Draft Smart City Proposal
Amritsar- Round II

16th June 2016

Draft Smart City Proposal Amritsar- Round II

- **MoUD Ranking**
- City Profile
- Citizen Engagement
- Area based Development
- Pan City
- Special Purpose Vehicle & Organogram
- Financial Analysis

SMART CITY PROPOSAL: *Amritsar*

Amritsar ranking among 100 Cities. Source: MoUD

Cities to compete in Round 2

S.No	Rank no.	Name of State/UT	Name of City	Score (%)
1	21	Madhya Pradesh	Ujjain	55.03
2	22	Madhya Pradesh	Gwalior	54.82
3	25	Punjab	Amritsar	54.55
4	26	Karnataka	Shivamogga	54.36
5	27	Punjab	Jalandhar	53.82
6	28	Tamil Nadu	Madurai	53.34
7	31	Maharashtra	Nagpur	53.00
8	33	Tamil Nadu	Salem	52.95
9	34	Maharashtra	Nashik	52.75

- Round 2 of the Challenge (2016-17) will open on 1st April 2016 and the remaining 54 cities will compete with their revised proposals which may be submitted by 30 June 2016. The 23cities which are required to upgrade their proposals and which do not meet the benchmark set by the winning cities, will also join in the Challenge of main Round 2. It is expected that upto 40 cities in Round 2 will be announced in August 2016.

SMART CITY PROPOSAL: *Amritsar*

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ROUND II: APPROACH

Interactions with PMIDC Officials	Focused interactions with PMIDC officials for identifying the gaps and shortcomings in the existing proposal.
Reviewing Evaluation Guidelines	Reviewing and understanding the evaluation criteria's, looked by evaluators while scoring the SCP's.
Conferences & Seminars	Attending the seminars and conferences organized by MoUD and other institutional agencies. Consultative interactions with other consultants.
Internal Discussions	Internal discussions regarding the Smart City Amritsar proposal and analyzing the same with other shortlisted proposals.
Interactions with Amritsar Municipal Corporation Officials	Focused discussions with Amritsar Municipal Corporation officials and Mayor regarding the shortcomings in SCP. New ideas and conversion of identified programs with existing programs were discussed.
Sessions with Technology Partners and Investors	Discussions with technology partners and investors regarding the financial strategies and use of more innovative technologies for making city Smart.

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SMART CITY PROPOSAL MODIFICATIONS: *Introduction*

INDIA SMART CITY MISSION
MISSION TRANSFORM-NATION
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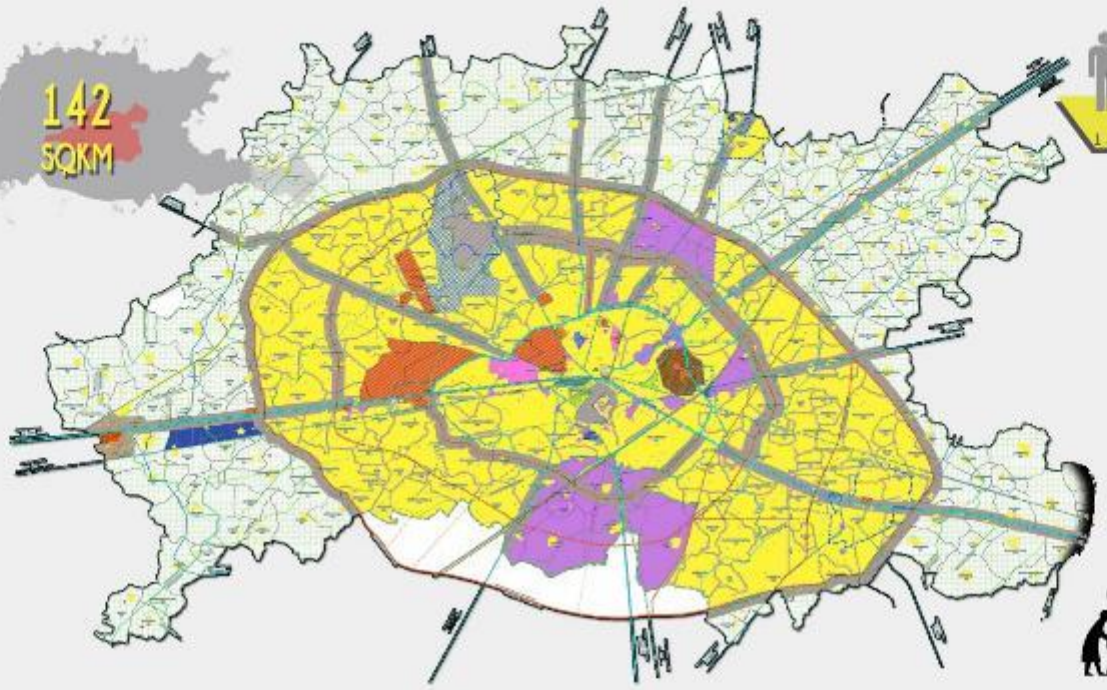
CITY PROFILE

2683 SQKM

142 SQKM



POPULATION DENSITY
7956 PPSqKM
In Line with average density of Large City

85.27%
More than average of Indian cities

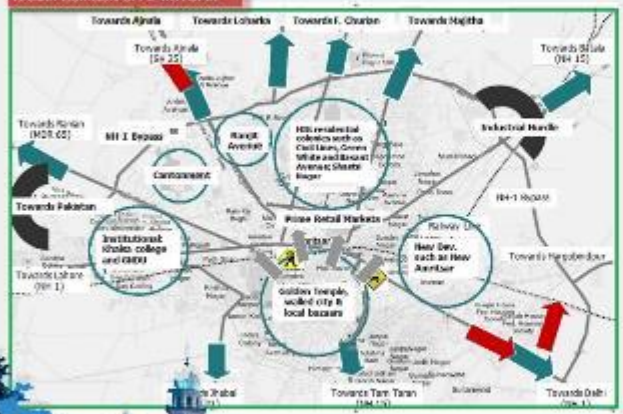
1.19 million
- 2011: 1.13 million
- 2001: 1.01 million
- 1991: 0.80 million

1.19 million
46.93% 5,58,412
53.07% 6,31,588

12% Senior Citizen 60+ yrs.

29% Youth Under 25yrs.

Growth Corridors of AMRITSAR



DERIVATION

Amritsar meaning 'the holy pool of nectar' is the most ancient and historic city of Punjab.

HISTORICAL SIGNIFICANCE

Acts as the seat of Sikh history and culture, with high level of religious tourism activity.

URBAN POPULATION

Urban population: 34.08% in the district, with 80% of this population based in Amritsar city

CONNECTIVITY

Enjoys strategic location with good connectivity to prime cities of Punjab and India

TRADE & COMMERCE

Largest grain and commodity trade market of Punjab

Smart City AMRITSAR

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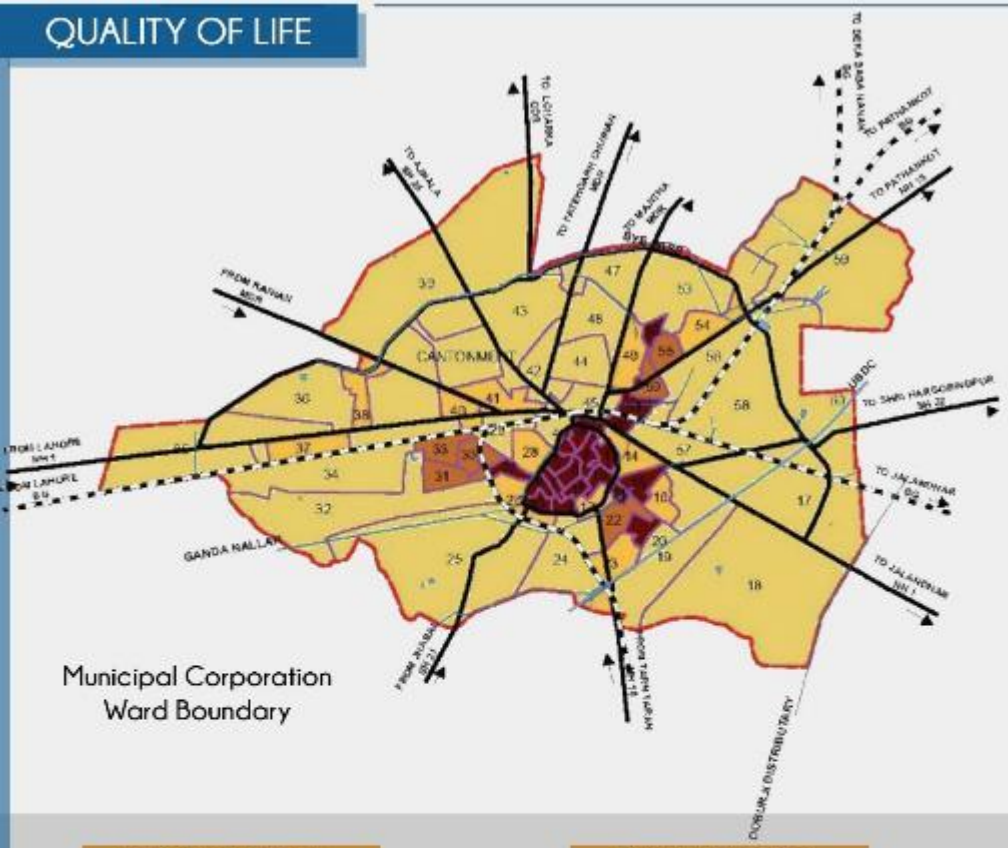
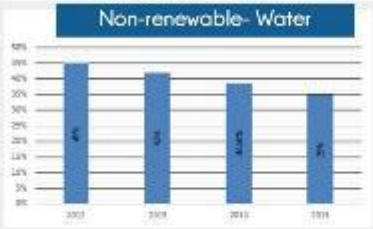
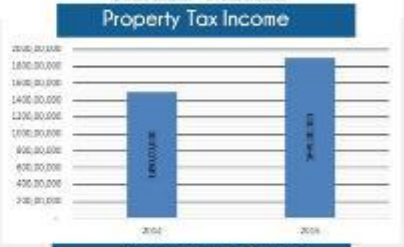
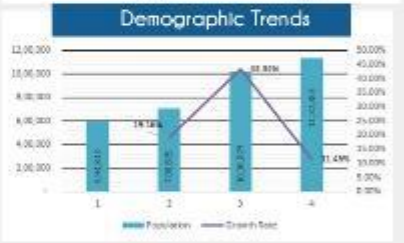
QUALITY OF LIFE

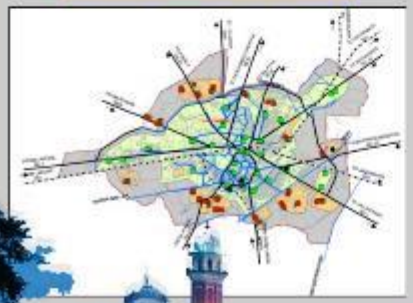






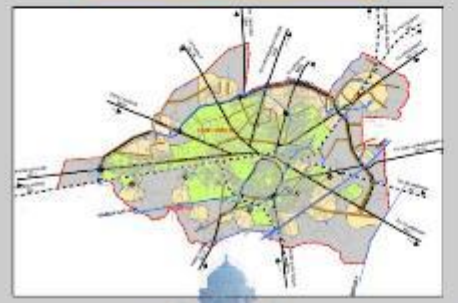


Water Supply Network

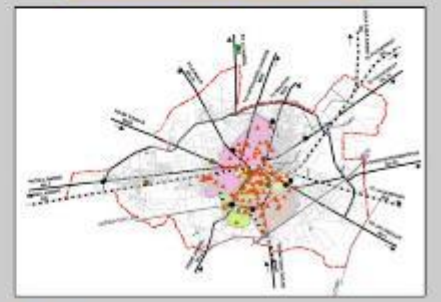


Parking Lots Location

Sewerage Network



Electric Supply Network



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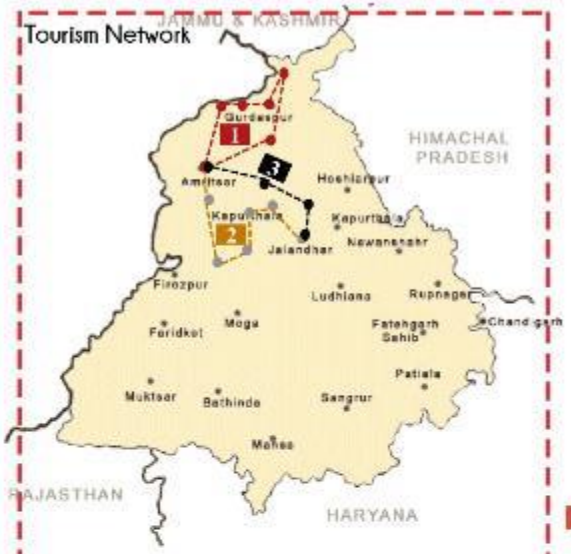
TOURISM



1. Amritsar-Dera Baba Nanak-Kalanaur-Gurdaspur-Pathankot-Qadian

2. Amritsar-Tarn Taran-Hari-Ke-Pattan (Harike Bird Sanctuary) - Sultanpur Lodhi - Goindwal Sahib - Kapurthala (Kanji lake) -Jalandhar

3. Amritsar-Baba Bakala Sahib-Kartarpur-Jalandhar

4. Amritsar - Ram Tirath - Sarai Amanat Khan - Wagah Border
The tour involves visit to religious sites in Amritsar (and sites nearby the city) and Wagah borde

5. Amritsar - Dharamsala - Dalhousie - Katra - Jammu - Amritsar

No. of tourist visits yearwise

- 245 Lc — 2014
- 191 Lc — 2012
- 107 Lc — 2010
- 54 Lc — 2009

No. of highest visitors per day

- 282 Lc — Golden Temple
- 80 Lc — Hoseiry Market
- 54 Lc — Gurudwara Shri Keshgarh Sahib
- 45 Lc — Attari Border

FAMOUS TOURIST ATTRACTIONS IN AMR

01 Golden Temple

The Golden Temple is the most sacred Sikh religious site in India and is the genesis of Amritsar with the city growing around it.
As one descends into the temple one is confronted by the stunningly beautiful sanctum sanctorum glimmering in the water of the holy tank that is flanked on all four sides by spotlessly clean marble walkways and pavements.

02 Shree Durgiana Mandir

Shree Durgiana Mandir in Amritsar is a focal point for the Hindus. Pilgrims flock to this temple not only from India but also from abroad.
The complex popularly known as the Durgiana derives its name from the Goddess Durga.

03 Jallianwala Bagh

Amritsar played a pivotal role in India's quest for independence and no national monument has more significance than Jallianwala Bagh.
Jallianwala Bagh commemorates the martyrs, keeping the tragic episode in its historical context.

04 Attari-Wagah Border

This is the famous international border between India and Pakistan. The flag-lowering ceremony at the end of each day on the India-Pakistan border at Attari-Wagah has over the years has become a tourist destination, attracting predominantly Indians and Pakistanis on the respective sides of the border along with foreign tourists.

05 Ram Bagh Garden

The heritage site is famous for its royal places, gates, watch towers and a beautiful layout of fountains and lawns having rare trees planted by Maharaja Ranjit Singh. The Garden is spread over 84 acres of land.

Smart City AMRITSAR

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SMART CITY PROPOSAL MODIFICATIONS: *Citizen Engagement*

CITIZEN ENGAGEMENT

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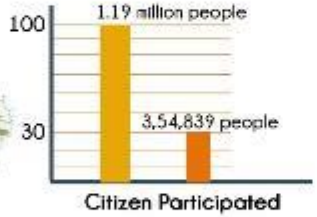
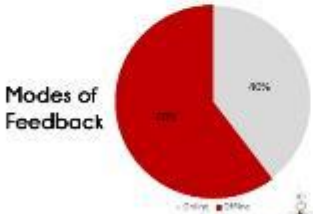
30% of total population participated

Map of Amritsar
Total Population -1.19 million



01	CITIZEN INCLUDING SENIOR CITIZEN AND DISABLED	38 %
02	MLA INCLUDING POLITICIANS, MINISTERS	10 %
03	KIDS INCLUDING COLLEGE STUDENTS	24 %
04	BUISNESSMAN	28 %



STEP 1

Interactive Consultation

50,000 PARTICIPANTS	Public Consultation	2,500 EMAILS	Suggestion via email	35,000	FM
7,500 PARTICIPANTS	Live Talk Shows	2,000 USERS	SMS	15,000	Hello Jagaran
5,000	Watsapp	84,395 SUGGESTIONS RECEIVED	Structured Suggestions Forms	7,000	Newspaper column
3,000 SUGGESTIONS	Mygov	1,24,971	Flash Message	20,333	Small nukad meetings

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MEDIA AND PUBLICITY

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Citizen Engagement

Various Educational Institution's engaged.....

Various competitions among the students

Municipal Corporation Amritsar engaged students in various competitions such as Logo Making Competition, Painting Competition, and Essay writing under the Smart City Initiative. All the colleges/ school students were to upload their respective Logos, Paintings, and Essays on Smart City Portal on the mygov website www.mygovin. The students were asked to prepare on any one topic which should illustrate a smart city solution you think is usable in your smart city Amritsar. Students participated in huge no and came out with various Smart City Logos for Amritsar. Similarly citizens came out with various effective smart solutions for their city such as Use of Solar Energy, Preserving the heritage of Amritsar, Walkability and Pedestranization, A clean and Green City amongst others

Citizen Engagement Mechanism- Social Media

The citizens of Amritsar were made aware through various social media platforms such as Facebook, LinkedIn, and Twitter. Apart from that people were also encouraged to post their views, suggestions on the mygov website www.mygovin wherein citizens participated in huge number to give their suggestions, views on how the smart city can be made more liveable and sustainable. People also discussed about the various issues and challenges faced in their day to day life and what can be the measures which can be taken for it.

The major discussions and issues revolve around:

- ☒ Traffic Calming,
- ☒ Congestion on the streets
- ☒ Increasing crime in the city
- ☒ Garbage in the city
- ☒ Street Lightning
- ☒ E-governance for hassle free access

Based on the same we derived our PAN city solutions viz. Safety and Surveillance and Solid Waste Management

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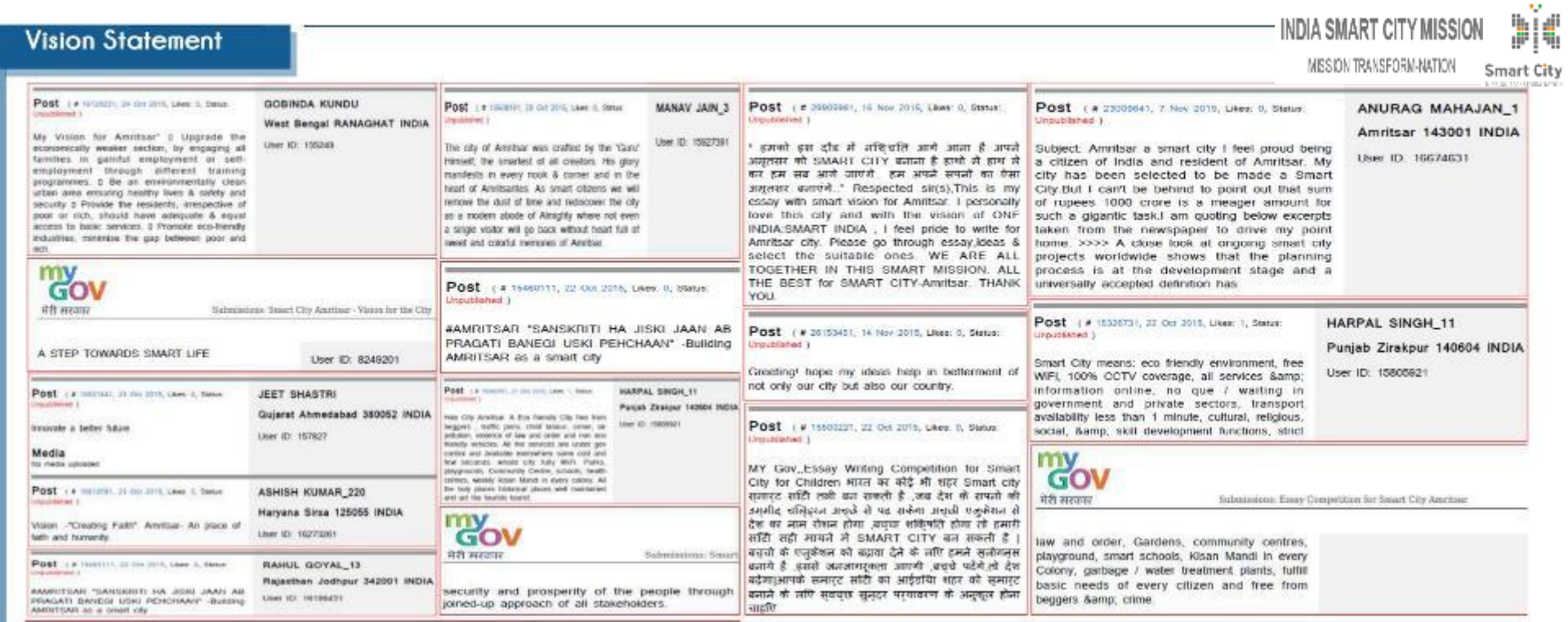
SMART CITY PROPOSAL MODIFICATIONS: *Citizen Engagement*



SMART CITY PROPOSAL MODIFICATIONS: *Citizen Engagement*

SMART CITY PROPOSAL: *Vision & Goals*

PROMOTING AMRITSAR AS SMART CITY

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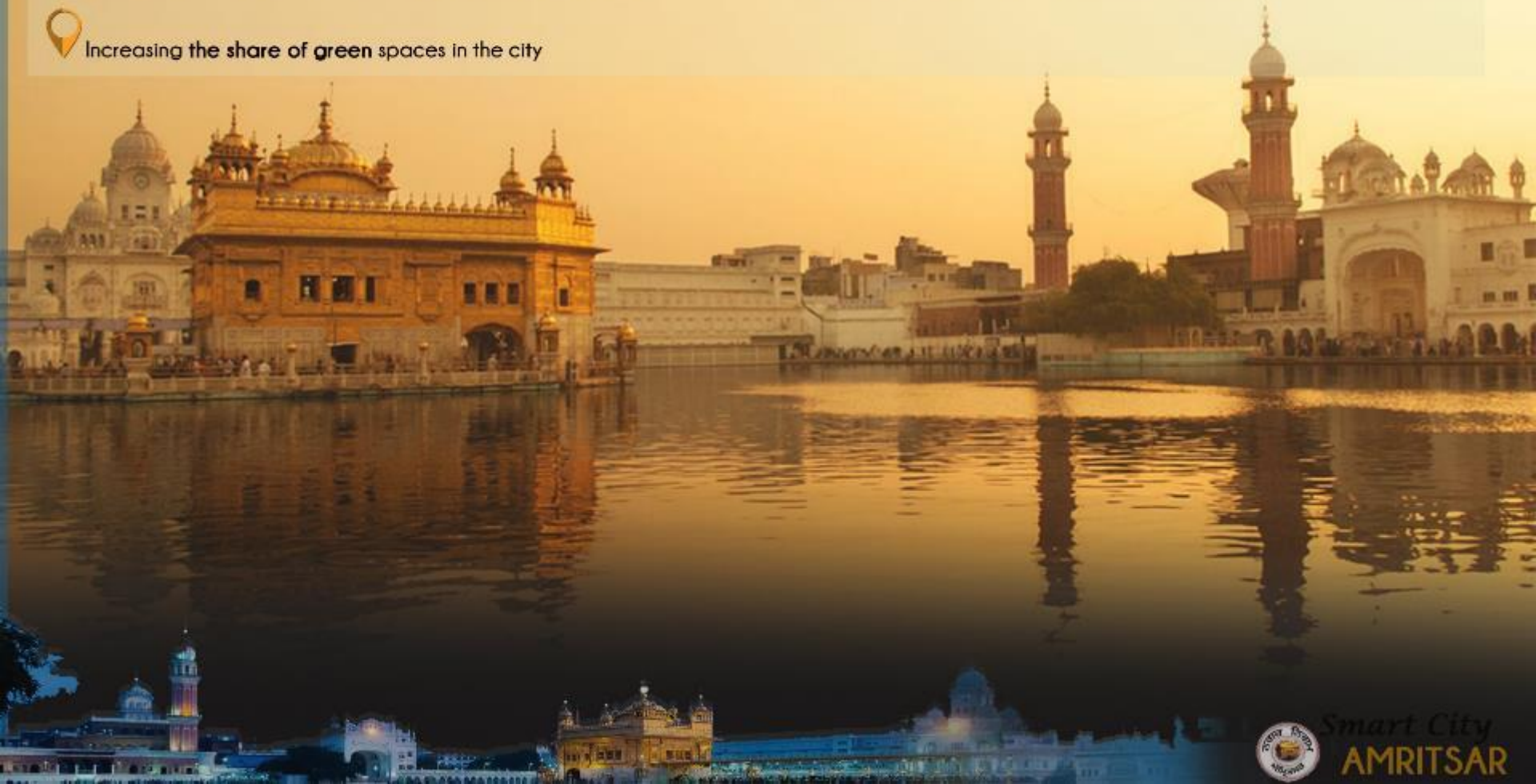
- Amritsar: an internationally oriented, **Green and Vibrant city** with world class infrastructure that treasures its rich cultural, historical and religious heritage as a sustainable foundation for its Tourism based economy.
- Promoting City As **Smart Heritage And Tourism Destination**
- Increasing **the share of green** spaces in the city
- Ensuring **equitable distribution of road space** between all road users (pedestrians, cyclists, public transport users, private vehicle users and others). Improving the last mile connectivity
- **Promoting E-Governance** which will offer a variety of ICT services to citizens in an efficient and economical manner



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SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

RETROFITTING AND REDEVELOPMENT OF WALLED CITY AREA: 950 acres+

#TRANSPORT & MOBILITY: Road development, no vehicle zone with smart parking, pedestrian friendly roads, real time air monitoring, last mile connectivity with e rickshaws, carts and cycle sharing system.

#ASSURED ELLECTRICTY SUPPLY: Provision of 24 x 7 power supply with 10% from Renewable energy source, Micro grid monitoring with smart consumer meters. Overhead cables of power and telecommunication along main roads to be taken underground will help in improving the street scape of walled city area.

#WATER SUPPLY, WASTE WATER & SANITATION: 24 x 7 water-supply system with SCADA, 100% smart metering, reuse of recycled wastewater and channelized storm water drainage.

#SOLID WASTE MANAGEMENT: 100% collection and segregation, smart garbage bins, mechanical sweeping, economical transportation and scientific disposal of waste.

#OPEN SPACE & VISIBLE IMPROVEMENT: Reinventing available hierarchy of urban green spaces(60nos)and circular road as attractive Public Spaces, by transforming them into recreational areas whereas larger parks (sakatri and goal bagh) into themed cultural destinations. Creating Public squares and refurbishment of peripheral wall of walled city.

SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

#E GOVERNANCE & CITIZEN SERVICES: Smart mobile app for citizens for all municipal services. Cameras with fully equipped operations control rooms for walled city area. Mobile based exploratory app for ease of tourists.

#REDEVELOPMENT OF PUBLIC AMENITIES: Re development of Town hall into Socio Cultural recreational center. 'Theme/special events calendar' could be added to make the space an even bigger destination, by organizing events related to e.g, Music, Theater, Arts, Yoga, Redesign public arenas, Sports, Environment and Heritage protection etc.

#RELOCATION OF POLLUTING DENSED URBAN CLUSTERS FROM CORE: Moving polluting industrial and wholesale clusters outside the walled city area. Strengthening of skill based employment and business clusters at identified locations. Providing inclusive affordable housing in growth corridors of Amritsar. Aim will be to promote Skill development clusters to boost brand 'AMRITSARI' or 'AMBARSARI' in ethnic cuisines, long multi purpose scarf (phulkari) and foot wears (jootis) among others.

SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

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AREA BASED REDEVELOPMENT

REDEVELOPMENT OF MAJITH MANDI

REDEVELOPMENT OF FISH MARKET AND OTHER IDENTIFIED

DEVELOPMENT OF PUBLIC AMENITIES, GREEN AND RETAIL SPACES MAJITH MANDI

DEVELOPMENT OF MULTI LEVEL CAR PARKING WITH RETAIL COMPONENT

SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

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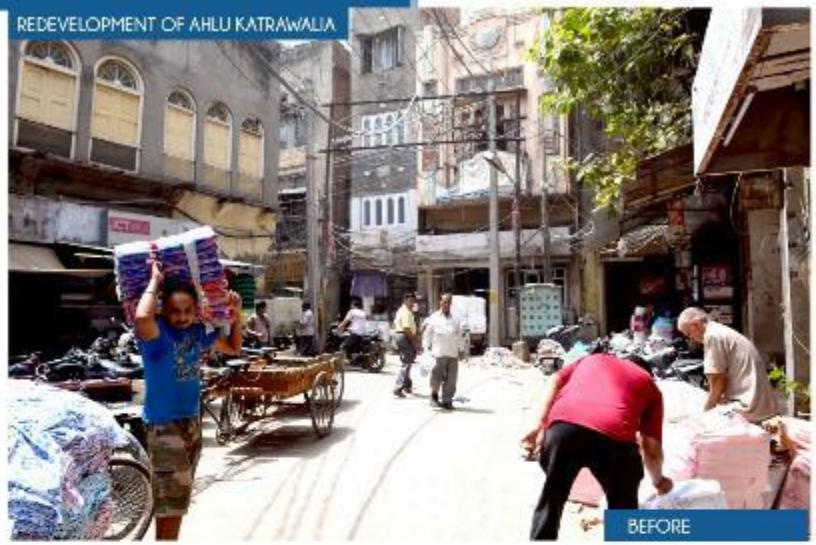
AREA BASED REDEVELOPMENT

REDEVELOPMENT OF AHLU KATRAWALIA



BEFORE

REDEVELOPMENT OF DHAB WASTI

BEFORE

REDEVELOPMENT OF AHLU KATRAWALIA

PROPOSED

DEVELOPMENT OF CITY LEVEL OPEN SPACE AT DHAB WASTI

PROPOSED

SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

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AREA BASED DEVELOPMENT

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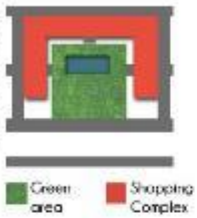
Commercial Area proposed at Golbagh & Sakatri bagh

VIEW

PROPOSED PLAN

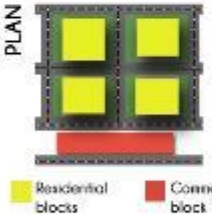


Integrated development of housing, shopping and skill development center

For the shifted families, high rise apartments are to be made with proper infrastructural facilities and provision for commercial space adjacent to it for their income generations.

VIEW

PLAN



- Residential blocks for the families shifted
- Skill development center
- Provision of commercial facilities close by

Town Hall

Present

Town Hall would be developed into museum.

Lush green lawn in place of parking
Pedestrian access
Proper landscaping

Proposed

Hall Bazaar

Present

Pedestrian access only
Facade articulation
Landscaping on sides of street
Provision for temporary structures
Uniform hoardings

Proposed

Street Section of Main Arterial Road of Walled City

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SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

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PROPOSED FACILITIES

01 24x7 Electric Supply

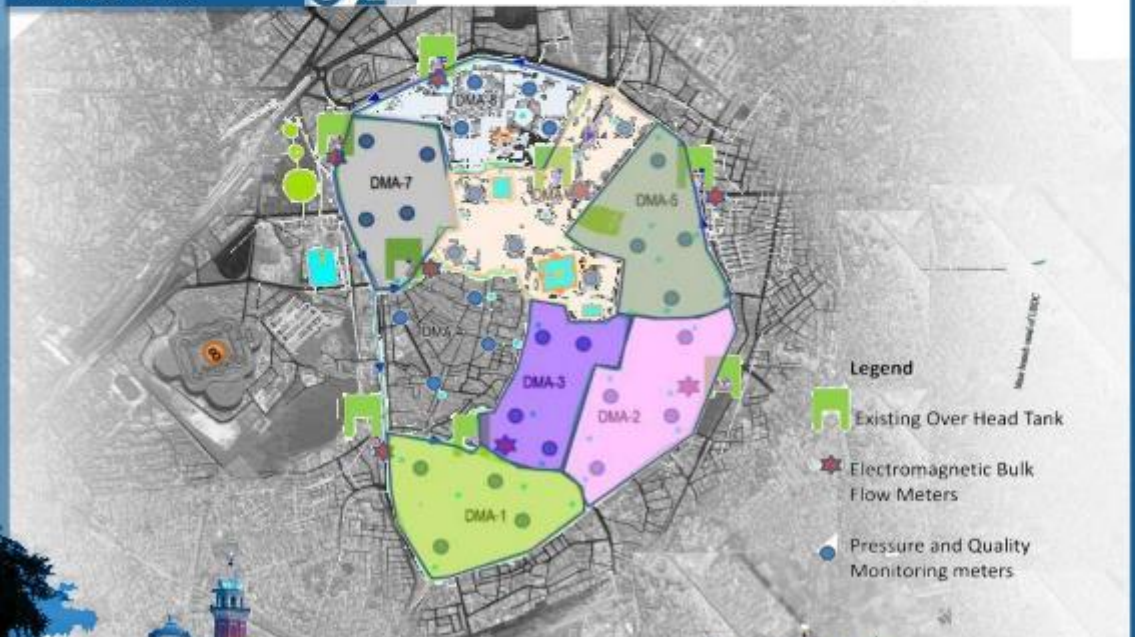
Solar Panels | Street Lighting

Provision of 24x 7 power supply with 10% from renewable energy source

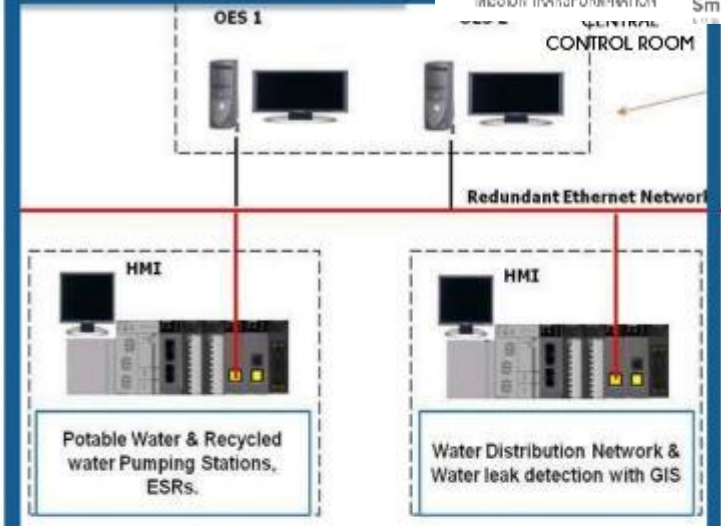
City Operator Applications

- Lighting Control
- Energy Reports
- City Safety/ Security
- Situational Awareness
- Parking Enforcement
- Incident Detection
- City Air/Noise/ Pollution Maps

02 Water Supply Network



SCADA Human Machine Interface(HMI) Architecture

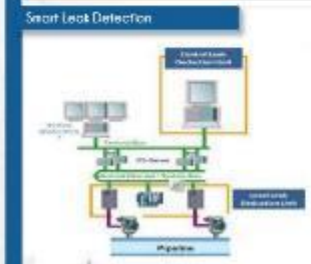


Flow Measurement

Smart Consumer meter

Electromagnetic Bulk Flow Meters

Smart Leak Detection



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SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

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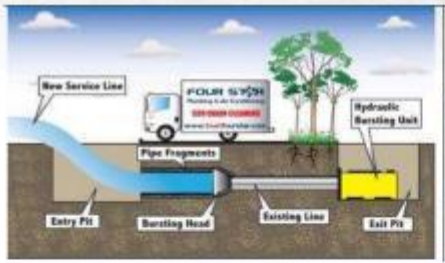
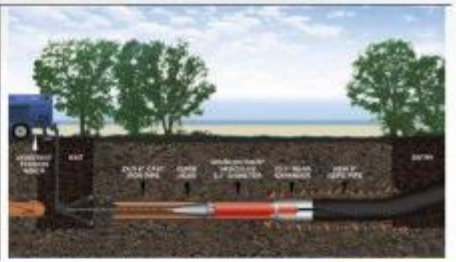
AREA BASED DEVELOPMENT

95 MLD STP for South Zone under JICA Project





Drainage Network for Walled City:
1. Comprehensive hydraulic analysis of drainage system
2. Rehabilitation of existing drains-9 km
3. Construction of new drains in walled city-90 km
4. Provision for Ground Water Recharge

Storm Water and Sewerage for Walled City:
1. Rehabilitation of distribution network – 59 km
2. Sensors for sewage over flow

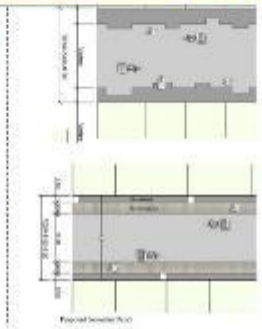
Storm Water, Drainage and Sewerage Network 03

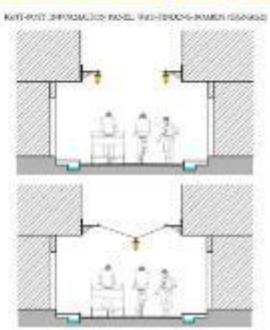
SMART PRINCIPLE FOR SMALL STREET RETROFITTING

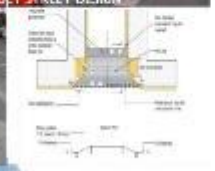
- continous raised threshold for covered storm water drainage
- raised threshold clear demarcation for shop display only - rest street encroachment free
- appropriate streetlights fixed to buildings
- free of motorized traffic I vehicles for loading shops only before and after closing hours

ROADS ARE BEAUTIFUL & SAFE WHEN THEY BELONG TO PEOPLE

Mobility And Transport 04







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PROPOSED FACILITIES

Area Based Proposal I Signage/wayfinding Tourists in Walled City

Area Based Proposal I Innovative use of Gole & Sakatri Park

1. Re-inventing the available open spaces – adding cultural dimension
2. Financially self-sustaining recreational nodes
3. Organizing events with third party involvement - Music, Theatre, Arts, Yoga, etc
4. Multifunctional piazza, open lawn area, amphitheatre or podium
5. Other facilities: -

Interactive information panels,
solar powered charging stations for phones,
Panic Buttons,
Public conveniences like drinking water, toilets, wi-fi zones, etc.

Open Spaces 05

SMART PRINCIPLE RETROFITTING GOLBACH + SAKATRI BAGH

- *Collaborations with NGO's, Cultural Institutes for staging events promoting Music, Sports, Arts, Culture etc.*
- *Offering space for local entrepreneurs promoting local cuisine - healthy lifestyle.*
- *Income generated by collaborations to be used for maintenance of the Parks.*
- *Landscape Design features promoting excercise.*
- *Smart Landscape Design, Street Furniture to increase sense of safety for women and accessibility for elderly, differently abled.*
- *Smart Environmentally friendly Landscape Features : solar panels, rainwater harvesting, eco friendly waste management.*

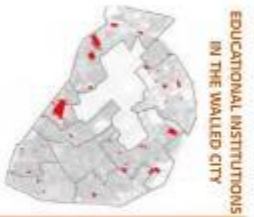
Electronic governance or e-governance is the application of information and communication technology (ICT) for delivering government services, exchange of information communication transactions, integration of various stand-alone systems and services between government-to-customer (G2C), government-to-business (G2B), government-to-government (G2G) as well as back office processes and interactions within the entire government framework.

E-governance 06

INTEGRAL PLANNING AND DESIGN OF SIGNAGE, STREET FURNITURE AND LANDSCAPE FEATURES FOR PEDESTRIAN FRIENDLY STREETS, PARKS AND PLAZAS

Source: City HRIDAY Plan Amritsar, 2015

RESPOND CONTEXTUALLY | CONNECT EFFICIENTLY | DEVELOP EQUALLY | BUILD INTELLIGENTLY | INVEST STRATEGICALLY | COLLABORATE ACTIVELY



Smart City AMRITSAR

Draft Smart City Proposal Amritsar- Round II

- MoUD Ranking
- City Profile
- Citizen Engagement
- Area based Development
- **Pan City**
- Special Purpose Vehicle & Organogram
- Financial Analysis

SMART CITY PROPOSAL MODIFICATIONS: *Pan City*

 # TRAFFIC & MOBILITY

> Seamless urban mobility with the help of ICT based platforms and connected with city level command center. Increased share of public transport through introducing rapid transit system in city. Following are the major components included in traffic and mobility:

- Intelligent Traffic Management System
- IP based Video Surveillance System
- Variable Message Sign board
- Intelligent Parking
- E Rickshaws
- Bus Rapid Transit System with disabled friendly buses
- Smart Street Lighting
- Cycle tracks and NMT

 # INTELLIGENT SOLID WASTE MANAGEMENT

>Intelligent solid waste management will converge with SWACHH BHARAT MISSION with use of ICT application to provide clean and healthy environment in city

- Door to Door Collection with 24 x 7 litter control teams
- Segregation at source
- Intelligent Smart Bins with mechanized street sweeping and weekly footpath washing
- Waste transport Routing Map
- GPS based vehicle tracking system
- Weigh bridge facility
- Waste to Energy sites with Zero waste status for Amritsar city

SMART CITY PROPOSAL MODIFICATIONS: *Pan City*

 # E GOVERNANCE

>Central Command Centre: Integrated system will enable government leaders, city administrators, local businesses, and citizens for hassle free fast delivery mechanism. Through this approach, various sensor and application systems will provide smart solutions to Amritsar city to improve operations and optimize services delivery to engage citizens and improve quality of life. All individual service lines will be integrated into CCC. Some of the components included in this are:

- Traffic, Transport & Parking Management
- Water Management
- Lighting Management
- Waste Management
- Disaster Management
- Safety & Security

>Increasing the public grievance redresal through online platforms. Availability of city statistics, data and documents online.

>Tourist destinations through one single application

SMART CITY PROPOSAL MODIFICATIONS: *Pan City*

INDIA SMART CITY MISSION
MISSION TRANSFORM-NATION
Smart City

PAN CITY

01 E-governance

Central Command Centre: Integrated system will enable government leaders, city administrators, local businesses, and citizens to realize outcomes needed to survive and thrive. Through this approach, various sensor and application partners will provide solutions to cities to improve operations and optimize services delivery to engage citizens and improve quality of life. All individual service lines will be integrated into CCC. Some of the components included in this are:

01 Traffic, Transport & Parking Management
02 Environment
03 Lighting Management
04 Water Management
05 Safety & Security
06 Asset Management
07 Waste Management

03 INTELLIGENT SOLID WASTE MANAGEMENT

Intelligent solid waste management will converge with SWACHH BHARAT MISSION with use of ICT application. The proposed system would be able to monitor the solid waste collection process and management the overall collection process. It would provide in time solid waste collection, tracking the vehicle position through the GIS database and also overcome the disadvantages such as usage of minimum route, low fuel cost, clean environment and available vehicle.

01 Door to Door Collection
02 Segregation at source
03 Intelligent Smart Bins
04 Waste transport Routing Map
05 GPS based vehicle tracking system
06 Weigh bridge facility
07 Waste to Energy sites

Location of City Command & Control Centre

02 TRAFFIC & MOBILITY

Seamless urban mobility with the help of ICT based platforms and connected with city level command center. Increasing share of public transport through introducing rapid transit system in city. Following are the major components included in traffic and mobility:

1 Intelligent Traffic Management System
2 IP based Video Surveillance System
3 Variable Message Sign board
4 Intelligent Parking
5 E Rickshaws
6 Bus Rapid Transit System
7 Smart Street Lighting
8 Cycle tracks and NMT

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SMART CITY PROPOSAL MODIFICATIONS: *Pan City*

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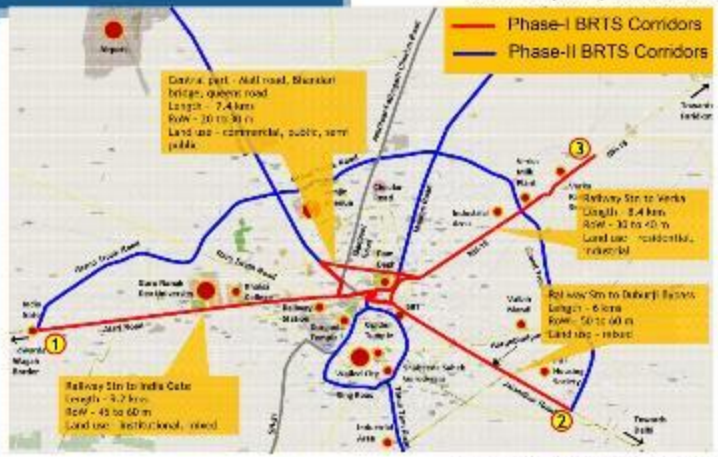
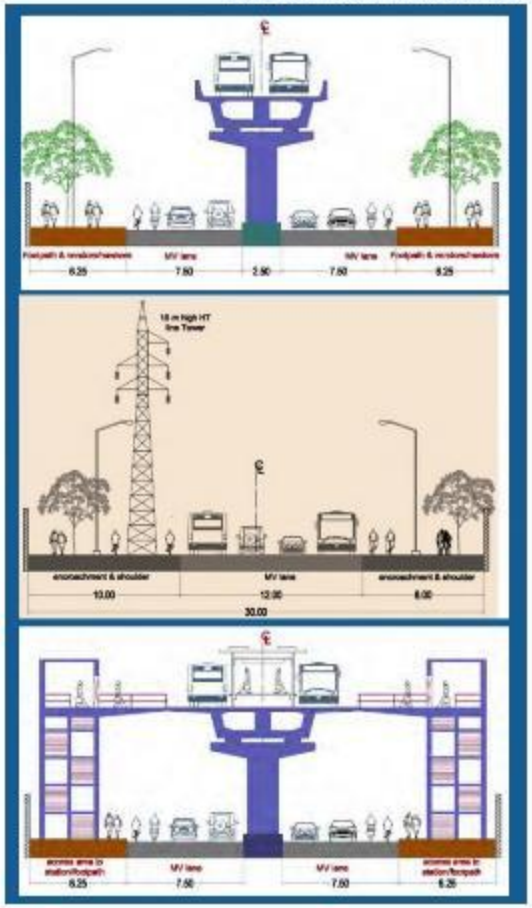
BRTS

Identified priority BRT corridors



Connectivity with Golden Temple

New Dedicated BRTS Elevated Road



Decongestion of Bhandari Bridge

Proposed BRTS Station Design

Retrofitted BRTS Stations along Existing Elevated Road

Source: DPR-BRTS

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Draft Smart City Proposal Amritsar- Round II

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SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

HUMAN RESOURCE PLAN/ ORGANIZATIONAL SETUP FOR SPV

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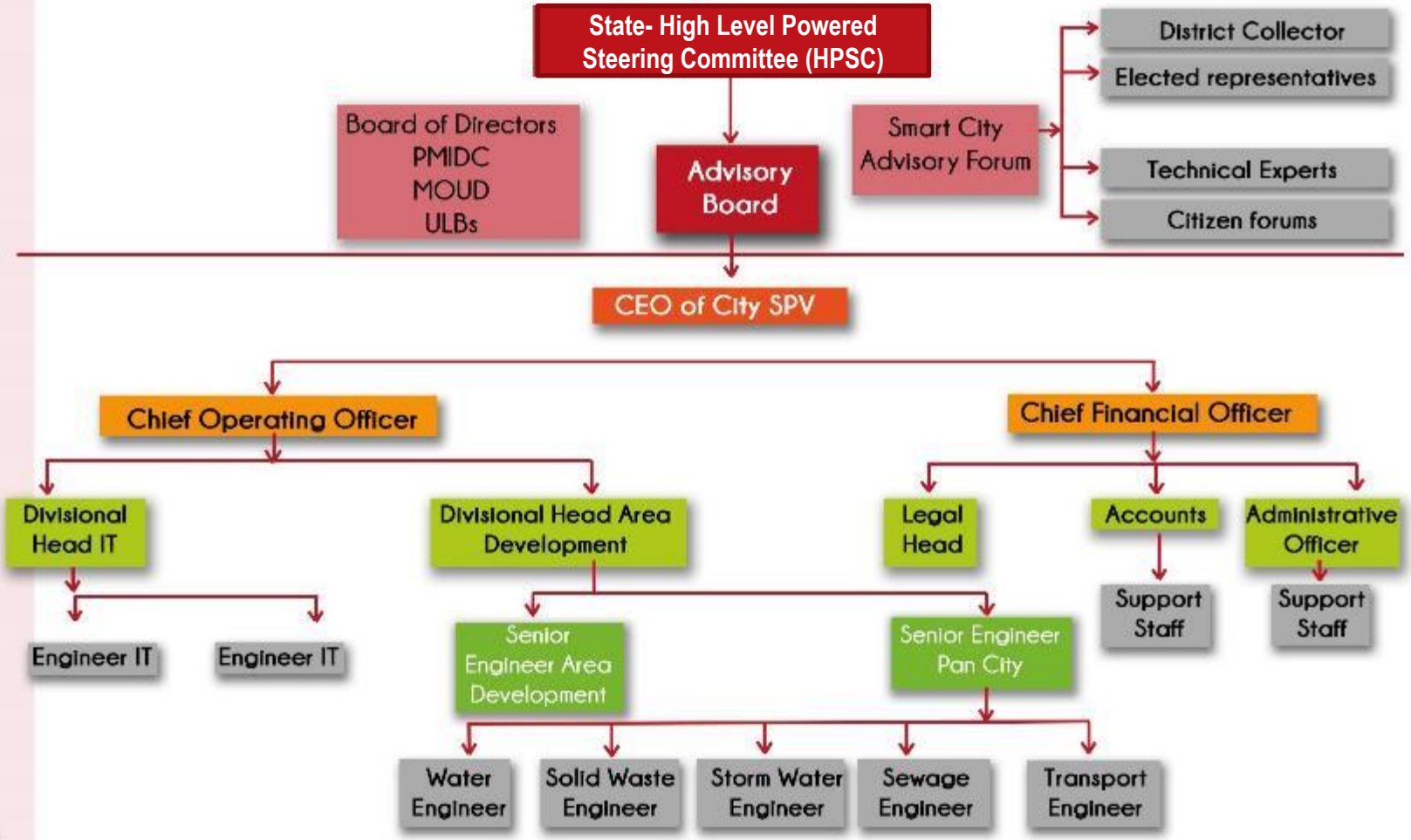
Response to question no. 33, 34



SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

INDIA SMART CITY MISSION
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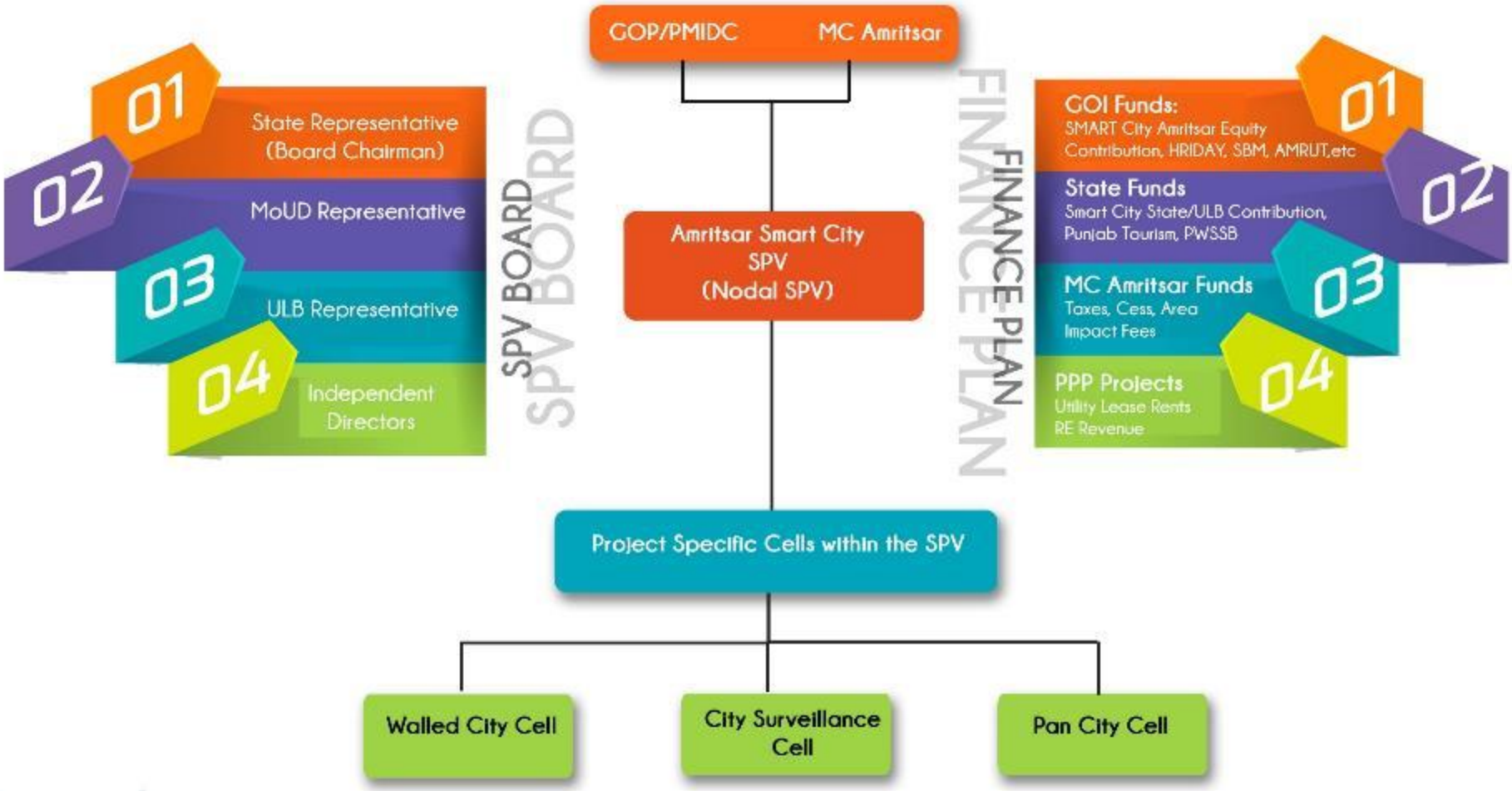
INSTITUTIONAL ARRANGEMENT FOR OPERATIONALISATION OF SPV

Response to question no. 33



PPP PARTNER/ CONCESSIONAIRE/EPC CONTRACTOR

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SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

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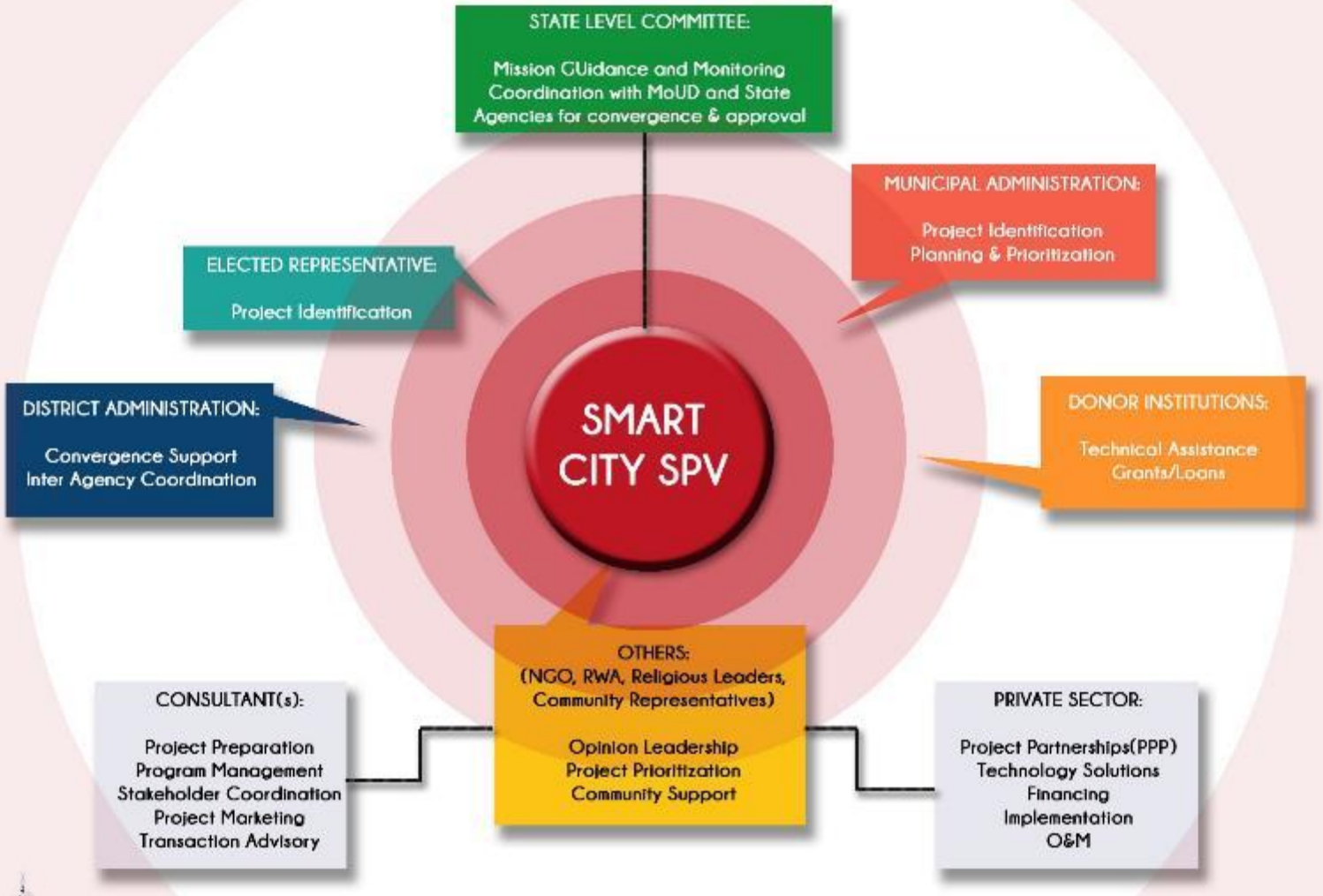
ORGANOGRAM FOR STAKEHOLDER'S ROLE

Response to question no. 34



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SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

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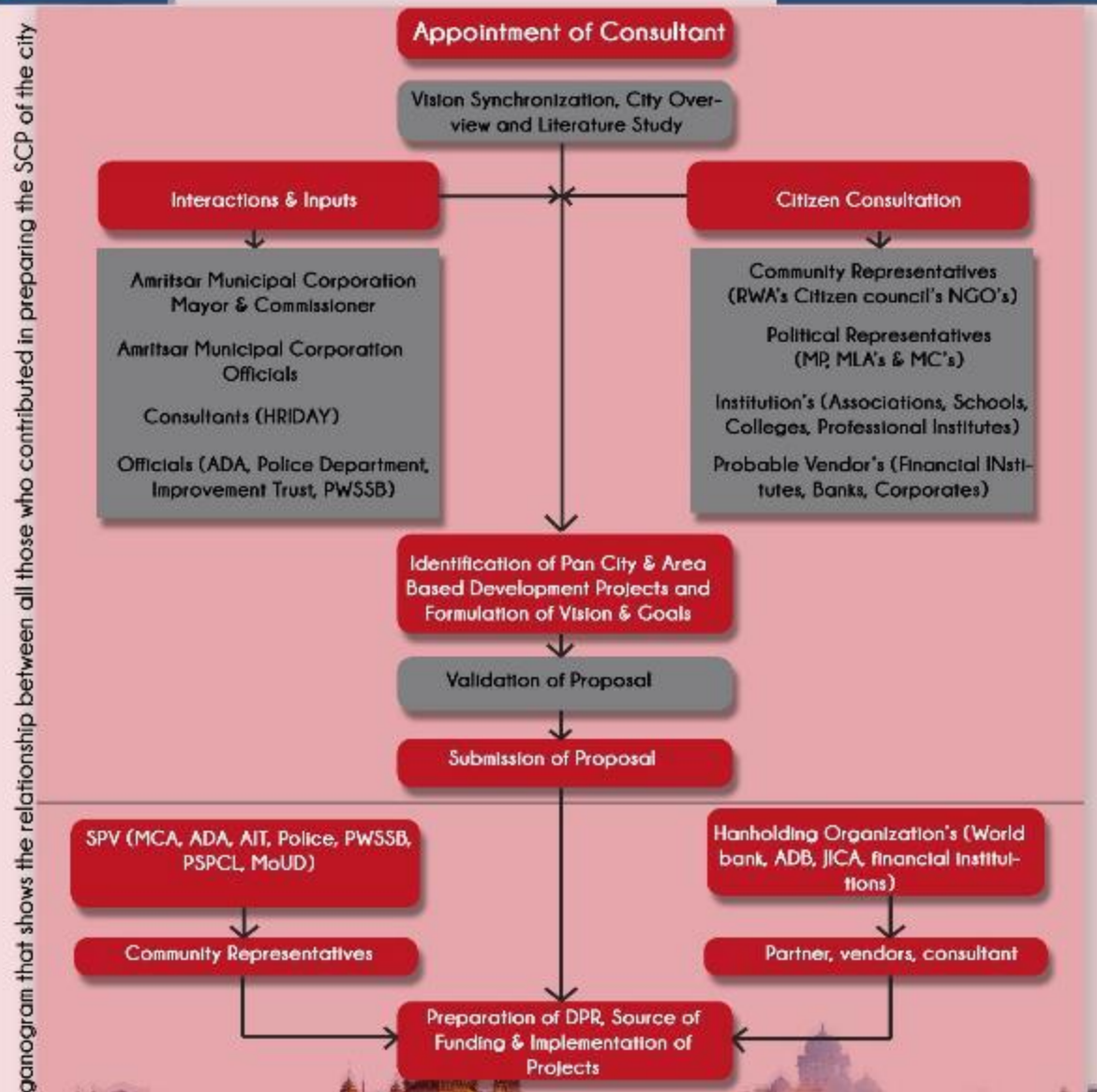
ORGANOGRAM

Organogram that shows the relationship between all those who contributed in preparing the SCP of the city



Smart City AMRITSAR

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SMART CITY PROPOSAL MODIFICATIONS: *Financial Analysis*

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IMPLEMENTATION SCENERIOS

S.No	Item	Critical Point	Time period in months (2017 / 2018 / 2019 / 2020 / 2021)
	Area Based Development		
1	**DPR Preparation**		
2	**24*7 Electricity**		
	Smart power grid for 24/7 un-interrupted power supply & improved efficiency Replacement of existing meters with smart energy meters. Smart LED street Lights		
3	**WATER SUPPLY, WASTE WATER MANAGEMENT AND SANITATION**		
	24/7 water supply systems, 100% smart		
	Storm water drainage		
4	**Sanitation incl SWM**		
	Sewerage		
	Solid Waste Management		
5	**Mobility & Intelligent Traffic Management**		
	Multilevel car parking		
	Traffic calming streets		
	Hybrid and Electrical vehicles		
	Walkability and pedestrin		
6	**Open Space & Improvement of Urban Area**		
	Under Ground cabling		
	Parks		
	Open air theater		
	Tourist Assistance Center		
7	**E Governance**		
	City Dash Board		
	Commissioning of software's and hardware's		
8	**Redevelopment of Public Facilities and Amenities**		
	Walled city to be decongested by shifting polluting wholesale/ retail trade clusters to city Periphery		
	Improved green cover & innovative use of public open spaces		
9	**Relocation of Dense Polluting Urban Cluster in City Periphery**		
	Skill development centers to boost brand "Amritsari"		
	Development of compact, high-density, mixed-use, mixed-income (15% affordable housing units) SCOs (Shop cum Office)		
	Pan City		
1	Master plan and DPR preparation for Pan City works		
2	Mobility & Intelligent Transport Management		
3	Intelligent Solid Waste Management		
4	E Governace		

Page 1

Smart City AMRITSAR

SMART CITY PROPOSAL MODIFICATIONS: *Financial Analysis*

SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

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PROJECT CASH FLOW STATEMENT

*All figures in INR Cr

Type of Project	Sub Component	Unit	Qty	Rate	Cost	Total Cost in INR	Timeline	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Outflows																	
Area Based Development																	
	Capital Cost					1,616		10	485	496	434	291	220	-	-	-	-
Pan City																	
	Capital Cost					1,214		99	403	409	361	19	20	22	23	25	26
	Total Capital Cost for Projects					**2,831**		**109**	**888**	**906**	**795**	**310**	**240**	**22**	**23**	**25**	**26**
O & M Cost																	
	Total O&M Cost					-	-	-	-	-	-	58	62	66	71	76	81
	Total Cost Out Flow							**109**	**888**	**906**	**795**	**367**	**302**	**88**	**94**	**101**	**108**
Inflows																	
	GoI & GoP Funding																
	Central Funding							97	97	98	98	98					
	State Funding							97	97	98	98	98					
	Funding through Central Schemes & State Govt Schemes																
	Convergence HRIDAY - Heritage & Peripheral Zone upgradati		60						20	20	20						
	Convergence AMRUT - SWM		150						38	38	38	38					
	Convergence SBM - SWM		12						6	6							
	Beautification of Golden temple area Tourism Dpartment Co		60						30	30							
	Town hall into museum		6						3	3							
	Sewerage board		12						6	6							
	IPDS		4						2	2							
	SWM		290					73	73	73	73						
	BRTS		50					17	17	17							
	Mechanical Sweeping		144					14	14	14	14	14	14	14	14	14	14
	PPP RE Revenue																
	Revenue from PPP Commercial Project								54	126	203	294	393	404	414	452	465
	Revenue from MLCP Parking									2	3	3	4	4	4	4	5
	Revenue from User Charges																
	Revenue from underground cabling & Gas Network									8							
	Manholes									0	0	0	0	0	0	0	0
	Revenue from Advt.									14	16	17	19	21	23	26	28
	Hybrid vehicles 50 nos							0	0	0	0	0	0	0	0	0	0
	Revenue from Increased Taxes							53	59	66	74	83	93	104	116	130	146
	Revenue from Impact fee from Area Development Prog										7	7	8	8	9	9	9
	Total Cash Inflow							**350**	**515**	**620**	**636**	**645**	**523**	**548**	**572**	**626**	**658**
	Net Cash Flows							**241**	**-373**	**-286**	**-159**	**278**	**221**	**460**	**478**	**526**	**551**

NPV of Net Cashflows	**526**
NPV of Cash Inflow	**3,059**
NPV of Cost	**2,533**
IRR	**52%**

*For details refer Annexure 4

Smart City AMRITSAR

Discussions…