Other road         |  | 23. Railway station     |  |
| 10. Railway line      |  | 24. Market              |  |
| 11. Temple            |  | 25. Government building |  |
| 12. Mosque            |  | 26. Notified slum       |  |
| 13. Church            |  | 27. Non notified slum   |  |
| 14. Existing park     |  | 28. Bus stand           |  |





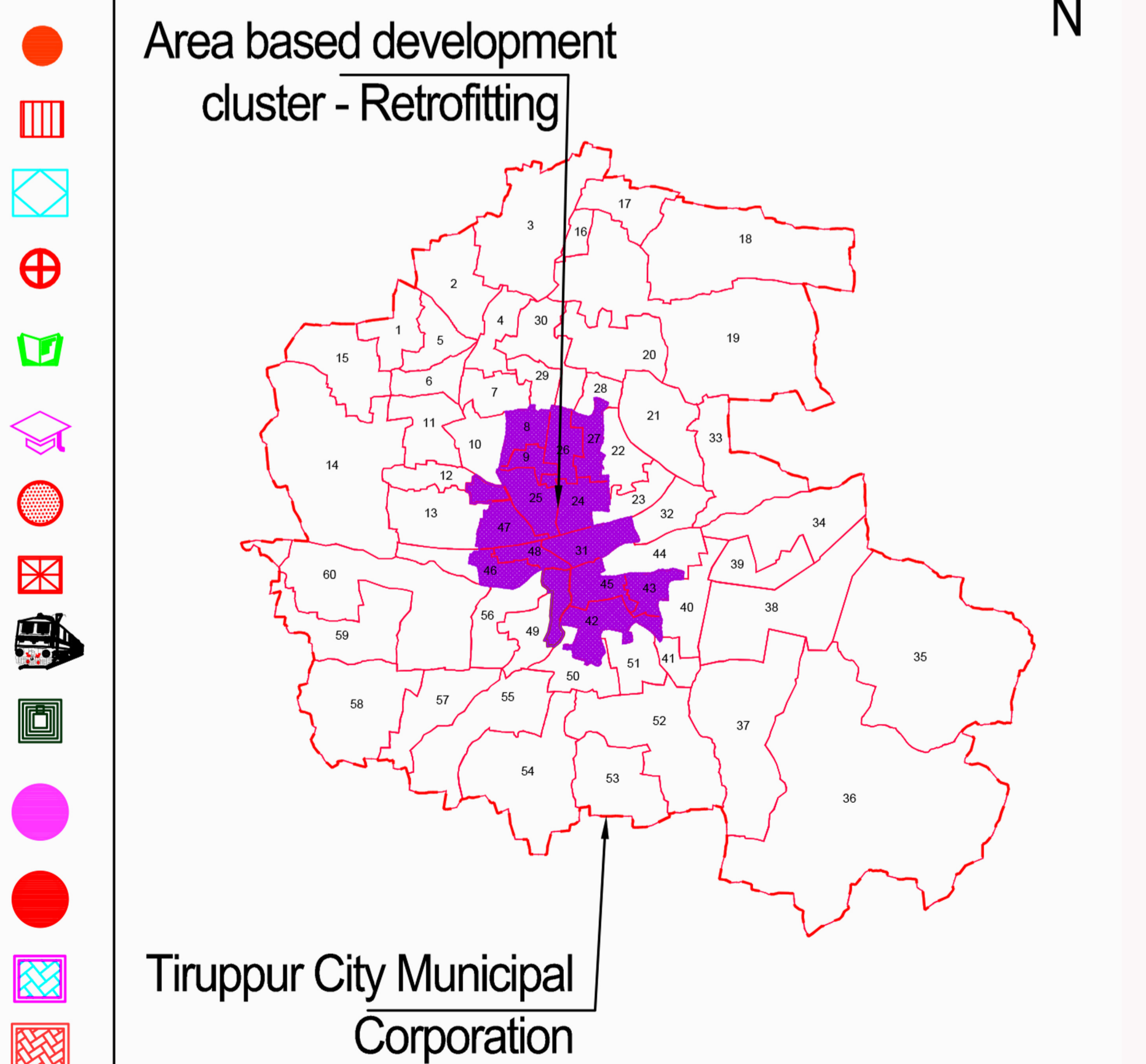


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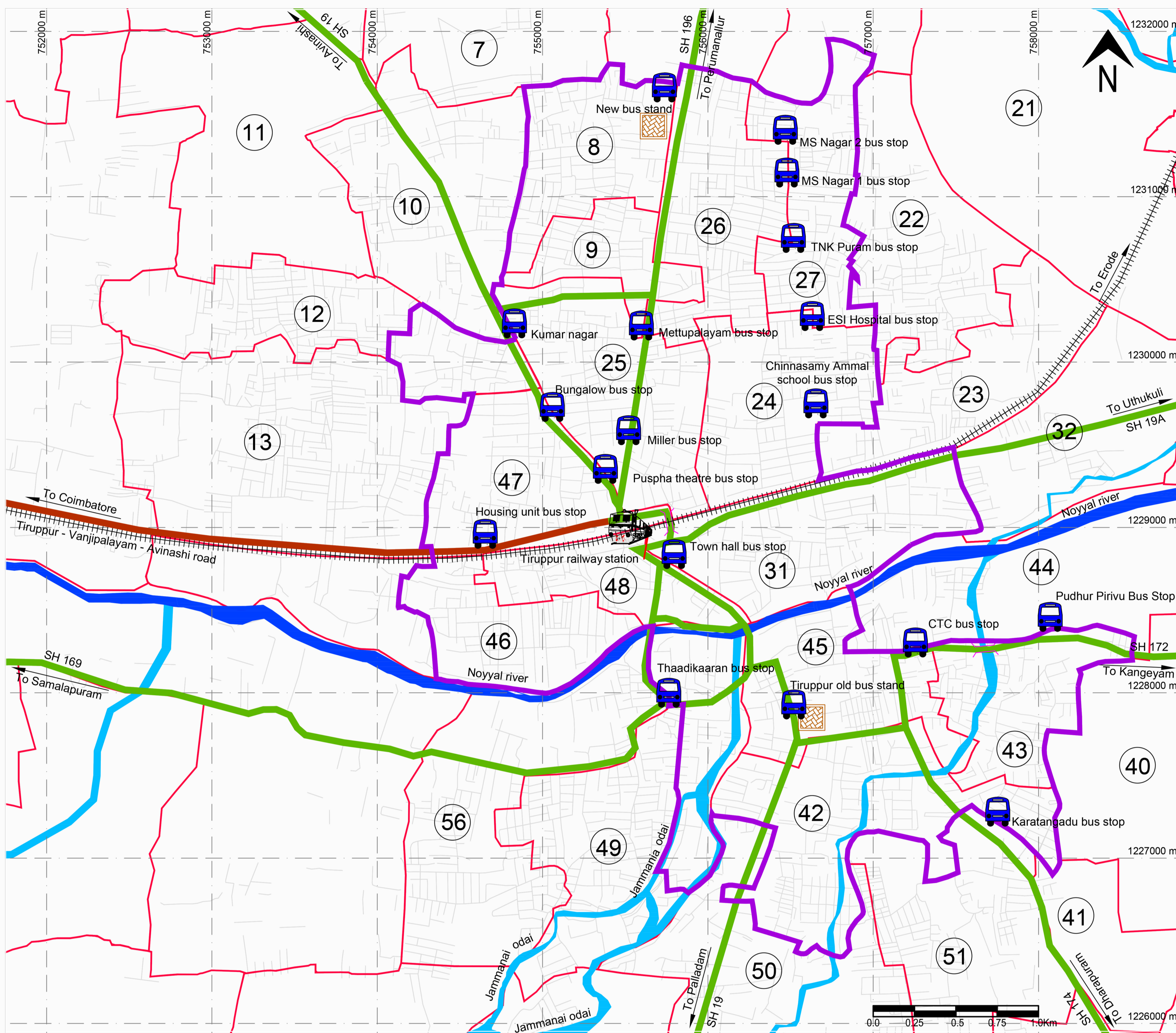
- |                   |  |                         |  |
|-------------------|--|-------------------------|--|
| 1. Ward boundary  |  | 14. Proposed park       |  |
| 2. Ward number    |  | 15. Post office         |  |
| 3. ABD boundary   |  | 16. Library             |  |
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| 5. Water body     |  | 18. School              |  |
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| 7. Major road     |  | 20. Police station      |  |
| 8. Other road     |  | 21. Fire station        |  |
| 9. Railway line   |  | 22. Railway station     |  |
| 10. temple        |  | 23. Market              |  |
| 11. Mosque        |  | 24. Notified slum       |  |
| 12. Church        |  | 25. Non notified slum   |  |
| 13. Existing park |  | 26. Government building |  |
|                   |  | 27. Bus stand           |  |

## Key map

Area based development cluster - Retrofitting

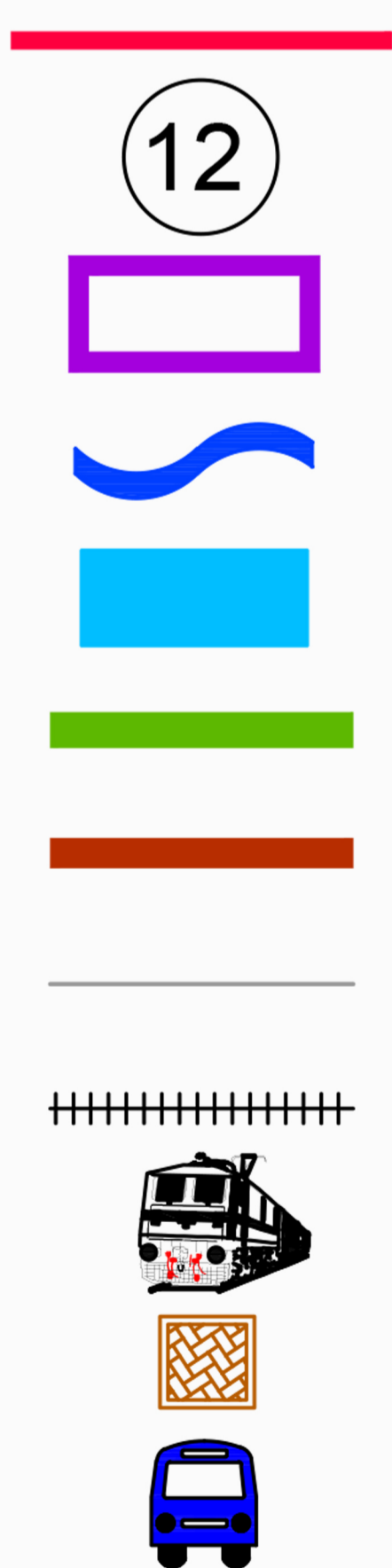






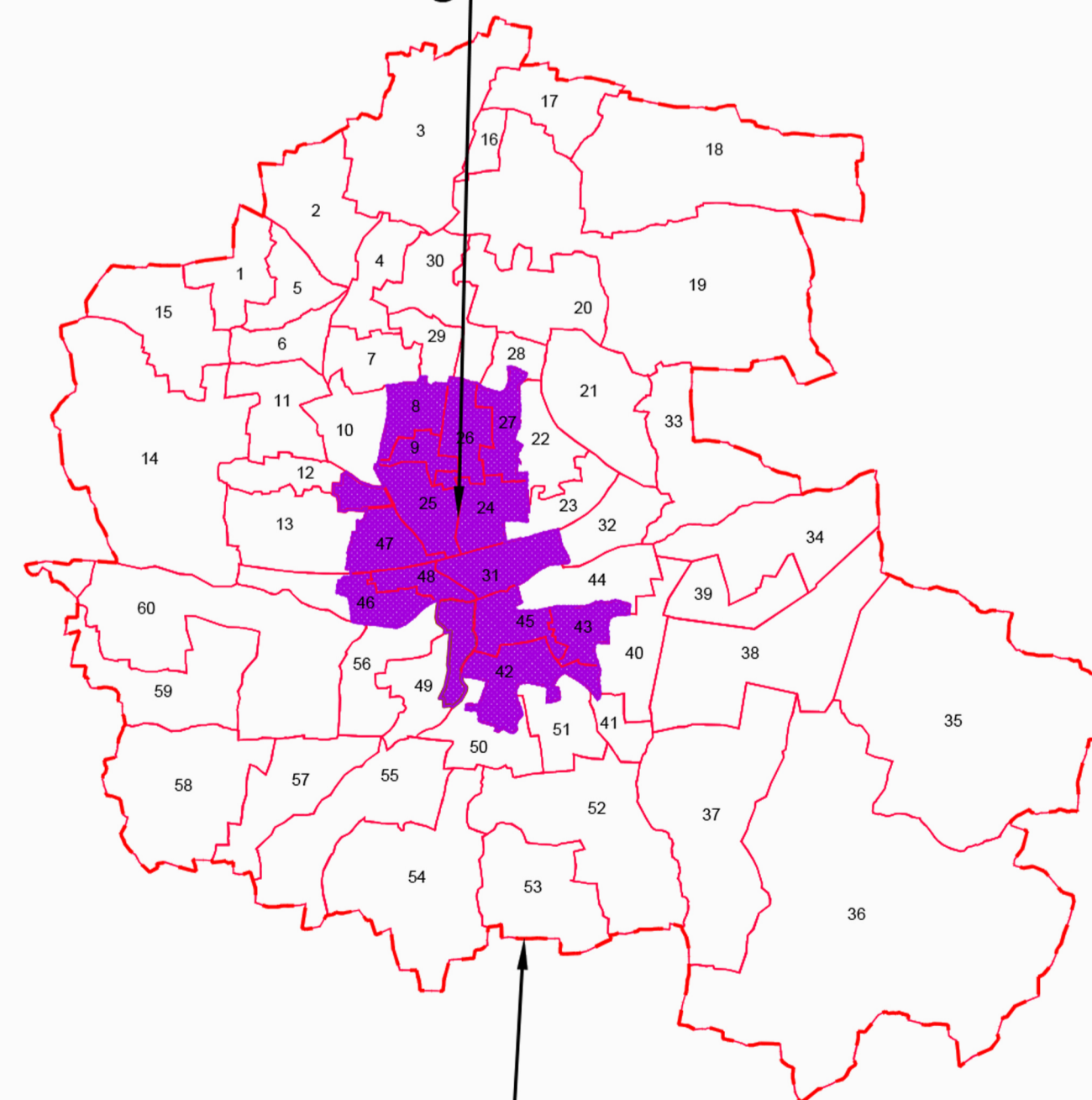
## Legend

1. Ward boundary
2. Ward number
3. ABD boundary
4. Noyyal river
5. Water body
6. State highway
7. Major road
8. Other road
9. Railway line
10. Railway station
11. Bus stand
12. Bus stop



## Key map

Area based development cluster - Retrofitting



Tiruppur City Municipal Corporation