

# *Draft Smart City Proposal*

## *Amritsar- Round II*



16<sup>th</sup> June 2016

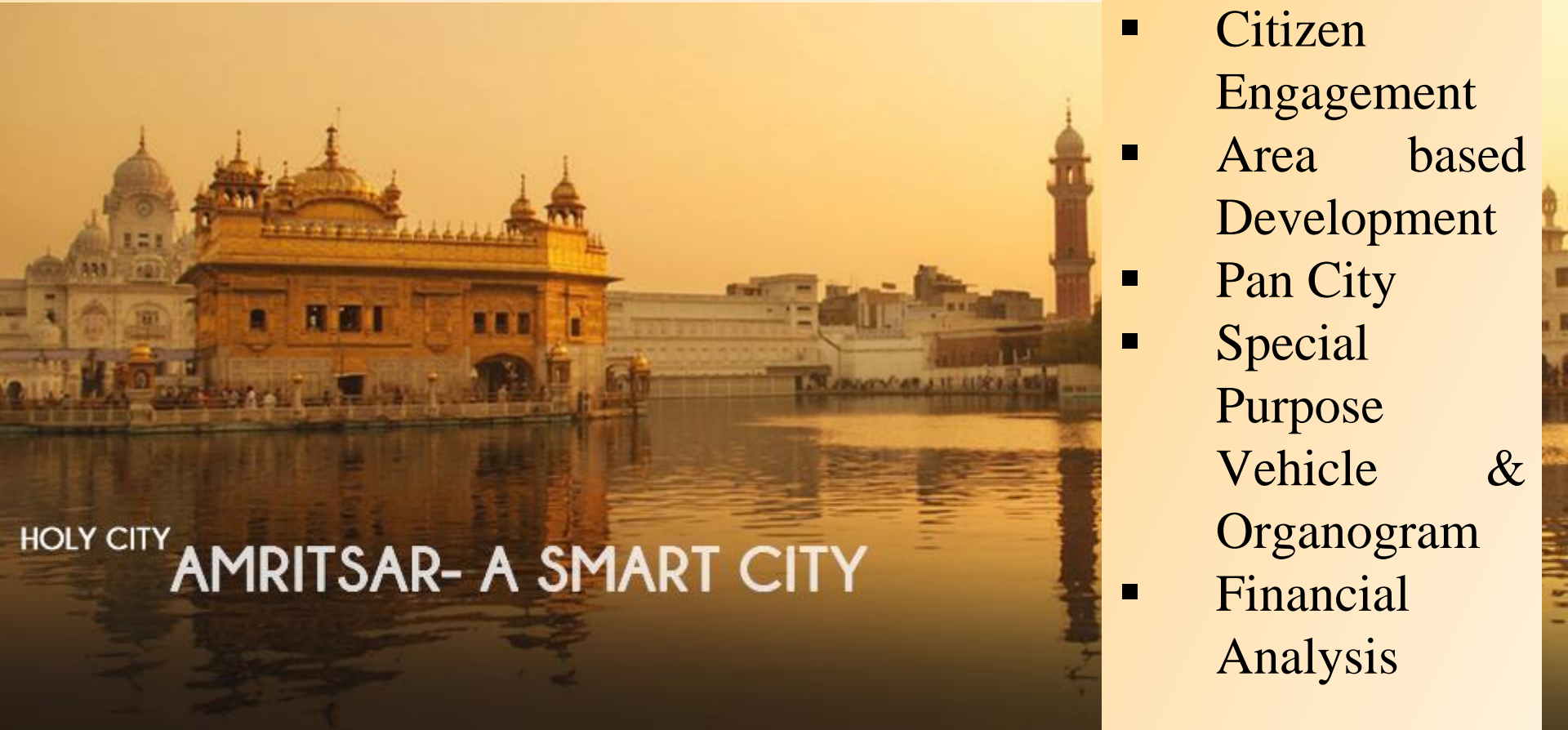
HOLY CITY

AMRITSAR- A SMART CITY



# Draft Smart City Proposal Amritsar- Round II

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



HOLY CITY

AMRITSAR- A SMART CITY

# 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 1<sup>st</sup> April 2016 and the remaining 54 cities will compete with their revised proposals which may be submitted by 30 June 2016. The 23 cities 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*



# SMART CITY PROPOSAL: *Amritsar*

## 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

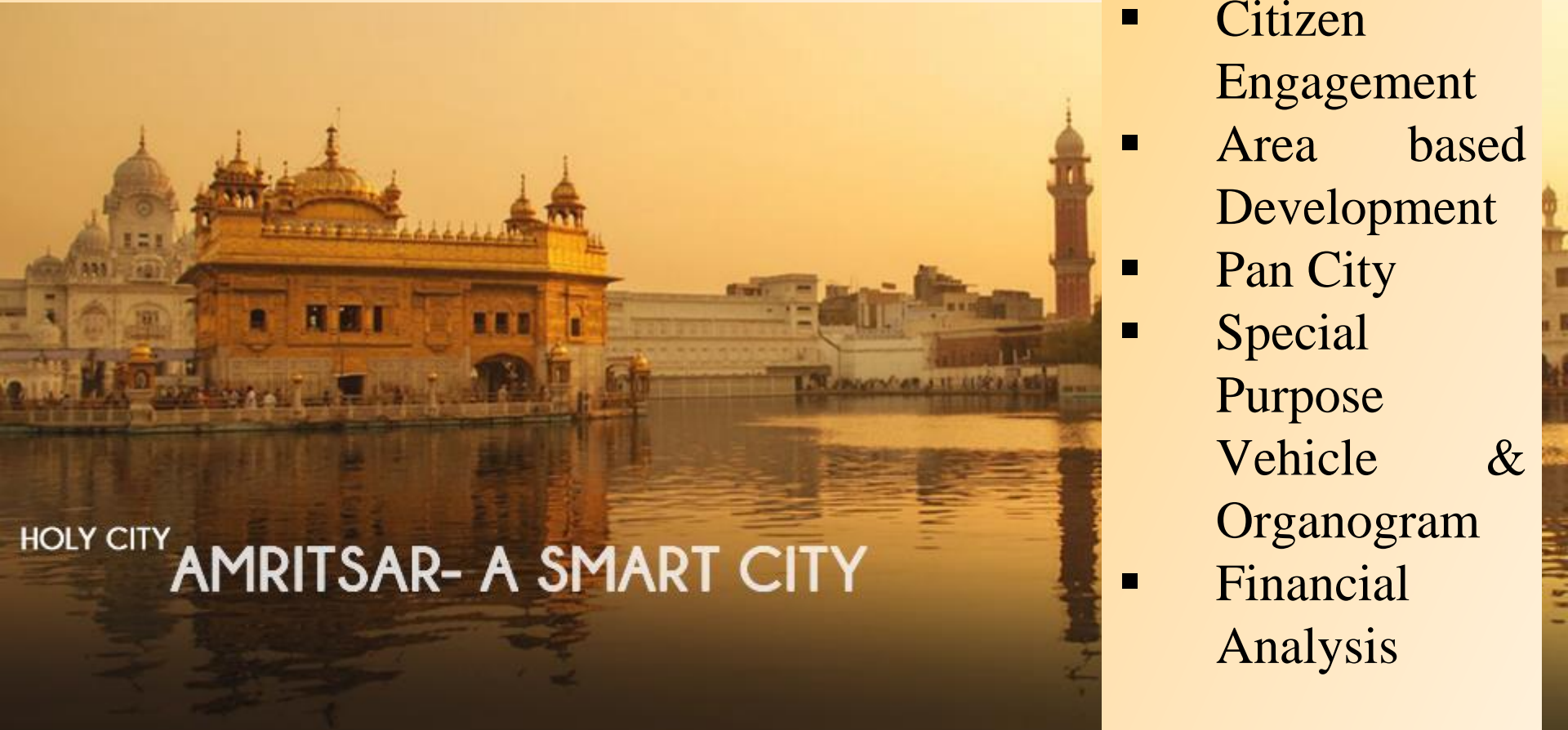
Focused discussions with Amritsar Municipal Corporation officials and Mayor regarding the shortcomings in SCP. New ideas and conversion of identified programs with existing programs were discussed.

### 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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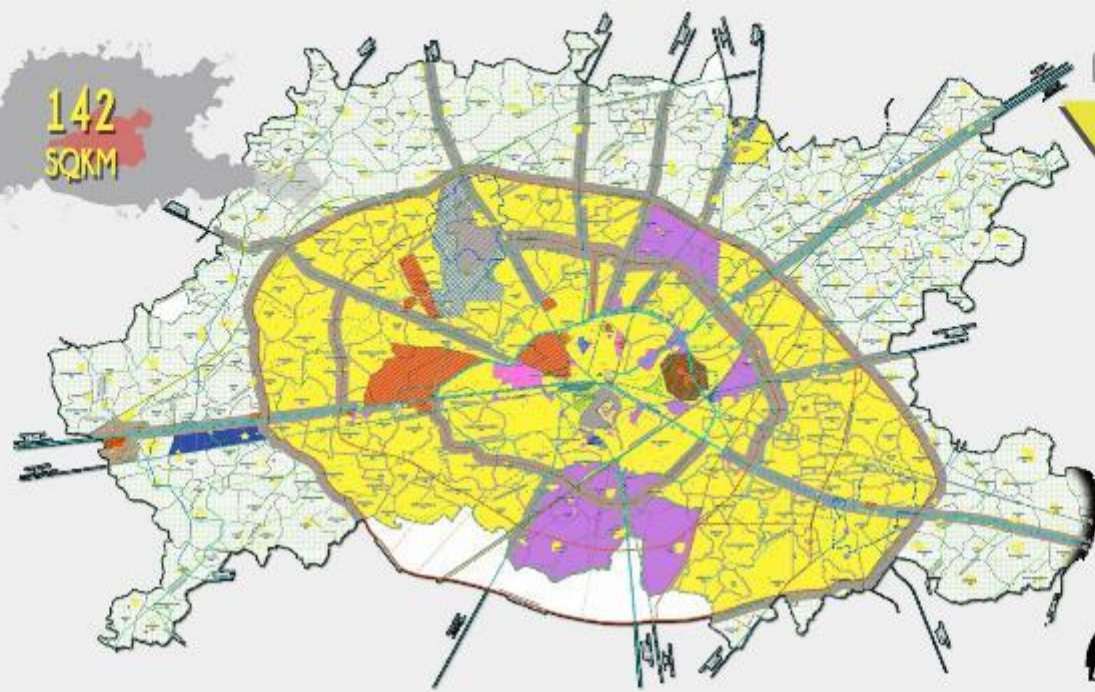
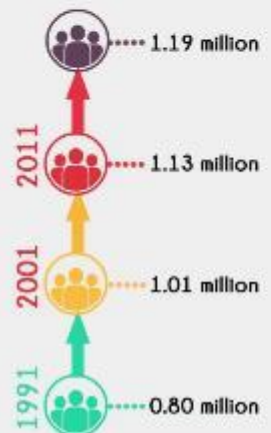
HOLY CITY

AMRITSAR- A SMART CITY

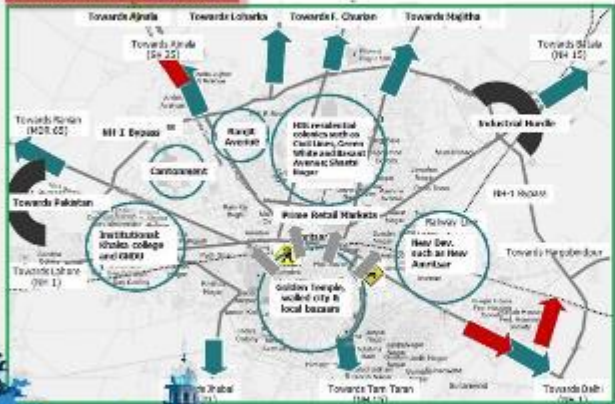
# SMART CITY PROPOSAL MODIFICATIONS: Introduction

## CITY PROFILE

**INDIA SMART CITY MISSION**  
MISSION: TRANSFORMATION  
Smart City



### 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.

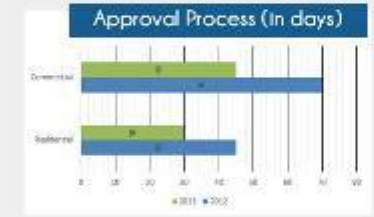
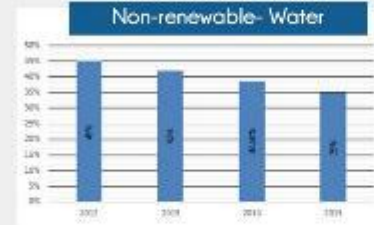
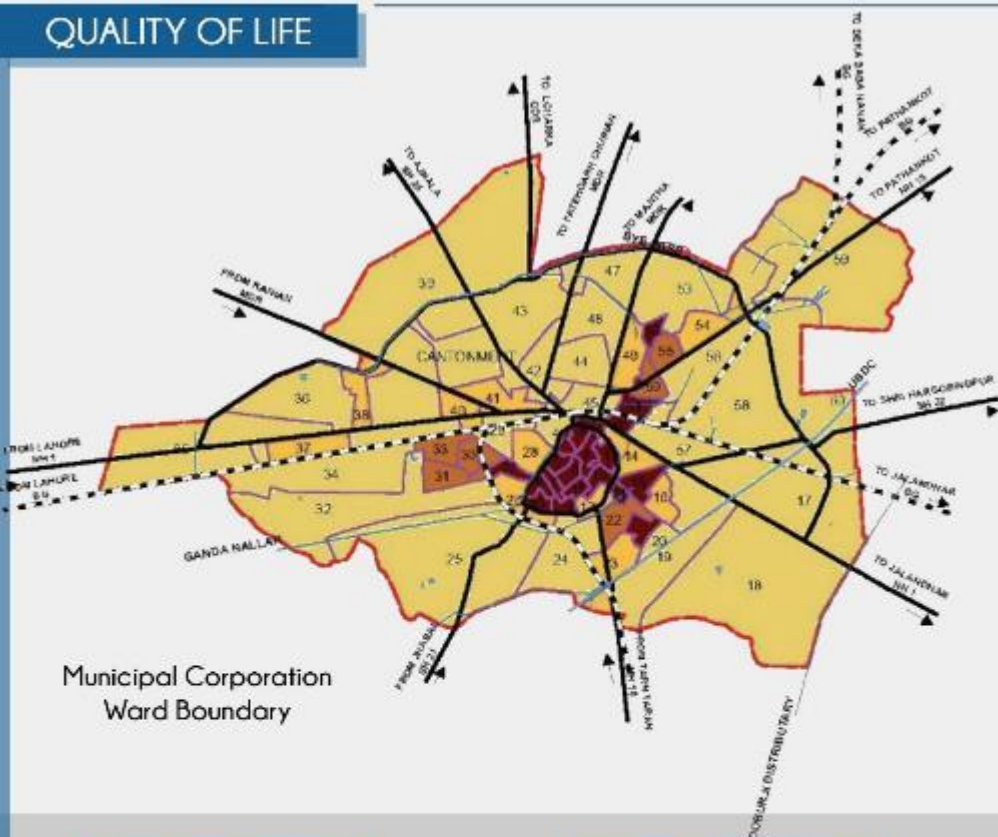
**URBAN POPULATION**  
Urban population: 34.08% in the district, with 80% of this population based in Amritsar city.

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

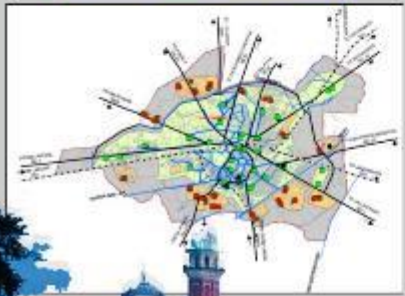
**TRADE & COMMERCE**  
Largest grain and commodity trade market of Punjab.

# SMART CITY PROPOSAL MODIFICATIONS: Introduction

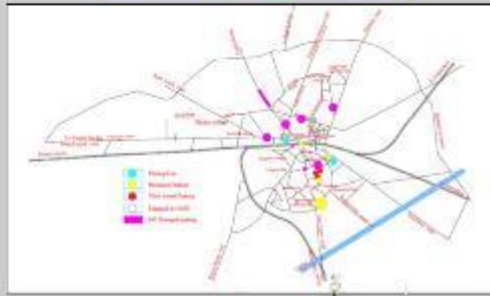
## QUALITY OF LIFE



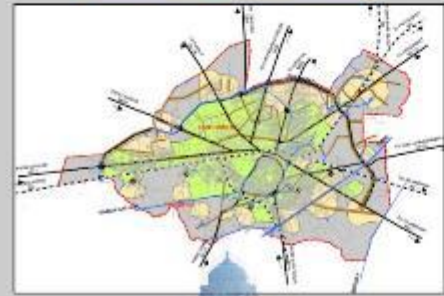
### Water Supply Network



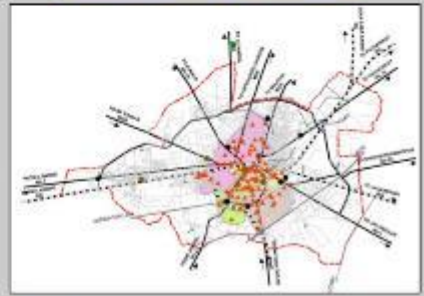
### Parking Lots Location



### Sewerage Network



### Electric Supply Network





# SMART CITY PROPOSAL MODIFICATIONS: Introduction



## TOURISM



- 1. Amritsar-Dera Baba Nanak-Kalanour-Gurdaspur-Pathankot-Qadian
- 2. Amritsar-Tain Taran-Hari-Ke-Pattan (Harike Bird Sanctuary) - Sultanpur Lodhi - Goindwal Sahib - Kapurthala (Kanli 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 border
- 5. Amritsar - Dharamsala - Dalhousie - Katra - Jammu - Amritsar

No. of tourist visits yearwise



No. of highest visitors per day



## FAMOUS TOURIST ATTRACTIONS IN AMRITSAR

**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.





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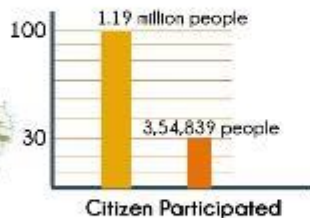
# SMART CITY PROPOSAL MODIFICATIONS: *Citizen Engagement*

## CITIZEN ENGAGEMENT

30% of total population participated



Map of Amritsar  
Total Population - 1.19 million



STEP 1

### Interactive Consultation

Interactive Consultation



01

CITIZEN INCLUDING SENIOR CITIZEN AND DISABLED

38 %



02

MLA INCLUDING POLITICAL PARTIES, MEETINGS

10 %



03

KIDS INCLUDING COLLEGE STUDENTS

24 %



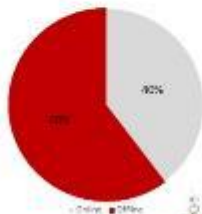
04

BUSINESSMAN

28 %



Modes of Feedback





# SMART CITY PROPOSAL MODIFICATIONS: *Citizen Engagement*



## 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.mygov.in. 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 Pedestrianization, 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.mygov.in 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 Clogging,
- ✗ Congestion on the streets
- ✗ Increasing crime in the city
- ✗ Garbage in the city
- ✗ Street Lightening
- ✗ E-governance for hassle free access

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



# SMART CITY PROPOSAL MODIFICATIONS: Citizen Engagement

INDIA SMART CITY MISSION



MISSION TRANSFORMATION

Smart City  
LIFE TO YOUR LIFE

## Vision Statement

<p><b>Post</b> ( # 1928201, 24 Oct 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>GOBINDA KUNDU</b> West Bengal RANAGHAT INDIA User ID: 135049</p> <p>My Vision for Amritsar :- Upgrade the economically weaker section, by engaging all families in gainful employment or self-employment through different training programmes. :- Be an environmentally clean urban area ensuring healthy lives &amp; safety and security :- Provide the residents, irrespective of poor or rich, should have adequate &amp; equal access to basic services. :- Promote eco-friendly industries, minimize the gap between poor and rich.</p>	<p><b>Post</b> ( # 1928191, 24 Oct 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>MANAV JAIN_3</b> User ID: 15827391</p> <p>The city of Amritsar was crafted by the 'Guru' himself, the wisest of all creators. His glory manifests in every nook &amp; corner and in the heart of Amritsaries. As smart citizens we will remove the dust of time and rediscover the city as a modern abode of Amritg where not even a single visitor will go back without heart full of sweet and colorful memories of Amritsar.</p>	<p><b>Post</b> ( # 20902861, 18 Nov 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p>* इसको इस देश में नदिरचिति जाने जाना है अपने अग्रसर को SMART CITY बनाना है इसको मैं हांग में कर हम सब करें जारंगे हम अपने सपने का ऐसा जगहकर बनारंगे..* Respected sir(s),This is my essay with smart vision for Amritsar. I personally love this city and with the vision of ONF INDIA:SMART INDIA , I feel pride to write for Amritsar city. Please go through essay,ideas &amp; select the suitable ones. WE ARE ALL TOGETHER IN THIS SMART MISSION. ALL THE BEST for SMART CITY-Amritsar. THANK YOU.</p>	<p><b>Post</b> ( # 23005641, 7 Nov 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>ANURAG MAHAJAN_1</b> Amritsar 143001 INDIA User ID: 16674631</p> <p>Subject: Amritsar a smart city I feel proud being a citizen of India and resident of Amritsar. My city has been selected to be made a Smart City.But I can't be behind to point out that sum of rupees 1000 crore is a meager amount for such a gigantic task.I am quoting below excerpts taken from the newspaper to drive my point home. &gt;&gt;&gt;&gt; A close look at ongoing smart city projects worldwide shows that the planning process is at the development stage and a universally accepted defnition has</p>
<p><b>myGov</b> मेरी सरकार</p> <p>Submissions: Smart City Amritsar - Vision for the City</p> <p>A STEP TOWARDS SMART LIFE</p> <p>User ID: 8248201</p>	<p><b>Post</b> ( # 19460711, 22 Oct 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>#AMRITSAR "SANSKRITI HA JISKI JAAN AB PRAGATI BANEGI USKI PEHCHAAN" -Building AMRITSAR as a smart city</b></p>	<p><b>Post</b> ( # 26153421, 14 Nov 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p>Crediting! hope my ideas help in betterment of not only our city but also our country.</p>	<p><b>Post</b> ( # 15326731, 22 Oct 2015, Likes: 1, Status: <b>Unpublished</b> )</p> <p><b>HARPAL SINGH_11</b> Punjab Zirakpur 140604 INDIA User ID: 15805921</p> <p>Smart City means: eco friendly environment, free WIFI, 100% CCTV coverage, all services &amp;amp; information online, no que / waiting in government and private sectors, transport availability less than 1 minute, cultural, religious, social, &amp;amp; skill development functions, strict</p>
<p><b>Post</b> ( # 19873141, 23 Oct 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>JEET SHASTRI</b> Gujarat Ahmedabad 380052 INDIA User ID: 157827</p> <p>Innovate a better future</p> <p><b>Media</b> to make updates</p>	<p><b>Post</b> ( # 1989911, 23 Oct 2015, Likes: 1, Status: <b>Unpublished</b> )</p> <p><b>HARPAL SINGH_11</b> Punjab Zirakpur 140604 INDIA User ID: 15805921</p> <p>My City Amritsar A Eco friendly City free from beggars, SMC, parks, good music, smart, safe, pollution, violence of law and order and free and healthy services. All the services are under govt control and available everywhere same cool and free services. whole city fully with Parks, playgrounds, Community Centre, schools, health centres, weekly Kisan Mandi in every colony. All the fully places historical places well maintained and all the tourists place.</p>	<p><b>Post</b> ( # 15503221, 22 Oct 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p>MY Gov.,Essay Writing Competition for Smart City for Children भारत का कोई भी शहर Smart city बनकर नहीं रहने का सपना है .जब देश को सपनों की आशीर्वाद मिलेगा तबसे ही यह सपना आसानी से पूरनेवाला हो देश का नाम रोशन होगा .अच्छा शक्तिपरी होना ही हमारी सही ही मान्यता है SMART CITY बन सकती है । बच्चों को एजुकेशन को बढ़ावा देने के लिए हमने सज्जनस बनाने है इससे जनजागरूकता आनी .उपरोक्त परीसे ,मे देश बढेगा।आजक स्मार्ट सैटी का आर्टिफिशियल शहर को स्मार्ट बनाने के लिए सवदाय स्मार्ट पर्यावरण को अंगुल होना चाही</p>	<p><b>myGov</b> मेरी सरकार</p> <p>Submissions: Essay Competition for Smart City Amritsar</p> <p>law and order, Gardens, community centres, playground, smart schools, Kisan Mandi in every Colony, garbage / water treatment plants, fulfill basic needs of every citizen and free from beggars &amp;amp; crime.</p>
<p><b>Post</b> ( # 1981291, 23 Oct 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>ASHISH KUMAR_220</b> Haryana Sirsa 125055 INDIA User ID: 16273261</p> <p>Vision -"Creating Path" Amritsar- An place of faith and humanity.</p>	<p><b>myGov</b> मेरी सरकार</p> <p>Submissions: Smart</p> <p>security and prosperity of the people through joined-up approach of all stakeholders.</p>		
<p><b>Post</b> ( # 1989111, 22 Oct 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>RAHUL GOYAL_13</b> Rajasthan Jodhpur 342001 INDIA User ID: 16198431</p> <p>#AMRITSAR "SANSKRITI HA JISKI JAAN AB PRAGATI BANEGI USKI PEHCHAAN" -Building AMRITSAR as a smart city</p>			
<p><b>Post</b> ( # 32325841, 20 Nov 2015, Likes: 0, Status: <b>Unpublished</b> )</p> <p><b>DALJIT SINGH</b> INDIA User ID: 1477835</p> <p>the vision of amritsar should with traditional cultural with modern technology. the artitecture of amritsar should be based on golden temple that depicts tradition and technology used at every point. but what makes a city smart is its people. so the more emphasis should be given to induct discipline and helping them to learn to use these technology</p>			<p>Citizens were also engaged in shaping a strategic vision for the city. A successful vision which has economic, spatial, social and environmental dimensions that reflect a city's unique physical and cultural traits; it provides direction for the activities of the Corporation, citizens and stakeholders; and ensures that citizens, city agencies, and stakeholders are working towards those shared sub-goals. The vision statement should inspire our city's residents and can even become the branding for our smart city.</p> <p>Citizens came out with various visions for their city which depicts an liveability, sustainable and an environment friendly city. Based on the same the vision for Amritsar is derived as: '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</p>

# SMART CITY PROPOSAL MODIFICATIONS: *Citizen Engagement*

INDIA SMART CITY MISSION



MISSION TRANSFORMATION

Smart City  
BY 2022

## CITIZEN ENGAGEMENT

3 solutions shortlisted

PAN CITY



AREA BASED DEVELOPMENT

Retrofitting & Redevelopment -Walled City

### PAN CITY

Amritsar is a historical and holy city with an average of one lakh tourist visiting the city every day. Looking at these statistics the three pan city smart solutions are as following.

#### # TRAFFIC & MOBILITY:

Seamless urban mobility with the help of ICT based platforms. The basic aim will be to increase the share of public transport with equitable road distribution for pedestrians, cycle tracks and vehicles. It will be integrated with existing and proposed transportation network/system of Amritsar city.

#### # INTELLIGENT SOLID WASTE MANAGEMENT:

Intelligent solid waste management will be an ICT enabled system. Intelligent solutions will improve collection, transportation, landfill management, and waste-to-energy processing. Citizen services will be improved through mobile apps that facilitate grievance reporting and redressal.

#### # E GOVERNANCE:

Integration of all government services and bringing them to a common platform. Various sensor and application systems will provide smart solutions to Amritsar city to improve operations and optimize services delivery to citizens and tourists for healthy experience.

### AREA BASED DEVELOPMENT

In line with the the strategic principles of sustainable & inclusive planning, the compact area of walled city (>950 acres) is shortlisted for Retrofit-Redevelopment project. The area acts as a landmark for the city depicting its strong cultural importance and will become as a economic hub. The area will act as source of inspiration to rest of the city based on:

**#RETROFITTING OF WALLED CITY AREA:** The earmarked area has a strong emotive association for all, as it houses Golden Temple. Recognizing the tourism as an important economic catalyst, the area leverage its heritage structures. The area will have intelligent physical infrastructure like improvement in water supply, power, sanitation, SWM. The area will leverage its heritage structures, creating a vibrant environment and boosting local economy. Other initiative will be promoting traffic free roads resulting in more walkable roads and promoting public transport with focus on 100% safety & security.

**#REDEVELOPMENT OF 50 ACRES:** Katra Ahluwalia and Matih Mandi area will be redeveloped with an aim of increasing the green cover in the city with mix of commercial activities. This will helps in robust financial structuring making the project financially viable and generating additional revenues for replication in the city. A walkable, well connected mixed use area will be created.



Smart City  
AMRITSAR

# SMART CITY PROPOSAL: *Vision & Goals*

## PROMOTING AMRITSAR AS SMART CITY

- 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.

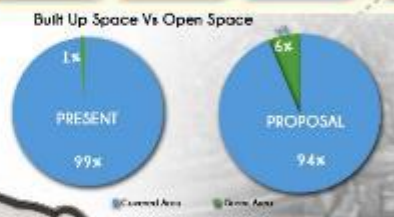
**#RELOCATION OF POLLUTING DENSED URBAN CLUSTERS FROM CORE:** Moving polluting industrial and wholesale clusters outside the walled city area. Strengthening of skill based employment and business clusters at identified locations. Providing inclusive affordable housing in growth corridors of Amritsar.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



# SMART CITY PROPOSAL MODIFICATIONS: Area Based Development

## AREA BASED DEVELOPMENT

- 24x7 Electricity Supply
- 24x7 Water Supply (including waste and storm water)
- SWM & Sanitation
- Mobility and Transport
- E-governance and citizen services
- Open Space & visibility improvement of urban area
- Redevelopment of public amenities & facilities for decongesting city core
- Relocation of Polluting Dense urban clusters from core city



Base Map of Amritsar  
Walled City



## PROPOSAL



# SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

## AREA BASED REDEVELOPMENT

REDEVELOPMENT OF MAJITH MANDI



BEFORE

REDEVELOPMENT OF FISH MARKET AND OTHER IDENTIFIED



BEFORE

DEVELOPMENT OF PUBLIC AMENITIES, GREEN AND RETAIL SPACES MAJITH MANDI



PROPOSED

DEVELOPMENT OF MULTI LEVEL CAR PARKING WITH RETAIL COMPONENT



PROPOSED



# SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

## AREA BASED REDEVELOPMENT

REDEVELOPMENT OF AHLU KATRAWALIA



REDEVELOPMENT OF DHAB WASTI



REDEVELOPMENT OF AHLU KATRAWALIA

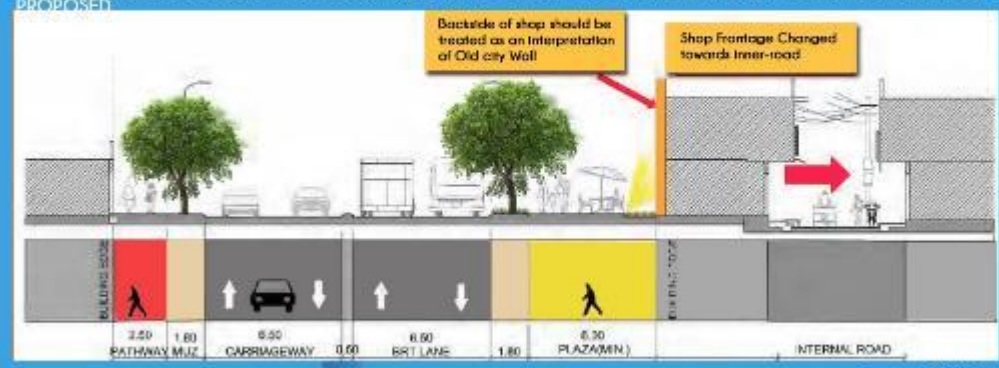
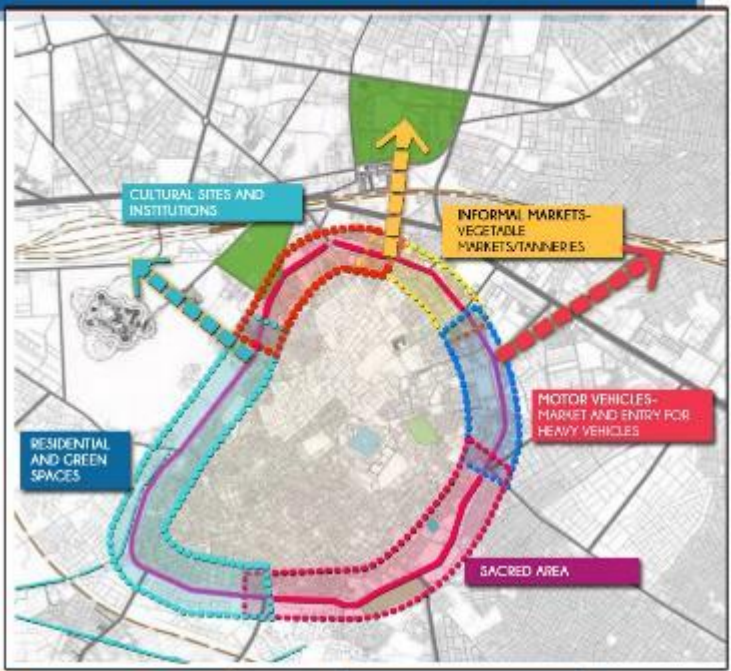


DEVELOPMENT OF CITY LEVEL OPEN SPACE AT DHAB WASTI



# SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

## AREA BASED REDEVELOPMENT CIRCULAR ROAD

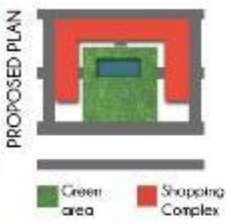


Source: HRIDAY Plan

# SMART CITY PROPOSAL MODIFICATIONS: Area Based Development

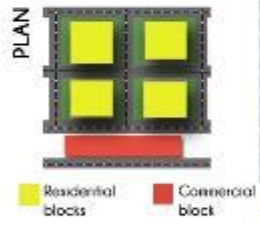
## AREA BASED DEVELOPMENT

Commercial Area proposed at Golbagh & Sakatri bagh



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.



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

Town Hall



Town Hall would be developed into museum.

- Lush green lawn in place of parking
- Pedestrian access
- Proper landscaping



Hall Bazaar



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



Street Section of Main Arterial Road of Walled City



- Facade articulation
- Landscaping
- Access for non-motorised vehicles only
- Pedestrian
- Hoardings/ Shop front
- Commercial cum official built type



# SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

## PROPOSED FACILITIES

01

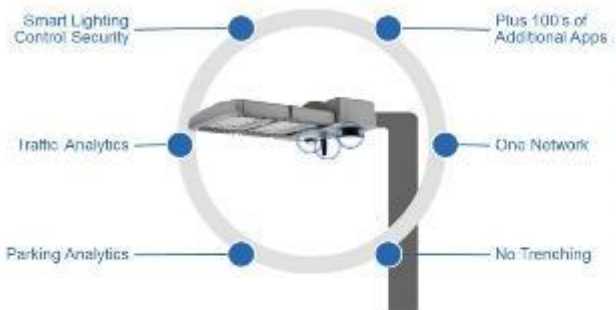
### 24x7 Electric Supply



Provision of 24x7 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

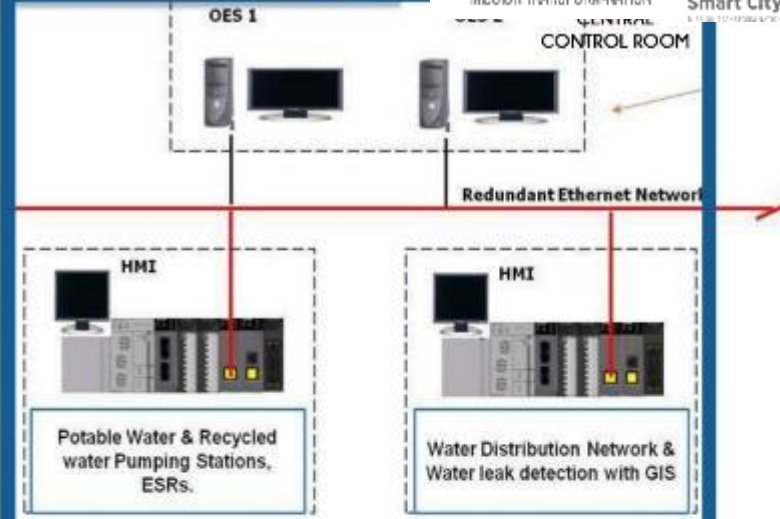


02

### Water Supply Network



## SCADA Human Machine Interface (HMI) Architecture



### Flow Measurement



Smart Consumer meter



Electromagnetic Bulk Flow Meters

### Smart Leak Detection

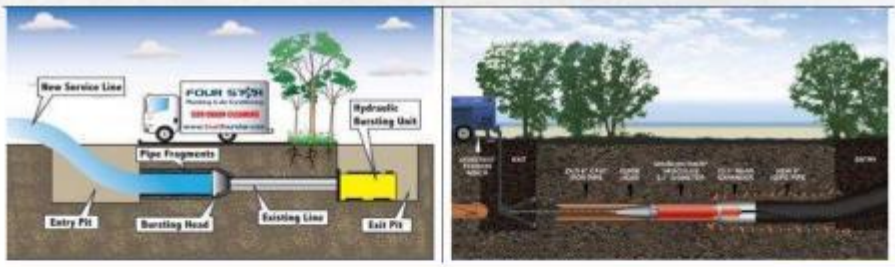


# SMART CITY PROPOSAL MODIFICATIONS: *Area Based Development*

## 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

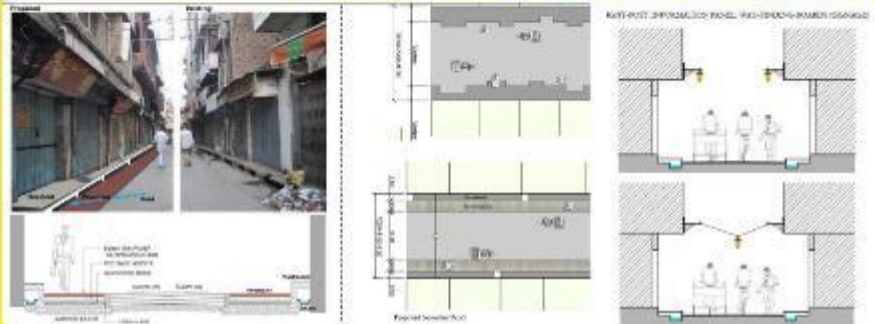
## Storm Water, Drainage and Sewerage Network **03**

### SMART PRINCIPLE FOR SMALL STREET RETROFITTING

- continuous 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 | vehicles for loading shops only before and after closing hours



### Mobility And Transport **04**



# SMART CITY PROPOSAL MODIFICATIONS: Area Based Development

## PROPOSED FACILITIES



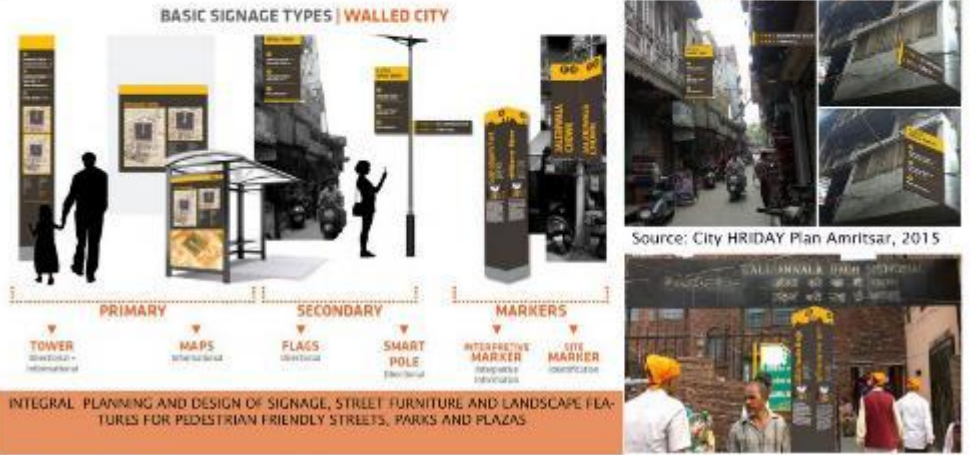
Area Based Proposal | Signage/wayfinding Tourists in Walled City  
Area Based Proposal | Innovative use of Gaze & Smart Park

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

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



## SMART PRINCIPLE RETROFITTING GOLBAGH + SAKATRI BAGH

- Collaborations with NGO's, Cultural Institutes for staging events promoting Music, Sports, Arts, Culture etc.
- Offering space for local entrepreneurs promoting local culture - healthy lifestyle.
- Income generated by collaborations to be used for maintenance of the Parks.
- Landscape Design features promoting exercise.
- 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.



# Draft Smart City Proposal Amritsar- Round II



HOLY CITY

AMRITSAR- A SMART CITY

- 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

## PAN CITY

### E-governance

01



03

### INTELLIGENT SOLID WASTE MANAGEMENT

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:

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



- 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



## 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



# SMART CITY PROPOSAL MODIFICATIONS: Pan City

## BRTS

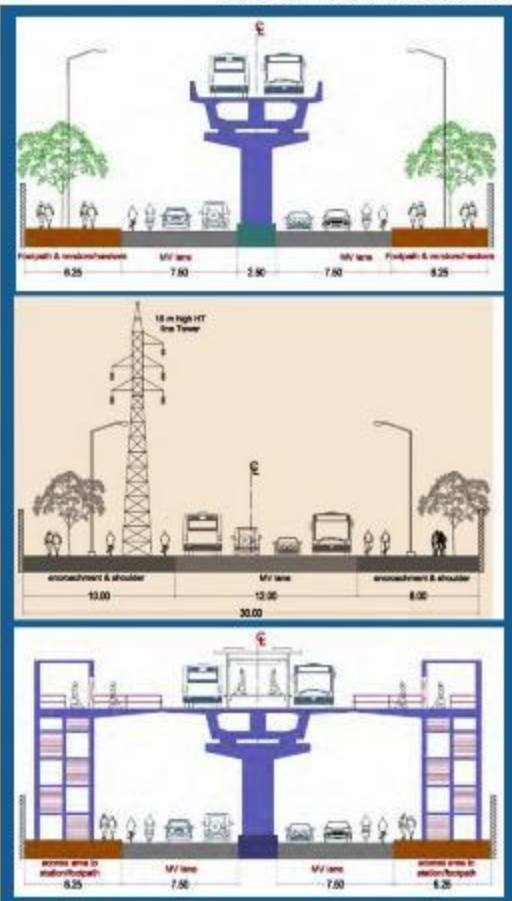
Identified priority BRT corridors



Connectivity with Golden Temple



New Dedicated BRTS Elevated Road



Decongestion of Bhandari Bridge



Proposed BRTS Station Design



Retrofitting BRTS Stations along Existing Elevated Road



Source: DPR BRTS





# Draft Smart City Proposal Amritsar- Round II

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



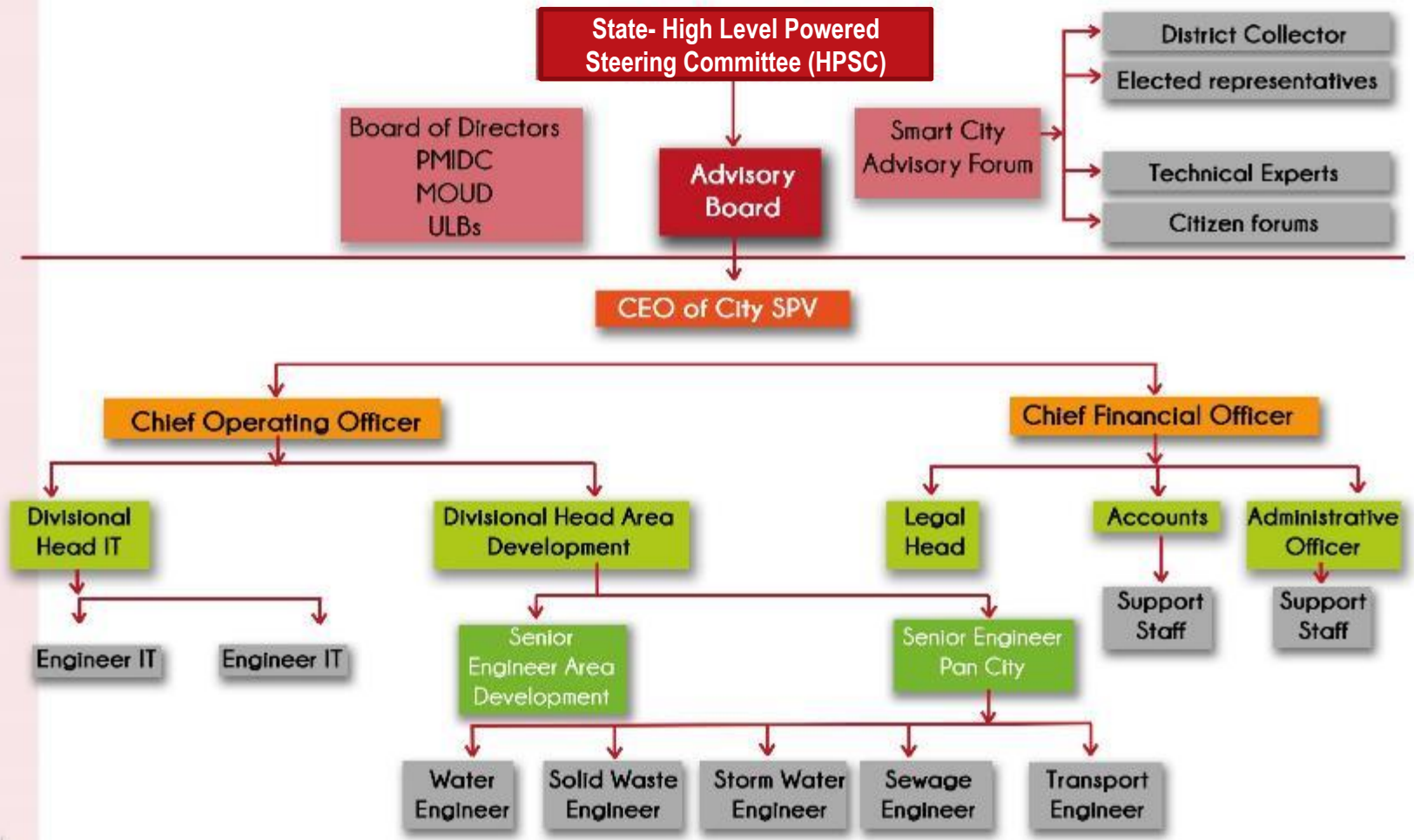
HOLY CITY

AMRITSAR- A SMART CITY

# SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

## HUMAN RESOURCE PLAN/ ORGANIZATIONAL SETUP FOR SPV

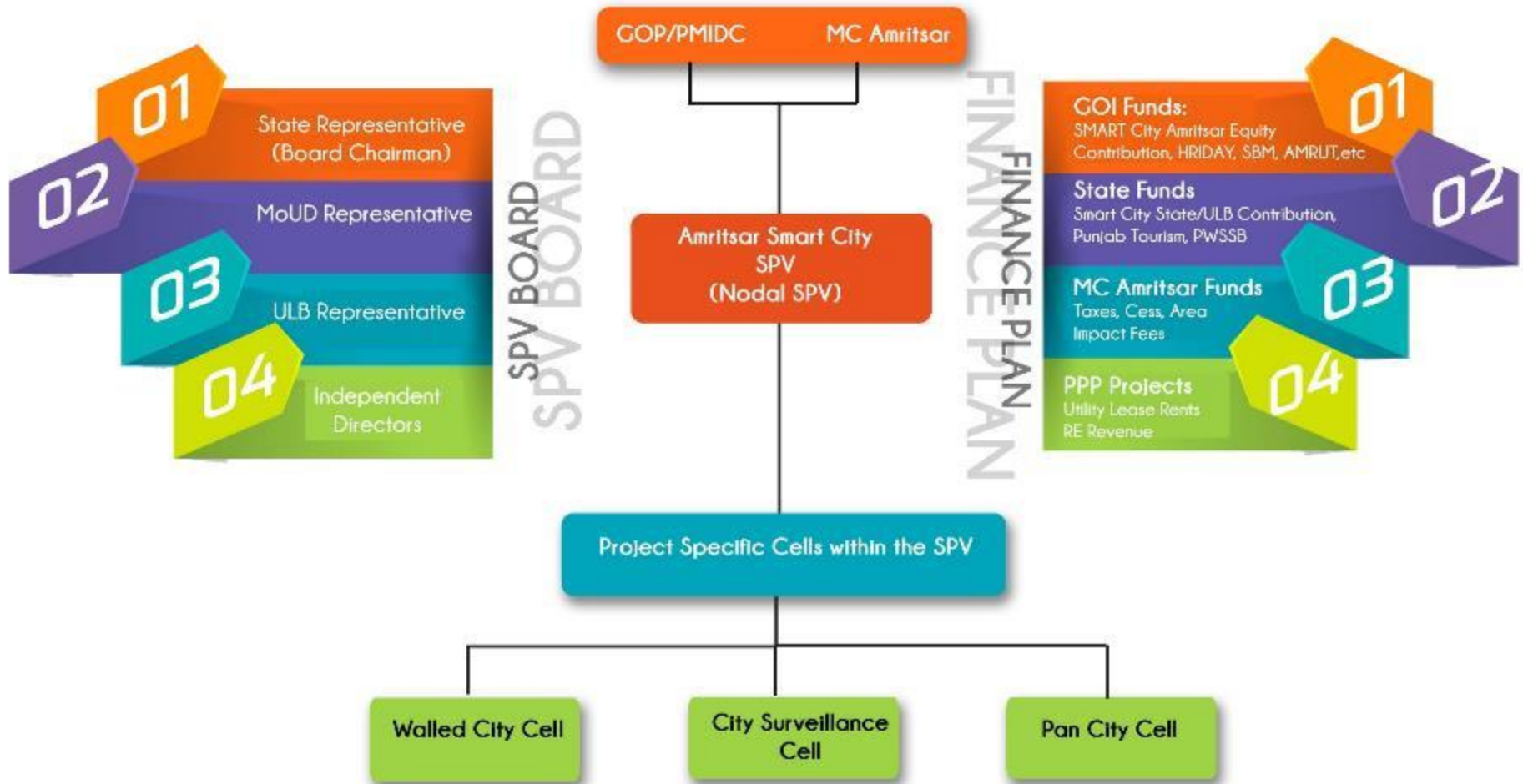
Response to question no. 33, 34



# SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

## INSTITUTIONAL ARRANGEMENT FOR OPERATIONALISATION OF SPV

Response to question no. 33



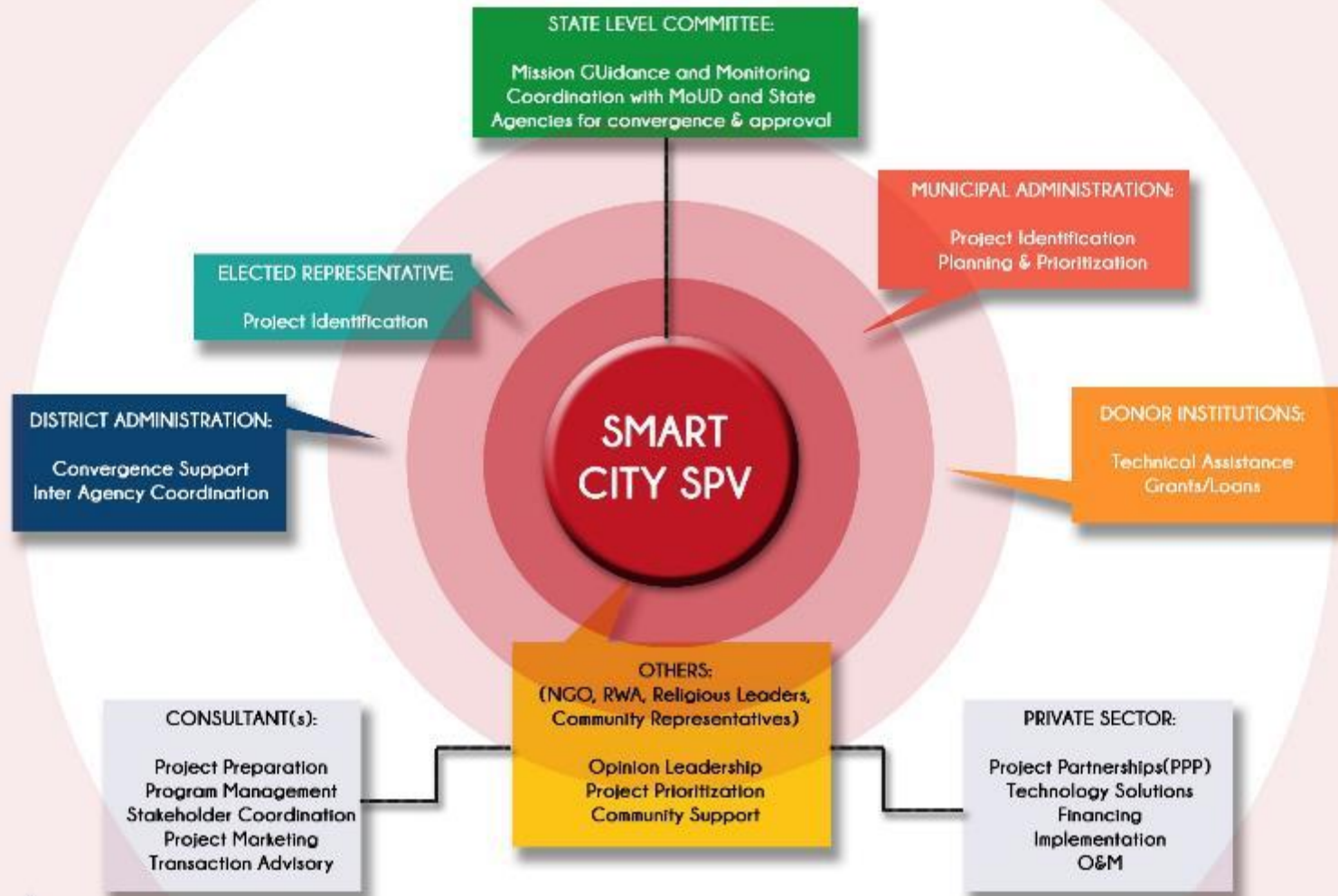
PPP PARTNER/ CONCESSIONAIRE/EPC CONTRACTOR

PPP PARTNER/ CONCESSIONAIRE/EPC CONTRACTOR

# SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

## ORGANOGRAM FOR STAKEHOLDER'S ROLE

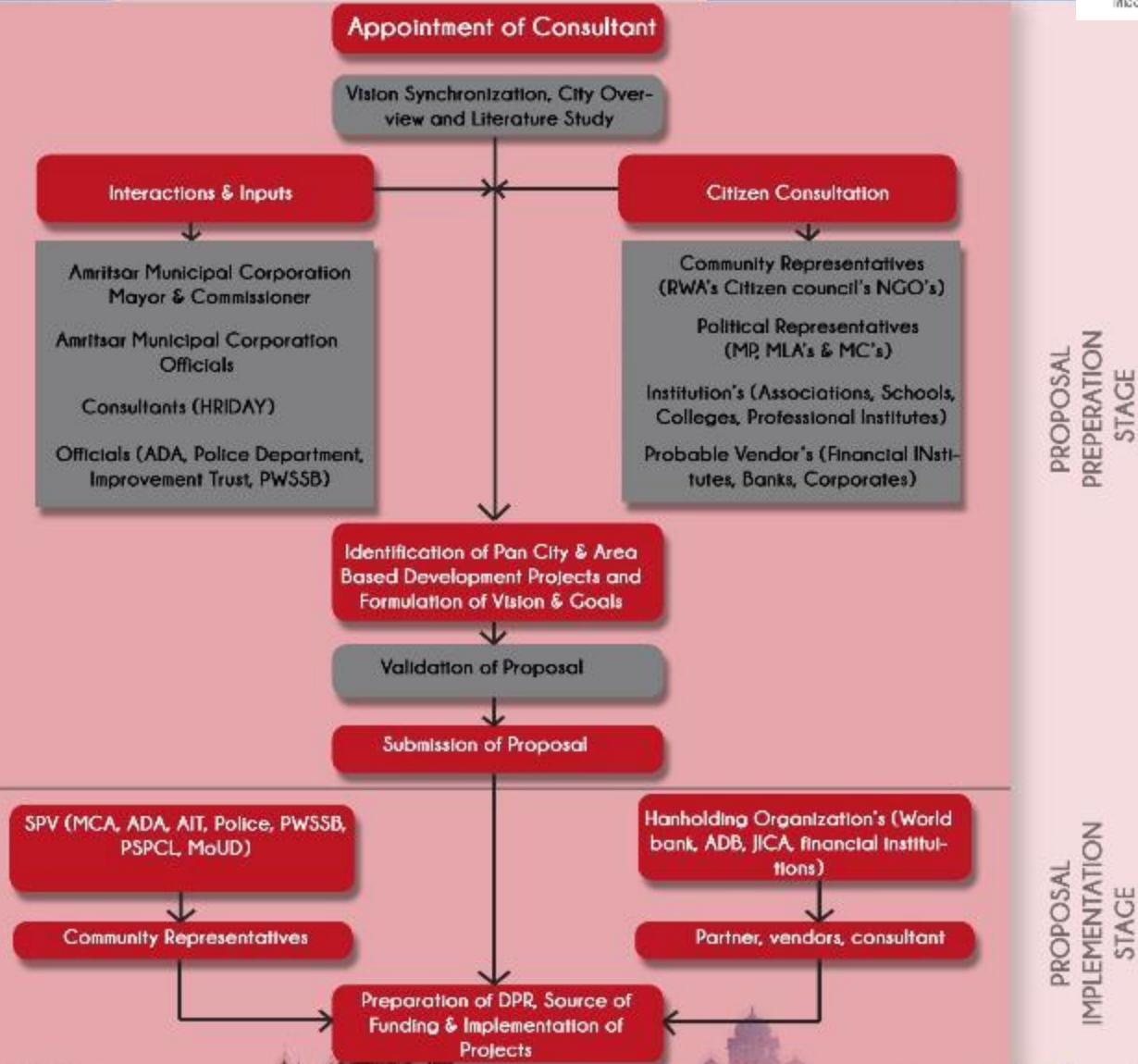
Response to question no. 34



# SMART CITY PROPOSAL MODIFICATIONS: *Special Purpose Vehicle*

## ORGANOGRAM

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



# Draft Smart City Proposal Amritsar- Round II

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



HOLY CITY

AMRITSAR- A SMART CITY

# SMART CITY PROPOSAL MODIFICATIONS: *Financial Analysis*



## IMPLEMENTATION SCENERIOS

S.No	Item	Critical Point	Time period in months																																																													
			2017												2018												2020		2021																																			
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
<b>Area Based Development</b>																																																																
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	<b>WATER SUPPLY, WASTE WATER MANAGEMENT AND SANITATION</b>		█																																																													
	24/7 water supply systems, 100% smart		█																																																													
	Storm water drainage		█																																																													
4	<b>Sanitation incl SWM</b>		█																																																													
	Sewerage		█																																																													
	Solid Waste Management		█																																																													
5	<b>Mobility &amp; Intelligent Traffic Management</b>		█																																																													
	Multilevel car parking		█																																																													
	Traffic calming streets		█																																																													
	Hybrid and Electrical vehicles		█																																																													
	Walkability and pedestrian		█																																																													
6	<b>Open Space &amp; Improvement of Urban Area</b>		█																																																													
	Under Ground cabling		█																																																													
	Parks		█																																																													
	Open air theater		█																																																													
	Tourist Assistance Center		█																																																													
7	<b>E Governance</b>		█																																																													
	City Dash Board		█																																																													
	Commissioning of software's and hardware's		█																																																													
8	<b>Redevelopment of Public Facilities and Amenities</b>		█																																																													
	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	<b>Relocation of Dense Polluting Urban Cluster in City Periphery</b>		█																																																													
	Skill development centers to boost brand "Amritsar"		█																																																													
	Development of compact, high-density, mixed-use, mixed-income (15% affordable housing units) SCOs (Shop cum Office)		█																																																													
<b>Pan City</b>																																																																
1	Master plan and DPR preparation for Pan City works		█																																																													
2	Mobility & Intelligent Transport Management		█																																																													
3	Intelligent Solid Waste Management		█																																																													
4	E Governnace		█																																																													

Page 1



# SMART CITY PROPOSAL MODIFICATIONS: *Financial Analysis*

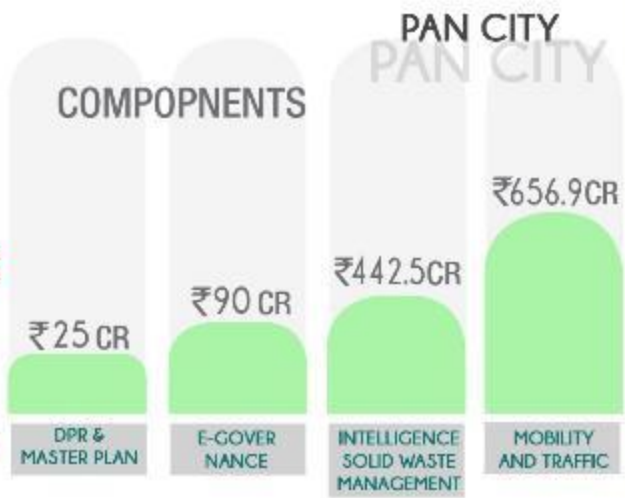
## FINANCIAL PLAN

**SMART CITY PROPOSAL**  
TOTAL PROJECT COST  
**₹ 2,831 CR**



## PAN CITY

**₹ 1214.4 CR**  
TOTAL COST



## AREA BASED



## COMPONENTS





# SMART CITY PROPOSAL MODIFICATIONS: Area Based Development



## PROJECT CASH FLOW STATEMENT

\*All figures in INR Cro

Type of Project	Sub Component	Unit	Qty	Rate	Cost	Total Cost in INR	Timeline Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	
<b>Outflows</b>																	
<b>Area Based Development</b>																	
	Capital Cost					1,616		10	485	496	434	291	220	-	-	-	
<b>Pan City</b>																	
	Capital Cost					1,214		99	403	409	361	19	20	22	23	25	26
	<b>Total Capital Cost for Projects</b>					<b>2,831</b>		<b>109</b>	<b>888</b>	<b>906</b>	<b>795</b>	<b>310</b>	<b>240</b>	<b>22</b>	<b>23</b>	<b>25</b>	<b>26</b>
<b>O &amp; M Cost</b>																	
	Total O&M Cost					-	-	-	-	-	-	58	62	66	71	76	81
<b>Total Cost Out Flow</b>								<b>109</b>	<b>888</b>	<b>906</b>	<b>795</b>	<b>367</b>	<b>302</b>	<b>88</b>	<b>94</b>	<b>101</b>	<b>108</b>
<b>Inflows</b>																	
<b>GoI &amp; GoP Funding</b>																	
	Central Funding							97	97	98	98	98					
	State Funding							97	97	98	98	98					
<b>Funding through Central Schemes &amp; State Govt Schemes</b>																	
	Convergence HRIDAY - Heritage & Peripheral Zone upgradation					60			20	20	20						
	Convergence AMRUT - SWM					150			38	38	38	38					
	Convergence SBM - SWM					12			6	6							
	Beautification of Golden temple area Tourism Department 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	0
	Revenue from Increased Taxes						53	59	66	74	83	93	104	116	130	146	146
	Revenue from Impact fee from Area Development Prog									7	7	8	8	9	9	9	9
<b>Total Cash Inflow</b>								<b>350</b>	<b>515</b>	<b>620</b>	<b>636</b>	<b>645</b>	<b>523</b>	<b>548</b>	<b>572</b>	<b>626</b>	<b>658</b>
<b>Net Cash Flows</b>								<b>241</b>	<b>-373</b>	<b>-286</b>	<b>-159</b>	<b>278</b>	<b>221</b>	<b>460</b>	<b>478</b>	<b>526</b>	<b>551</b>
<b>NPV of Net Cashflows</b>						<b>526</b>											
<b>NPV of Cash Inflow</b>						<b>3,059</b>											
<b>NPV of Cost</b>						<b>2,533</b>											
<b>IRR</b>						<b>52%</b>											



\*For details refer Annexure 4



*Discussions ...*

