

**Urban Lab #1: Connaught Place**  
12th - 14th of July, 2017



**Integrated Development and  
Co-Production for Indian Cities**

# Imprint



**Dpt. for Urban and Regional Planning**  
Chair of Urban Renewal and Sustainable  
Development  
Secretariat B7  
Hardenbergstrasse 40a  
10623 Berlin

Editors: Prof. Elke Pahl-Weber  
Marcus Jeutner  
Robin Hueppe  
@: mail@igsi.info  
Tel.: + 49 -(0)30 · 314 28118

## Workshop Participants

Geraud Bablon, Nandlal Jotwani, Kush Agrawal, Yogesh Bhardwaj, Smita Datta Makhija, Sidhwin Hegde, Dipu Biswas, Akshay Gaur, Sai Tejo Kiran, M.M. Anees, Amit Kumar, Shalvi Sharma, Gagan Dhir, Vikas Saharan, Eveleen Aidana, Shikhar Madan, Sahaj Sandhu, Ankita Sood, Ananya Bhatia, Vivek Agarwal, Vinita Yadav, Rituraj Pegu, Venus Kashyap, Vaishali Redhu, Kumar Karan, Rajagopalan Shruti, Garimella Sindhuja, Ritu Verma, Sanjeev Saxena, Dr. Poonam Sharma, Rakesh Chaudhry, Aditya Rahul, Sakshi Godara, Anant Dugar

## IGSI Experts

Prof. Elke Pahl-Weber, Marcus Jeutner, Eva Walter, Christina Gresser, Vipul Toprani, Ulrike Walter, Thomas Block, Klaus Hoppe

## Layout

TU Berlin, Marcus Jeutner and Robin Hueppe

## Cover Page

Marcus Jeutner, 2017

**New Delhi/Berlin, July 2017**

INSTITUTE OF  
TOWN PLANNERS, INDIA  
QUALITY COUNCIL  
CENTRE FOR  
INFORMATION

# Index

Preface	2
Group #1: Heritage, Energy and Safety	10
Group #2: Mobility	16
Group #3: Public Spaces	22
Group #4: Last-mile Logistics	28
Group #5: Waste (and Water) Management	34
Feedback	40



**Preface**  
Introduction by Marcus Jeutner & Elke Pahl-Weber

## Profile and Approach IGSI

Founded by four Berlin-based architecture companies in 2014, the Indo-German Smart Initiative (IGSI) today is a broad network of German research institutions and planning offices that aims to contribute as an interdisciplinary think tank to the Indian urban development processes. IGSI recognises integrated planning as fundamental principle toward smart cities: Planning, which relates infrastructure and spatial planning with socio-economic development and unlocks new potentials by a goal-oriented use of technological solutions.

With its integrated approach, IGSI can develop holistic solutions, that are focusing on specific challenges of an urban setting and is looking for an exchange of ideas with academia, planners, politicians, stakeholders and project developers for Indian smart cities. It offers expertise in applied fundamental research, integrated approaches and profound knowledge of all relevant sectoral fields of a smart city.

### The Network

- gmp International GmbH
- DGI Bauwerk Gesellschaft von Architekten mbH
- se•g architects
- Patzschke & Partner Architects

- insar consult, schwartze, wessling and partner
- P2m Berlin GmbH
- Harbauer India Private Ltd.
- Ingenieurbüro Hausladen GmbH
- Innovation Centre for Mobility and Societal Change (InnoZ) GmbH
- Thomas Waschke Strategy Consulting and new Mobility Systems
- IAV GmbH Berlin
- BuroHappold Engineering
- von kories consultants
- Remondis Aqua India Pvt.Ltd.
- ARGUS GmbH
- Klaus Hoppe Consulting

### Human-centred Approach

Contemporary challenges of urban transformation processes – e.g. rapid urban growth, shortages in housing and infrastructure provision, demographical and social changes, digitalisation, climate change mitigation – require an intense collaboration of relevant stakeholders from governance, science, economy and citizens; from the first phase of needs assessment to the phases of implementation and operation.

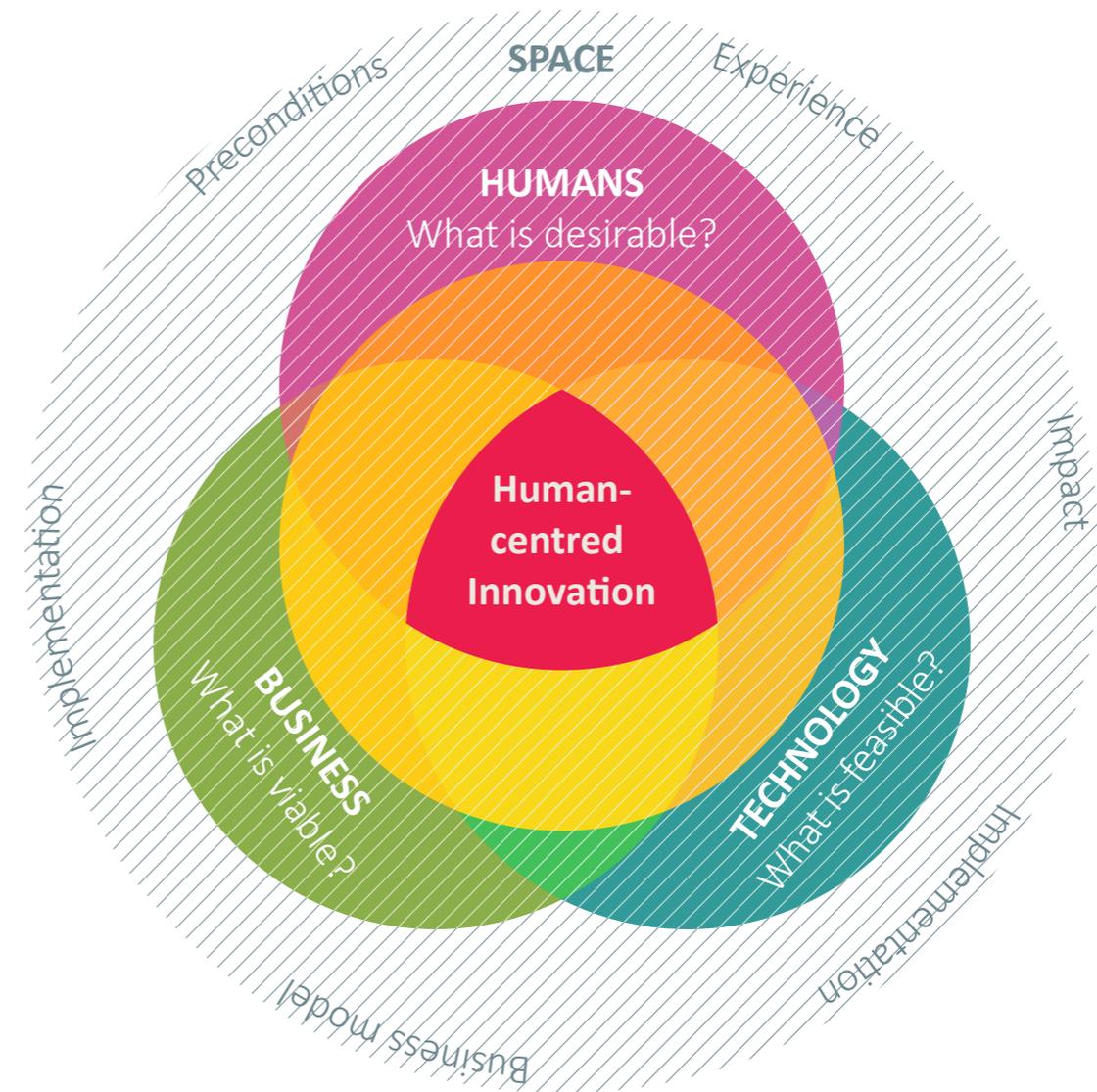
Concept basis and starting point of the activities of IGSI is the principle of “human centred innovation”, which merges human needs, technical feasibility and economic viability

to innovative solutions. Both, initial position and spatial and functional consequences of planning decisions, are consistently analysed and visualised. By this, results can be used as basis and for a transparent process of decision making.

By doing so, IGSI strongly focusses on the concept of “Urban Design Thinking“, a method and planning tool developed at Technical University Berlin, which sets citizens as user and main designer of urban spaces in the centre of development processes. Dialogical events, called “UrbanLabs“, are crucial part of the collaborative process. Herein users, stakeholders and planners are jointly working together on specific problems and their solution.

### Excellence supported by German Government

In 2017, the German Federal Ministry of Education and Research (BMBF) announced IGSI as one of ten research networks of excellence within its campaign „Shaping the Future – Building the City of Tomorrow“. The approach of the campaign is to promote research networks from Germany to present their ideas and innovations for urban development abroad. Within this framework IGSI set up a series of UrbanLabs and network activities in India.



Human-centred innovation concept, M.Jeutner/E.Pahl-Weber: 2016

## UrbanLab #1 – Delhi

From 12th to 14th July 2017, the kick-off of a series of UrbanLabs took place at the Institute of Town Planners India (ITPI) at SPA Delhi. IGSI invited 120 Indian urban planners, researchers, initiatives and business representatives to a three-day UrbanLab. With about 100 registered attendees, we were questioning, how a design of the Connaught Place - one of the most iconic places in Delhi - could look if we were not focusing on the infrastructure, but on the people. The UrbanLab has been supported by experts of our network partners: School of Planning and Architecture (SPA), New Delhi and the National Institute of Urban Affairs.

### Conference “Integrated Development and Co-Production for Indian Cities“

The first day of the UrbanLab built a platform to exchange knowledge and ideas on urban development and smart city approaches. 17 speakers from India and Germany gave insights into their recent research and development projects and discussed different positions on several issues.

Besides portfolio presentations, there has been talks on specific fields e.g. collaboration, governance, legal frameworks, solid waste, water management and mobility.

#### Key Speaker

**Marcus Jeutner:** IGSI: Integrated Urban Development and Co-Production for Indian Cities

**Vinita Yadav:** Smart Inclusivity in a Region

**PwC:** Overview of Indian Smart Cities Mission and PwC's involvement

**Anindita Dasgupta:** Urban Futures

**Eva Walter/ Christina Gresser:** Inner-city developments and sustainable building quality

**Prof. Pahl-Weber:** Integrated Urban Development

**Sai Tejo Kiran:** Gentrification Trends and the need for placemaking in the context of rapid urbanization

**Klaus Hoppe:** Municipalities as actors of urban development – approaches towards cooperation – experiences from Germany

**Mathew Idiculla:** Governance and Policy analysis of India's Smart Cities Mission

**Ankit Bhardwaj:** Piece by piece – Current limits to integrated approaches in Indian cities

**Harsh Mittal:** Innovative and inclusive urban design initiatives

**Thomas Block:** Waste and Water Management in cities

**Ulrike Walter:** Smart City Logistics

**Vipul Toprani:** Smart Mobility

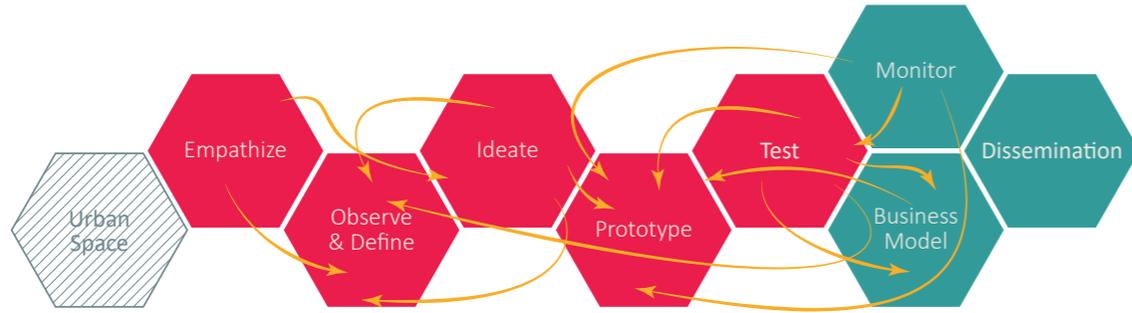
**Srinivas Kodali:** Transit planning and the importance of data and its visualization

**Shikhar Madan:** BeingCitizen – A Social Initiative

**Ashok Kumar:** Public Engagement in the Smart Cities Mission

**Thomas Block:** Water Management





Urban Design Thinking Process (Graphic: Jeutner/Pahl-Weber; based on the Design Thinking Concept of the Institute of Design, Stanford)

### Workshop

During the second and third day, the team of TU Berlin applied its unique planning methods to facilitate a process, in which the participants investigated specific issues and created solutions, which put citizens first. As starting point, IGSI chose a planning task which addressed an actual Smart City Proposal by the Indian government: the transformation of Connaught Place – the city’s and region’s centre and major traffic hub – into a pedestrian zone. The participants were developing ideas, tangible solutions, and visualisations in the form of small models and other prototypes, to bring Delhi’s official area-based development proposal into practice. The participants were supported by eight German planning experts and scientists out of the IGSI network.

The participants worked in five thematic groups:

- #1 Heritage, Energy and Safety (supported by Eva Walter, DGI)
- #2 Mobility (supported by Vipul Toprani, innoZ)
- #3 Public Spaces (supported by Christina Gresser, seg)
- #4 Last-mile Logistics (supported by Ulrike Walter, innoZ)
- #5 Waste Management (supported by Klaus Hoppe, Hoppe Consulting)

The kick-off for the working-phase was given by students of SPA Delhi. Their presentation about the history, status quo and possible futures of Connaught Place showed perspectives of future planners on specific urban issues. The following group work dealt with several questions that are concealed by the major challenge: What is the right starting

point for planning? What do we consider? What does it mean for local people, if the area is turned into a pedestrian zone? What is going to change for people who are street vendors, run a business or simply live in or frequent the area? How can different traffic systems (for example the bicycle traffic) be integrated and organised in the intended pedestrian zone? The answers have been given in each of the groups: human-centred, adaptive and contextualised solutions.

### Connaught Place

Connaught Place is a central, circular square in New Delhi, currently used as a business, financial, restaurant and retail centre. It was built between 1929 and 1933 during the colonial period as the central element of the new capital of India, New Delhi, planned by Lutyens and Baker, according to the plans of the chief architect of the Indian government, Robert Tor Russell.

The building ensemble consists of two concentric rings, named Inner, Middle and Outer Circle. The centre of this system is formed by a large green area including walkways and an open-air theatre. Its large Indian flag is a far-visible sign of pride and reflects the national importance of this iconic place.

Connaught Place is not just the most well-known place in Delhi. It is also its main traffic hub and central business district. Besides a metro crossing point, a parking garage and an underground shopping mall, as well as the Pallika Bazaar can be found at this particular location. Eight radial roads divide the development into 14 alphabetically designated sectors. Main typology is a bright white two-storey building defined by a mezzanine on the ground floor and

shifted colonnade corridors. The façade are symmetrically arranged and decorated with ornamental arches and pilasters. Architectural role models are presumable based on the style of the European Renaissance, classicist architecture, Georgian Style, and especially the “Circus” of Bath by John Wood. Originally, only the ground floor was reserved for commercial use, the upper floor for residential use.

The Connaught Place is very popular and full of people at any time of the day. Tourists and locals meet here for shopping, eating, cinema visits and party celebrations. The façade of the historic buildings have largely been preserved. However, in the meantime air-conditioning systems and advertising signs were attached to the façade in an insensitive manner. Due to the recent collapse of a building, a public discussion about security, statics, earthquake resistance and fire safety has been sparked. The entire Connaught Place is listed as Heritage Conservation, Heritage Building Grade II, and is under the administration of the New Delhi Municipal Council, NDMC. The refurbishment of Connaught Place is part of the smart city concept from the New Delhi City Center.



Photo: Marcus Jeutner, 2017



Group #1: Heritage, Energy and Safety  
Eva Walter

## UNDERSTAND

This team raised the question, how Connaught Place could be transformed into a sustainable, energy-efficient urban space while maintaining its initial characteristics of identity, safety. As a starting point, teams of two conducted on-site surveys. The aim was to gain insights into everyday life and problems of specific user groups. Questions were developed beforehand to address personal insights. The teams consulted:

- Shopkeepers of historical and new shops on the ground floor
- Staff of offices and restaurants on the upper floor
- Street vendors
- Tourists and locals of different ages
- Rickshaw driver and gas station attendants

## EMPATHIZE & DEFINE

The experiences during the survey and the stories of the interviewees were presented to the group by the method of “storytelling”. Their mentioned concerns were clustered to overall topics:

- Building maintenance and construction sites: Neglected building maintenance by landlords, anger about neighbouring construction sites, no assistance by landlords regarding monument protection
- Middle ring, connecting lanes and building backs: Neglected, no uniform design of the façade, connection lanes are blocked by building equipment (e.g. air condition and electricity)
- Street vendors: problems with license, no sanitation, no water, eviction, no consideration in zoning
- The supply situation for employees: Water and food at the CP is too expensive for the staff, they must bring everything from far away
- Shopkeepers of old stores: Worry about the future, about successors
- Accessibility: Upper floors are not accessible for wheelchairs
- Heritage: No information on the history of the CP on site, many people have no interest in cultural heritage
- Informal heritage: Different historical stratifications, personal stories and singularities in the predominantly uniform design of the CP are unknown or invisible, are not recognised and protected as a cultural heritage
- Competitive use: Retail suppresses cultural and residential use

Numerous users also expressed positive aspects about the current state of CP:

- CP as a meeting place for going out and shopping, everything works out fine
- CP as a landmark of Indian history, pride
- Building inventory appreciated by shopkeepers, warm in winter, cool in summer, mezzanine practical
- Shopping with wide expanses and shady colonnades is better than in a shopping mall
- Rescue routes: there are second escape routes from the upper floor via roof terraces to stairs of adjacent houses

## Personas: Typical Users of Connaught Place

**AJMAL:** 60 years old, lives in East Delhi and runs a shop, which he took over from his father. His parents were born in the undivided India, territory of today's Pakistan. The store has been family-owned since the 1940s. His children live in other parts of the country and are not interested in continuing the business. He worries about the future of the store.

**RANI:** 24 years old, childless, economics student, shopping and meeting friends, loves Connaught Place (unique, white façade, open/clear, wide area in the middle, round), proud of Indian history at the CP, shopping is more fun here as in shopping centre, expensive and cheap goods next to each other (shops and street vendors), easy to reach, central, feeling of safety at Connaught Place, even at night.

**TINA:** 25 years old, childless, lives in Greater Kailash, comes to Connaught Place to meet friends, to party and visit bars. She has never thought about the buildings on the square and their history. She does not care about monument protection and preservation.

**GEETA:** 47 years old, three children, informal vendor, daily at the edge of the colonnades at the Inner Ring selling clothes and fruits. She complains about the lack of any basic social facilities (toilets, drinking water, laundry facilities). The assigned space for sale and stay is too small and unsuitable.

**ARJUN:** 29 years old, owns a photo studio and restaurant on the Middle Ring. His family has been running the studio since 1947. He had to adapt it according to technical innovation and had to open a restaurant to keep his head above water. He loves the Connaught Place and could not imagine working somewhere else. However, he lacks the support of the municipal administration in terms of maintenance, conversion and restoration of his shop. He does not know any rules regarding monument protection.

## Insights

Insights and requirements were deriving from the "personas". The team raised the question:

### I wonder if this means that ...

- the street traders need a suitable place for their stands, as well as sanitary facilities and affordable drinking water?
- there are no notices on the historic preservation and that incentives should be created for shopkeepers to maintain and renovate the buildings according to current requirements and monument protection?
- the old shopkeepers need support in thinking about the future of their stores?
- more places like CP should be designed?
- the different historical layers, the unique features and the personal stories of the place should be made visible?
- the cultural aspect of the CP must be revived or reinvented, as well as adapted to the new era - SMART?

To clarify problems and fields of action "points of views" were identified discussion concerning differing perspectives. The team raised the question:

### It would be helpful...

- if we could interest people like Tina for the cultural heritage of the CP.
- if old shopkeepers receive support in the continuation of their business.
- if shopkeepers could receive support and information on re-development and reconstruction required by the historic preservation.
- if there were adequate provisions and facilities for street traders.
- if all cultural, historical and personal aspects can be included in the Connaught Place's monument protection discussion (including those of the backs, side alleys and the Middle Ring - "informal heritage").
- if the history of the CP could be transported to the present time and into the future.

Finally, the working group agreed on one broader field of action: "Improvement of spatial experience and informal life at CP"

## IDEATE

Brainstorms generated as many ideas as possible to solve identified problems. The leading question was: "How could we enable / improve...?" Particularly ideas that can reach as many people as possible, low-swelling, fast and cheap to realise, long-lasting, multi-local etc. have been discussed.

Those ideas, which were to be developed to a prototype, were selected:

- Transfer of requirements into policy specifications
- Shading devices, roofed pedestrian zone in the Middle Ring
- Implementation of automatic parking systems, metro access from the Middle Ring
- Laser show, music and free interaction surfaces at Middle Ring
- Façade design as a visual connection of the buildings at Middle Ring
- Roof greening on the flat roofs with access only from the Middle Ring
- Development frame for Middle Ring and connecting lanes
- Water filling station, industry for the supply of water donors, temporary shadow elements, garbage collectors, as a development task in a preservation area

- Voluntary service: e.g. cleaning for receipt of coupons for drinks, toilets, etc.
- Manufacturing infrastructure for road traders
- Photo exhibition in the Middle Ring and informal connections

## PROTOTYPE

The working group took two of the ideas from ideation to prototyping:

### A: Photo exhibition and "Place-making" (Visualisation of identity):

Illustrated tour through Inner and Outer Circle, crossing Radial Roads and connecting lanes to the Middle Ring with various stations on topics such as: Timeline, portraits (stories of the people of the CP, collaboration with the photo studio of the Middle Ring), façade, hidden places and mysteries, as well as inclusion and location of the structural measures from Prototype B: ThinkTent, Mist-Cloud, WishPergola. The prototype consists of an illustrated city map.

### B: Three Infrastructural Measures (Development of Identity):

The team developed a modular concept, which can be applied in public spaces of Connaught Place. The

following measures could be permanent, temporary, or mobile and suitable to promote the social and cultural life of CP

- MistCloud (facility to produce a fog cloud, improvement of microclimate)
- FeedNeeds (collection of needs of people, integrated sanitary facilities, toilet, water dispenser)
- WishPergola ("String your new ideas", collection of ideas and exhibitions)
- ThinkTent (tent roof printed with historical documents, shadow donor, meeting place, users, guests, experts, open discussion events)



Photos: Marcus Jentner, 2017





i-con app.

The main goal is to create a mobile app that helps users find and book a ride. The app will be available on both iOS and Android. The app will be developed using React Native. The app will be developed using React Native. The app will be developed using React Native.

## Group #2: Mobility

Vipul Toprani

## UNDERSTAND

The team attempted to find answers to the question of improved mobility, particularly regarding the topic of car-free transportation. The participants first raised the question of how to conduct the interviews and how to tackle the question: "Open public spaces: How to reduce the number of private cars coming into Connaught Place?". Simultaneously, the team subdivided into smaller groups (4 x 2 persons including coach) for interviewing different types of typical users within the public realm of Connaught Place. The members agreed on:

- The Tourist & The Regular Visitor
- The Local Worker (i.e. employees, office clerks etc.)
- The Formal Shop Keeper
- The Informal Shop Keeper (street vendor)

## EMPATHIZE & DEFINE

The group went on to work in the field by interviewing and observing the previously identified types, as well as asking several questions with regards to their perception of the general quality of stay within the public realm and more specifically trying to get a little story of their life and work around Connaught Place.

Upon return, the group analysed the various types interviewed by collating and presenting the findings of each sub-group. Each group member wrote down one note or sentence accompanied by a little sketch or icon to provide quick recognition at a later stage. This was repeated by each member until they felt that certain types of users were identified:

### Personas: Typical Users of Connaught Place:

- **The jeweller:** shop owner, male, 60+ years old, studied, speaks English & Hindi, owns a jewellery store, drives to CP by car, conservative mind-set, "there is no need for a smart CP", "few parking issues, no mobility problems", hawkers create nuisance, against the proposal for pedestrianisation of CP as "it will affect business adversely since all premium customers drive to CP with their private cars"
- **The restaurant owner:** male of foreign origin, exclusive restaurant, lives five minutes away from CP, walks every day, "95% of all customers come by car", traffic rules in India are not followed and create further problems, pedestrianisation of CP will lead to loss of business
- **The street shop keeper:** local male, ~ 40-55 years old, high identification with CP (proud to be at this place), arrives by two-wheeler to CP, does not take metro due to security issues (pickpockets, theft etc.), cannot carry lighters in metro, discomfort with carrying luggage during peak hours, believes Saturdays and Sundays are the most crowded days at CP, trade will be affected by purely walking the plaza, vendor committees are mostly unaware about the Smart City initiatives, parking is not a problem – it is used inefficiently and can be improved by better coordination

- **The regular visitor / shopper:** female, travels to CP via metro or car, 30 mins travel time, CP is relatively safe as it is a lively space, "if street vendors are removed due to the smart city proposal, it will lead to creation of dark spots in CP due to lack to activity", safety issues today mainly due to drug or alcohol addicts who create nuisance, traffic jams are a problem, pollution is a big problem, lack of traffic police
- **The trader/ shop owner:** local male and female, family book shop business (handed from father to child), insecure, problems with hawkers, traders feel undone by Smart City initiatives, feels targeted by authorities, trader union in CP very active in protecting business, shopping plaza would mean complete loss of business, uses car himself to transport books, lack of inner-city logistics
- **The shop employee/ manager:** : local, male, 28 years old, CP has an ionic status to him, proud of CP and the quality of the public space as well as the security aspects within CP, travels to CP via metro, "shop owners have 2-3 parking spots reserved for their own cars", sees possibilities in marketing by using stalls outside shops as a means for marketing, pedestrianisation is generally positive if everyone can benefit from using the Metro, cars as status symbol, would welcome smart city initiatives

Second step – Notes/logos as posted were identified and clustered around the following topics:

- **Public and private Transport:** CP station nodal point in the Delhi Metro Rail, easy transportation of carts – no obstructions, traffic control – mobility, free and easy movement, no barriers, lack of signage, parking problems, visual chaos
- **Security & Safety:** sanitation and hygiene, lack of cleanliness, lack of management, waste not under control, traffic control measures
- **Businesses and Mobility:** conflict of business, business opportunities in public space - symbiotic relationships, equality aspect of space, no discrimination, plagiarism verses originals = conflict and contradiction, lack of communication regarding pedestrianisation or Smart City initiatives

The team used the collected information to generate ideas.

**I wonder if this means that...**

- car-free Connaught Place is far from reality
- reducing number of cars will make Connaught Place lose its business potential
- a better communication and incentivisation between shop-keepers and shoppers can help reduce cars in Connaught Place and improve usage of the Delhi Metro

On the basis of these perceptions, personas were classified into temporary – buyers and visitors – and permanent – shop-owners and workers using this categorisation, the following two personas were defined:

**Tia:** local, female, brand conscious, tech-savvy, 25 years old, comes to shop and meet friends at CP, travels by private car or cab, and hopes for a better shopping experience

**Tribhuvan:** local, male, 40+ years old, 2nd generation business owner, tech-savvy, sells high quality garments, preferred mode of transport is private car, minimum 2 cars in the family, fears pedestrianisation will lead to loss of business since almost 90% of buyers are premium buyers and use private cars to commute to CP

For each Persona, the following questions were formulated:

**Tia - How might we...**

- ...make shopping a pleasant experience?
- ...create a safe & secure 24/7 CP area?
- ...make waste bins easily accessible and make CP cleaner and greener?
- ...organise better parking facilities?
- ...better organize street food stalls, hawkers, street furniture?

**Tribhuvan - How might we...**

- ...create an environment for customers to reach the shop conveniently?
- ...ensure business does not suffer due to street closure?
- ...ensure customer safety?
- ...involve shop owners as stakeholders in the smart city initiatives?
- ...ensure informal sector does not occupy the same place as formal sector?

**IDEATE**

A brainstorm in two steps was conducted. Firstly, ideas around the following clusters, based on the “how might we” question were considered:

- **Digital solutions for parking** (app for reserved parking, specific parking zones outside the central ring)
- **Digital Communication** (application to integrate shop-keepers and shoppers, Delhi Metro, Administrative Authority, Government initiatives)
- **Accessibility** (walking the plaza, no traffic inside inner circle, enhanced accessibility for all, e-rickshaw, taxi call, bicycle route)

In the second turn, a number of possible solutions were discussed and the following idea of *digital communication to integrate shoppers, shop-owners and the administrative authorities and to facilitate a car-free CP to improve quality of life at Connaught Place.*

**PROTOTYPE**

The prototype was called **interconnected Connaught Place – i-CON..** It was enacted by the members and presented to other groups.

**Problem to be solved** - How might we facilitate a car-free Connaught Place so as to improve quality of life?

**The users** - The users that we targeted are shoppers and owners of shops/ businesses

**The pain points** – the users pain points/ needs are...  
...buyers: unsafe streets, lack of information, parking  
...owners: communication, lack of information, loss of business

**The solution** – our solution works like this...

A digital platform that provides information to the users on the following:

- Accessibility
- Incentivisation (subject to buyers' mobility)
- Interaction between various actors and stakeholders

The idea would introduce an incentive based system to get shoppers to use sustainable modes of transport to reach and travel around CP. By creating a means for communication between the various stakeholders, there is a direct exchange of information, buyers will know in advance about planned events, shop-keepers can offer discounts for

shoppers using public transport and they are in turn offered services by the administration for improving overall air quality, reducing noise and air pollution etc.

**The impact** – the benefit of the solution is...

- Buyers: Better information and incentives (short-term) and better shopping experience (long-term)
- Owners: Increased visibility (short-term) and increased foot-fall / reduced outages (long-term)
- Municipality: Decongestion (short-term) and better air quality (long-term)

**The actors** – stakeholders – our solution involves Buyers & Visitors, Private Entities (shop owners, restaurants etc.), NMDC, Mobility Providers & Facilitators, Technology Providers

**The costs** – the solution needs investment for technology development, business development, marketing consultant, operation and maintenance

**The revenues** – our solution generates profit by Hyperlocal Advertisements, subscription/ commission based interaction, partnership model



Photos: Marcus Jeutner, 2017



## UNDERSTAND

How can the public spaces of CP and the qualities of stay be improved, particularly regarding the overall idea of a car-free area? The team subdivided into smaller groups for interviewing different types of users within the public realm of Connaught Place. The members agreed on:

- The Tourist & The Regular Visitor
- The Local Worker (i.e. employees, office clerks etc.)
- The Formal Shop Keeper
- The Informal Shop Keeper (street vendor)

The focal area was agreed to be the inner circle of CP with arcades, central green and the side streets to the 2nd Ring. The group went to the CP to interview and observe the previously identified users, asking several questions regarding their perception of the general quality of stay within the public realm and more specifically trying to get little stories of the interviewee's life and work around CP to draw a more "atmospheric picture" about this space.

## EMPATHIZE & DEFINE

- **Upon return, the group analysed the various types interviewed by collating and presenting the findings of each sub-group. Each group member wrote down one note or sentence accompanied by a little sketch or icon to provide quick recognition at a later stage. This was repeated by each member until certain types of users were identified:**
- **The tourist:** : French, male, 24 years old, Student, speaks English but no Hindi, visits CP for the first time with his local friends, feels a lack of orientation, no easy conditions with hot outdoor climate and no facilities to rest, sees problems with general management on waste and hygiene of facilities, feels lost and little insecure.
- **The regular user:** local male and female, ca. 22-26, visits Connaught Place for shopping and meeting friends in cafes, comes out to "play and meet", sporty and fashionable, complains about lack of overview and problem with security aspects, struggling with heat and humidity of the climate, too much traffic
- **The shop keeper:** local male, ca. 40-55 years old, proud to be at CP, high identification with CP which is perceived as an iconic space, but sees problems with street sellers crowding the walk ways and carts clogging the space, complains about problem with waste and cleanliness in front of shops
- **The street vendor:** local male and female – but segregated, ca. 25-40 years old, often running a family business which has been handed from father to son, feels insecure, problems with licensing as the permitted space is only 6 by 4 ft, has daily work routine but enjoys people and the visual chaos, has no real rights to stay and is only tolerated, but not accepted by some, as consequence, he/she is often pushed away, has problem with sanitation facilities, often no shading
- **The law enforcer:** local police man, male, 55 years old, CP is an iconic status for him and he is proud of CP and the quality of the public space as well as the security aspects within CP, self-assured of doing the best job possible for the area and the users, sits under the flag, occasionally plays chess, no real critic of public realm all positive

In the second step, notes as posted were identified and clustered around the following topics:

### Security & Safety

- sanitation and hygiene
- lack of cleanliness
- lack of management
- waste not under control
- traffic control measures
- surveillance

### Business-Street Vendors/ Shops:

- conflict of business
- business opportunities in public space - symbiotic relationships
- licensing issues
- equality aspect of space, no discrimination
- plagiarism verses originals = conflict and contradiction

### Traffic Management:

- mobile security
- easy transportation of carts – no obstructions
- traffic control – mobility
- free and easy movement, no barriers

### Orientation:

- difficult (ring/ circular structure)
- cultural differences – social behaviour (politeness and aggression)
- visual chaos
- visual diversity
- lack of signage
- no sufficient lighting

### Environment & Condition of Open Space:

- availability of WIFI
- meeting opportunities
- resting and relaxing facilities
- lack of shading – heat islands
- arcade is good, provides shading and structure!
- lack of maintenance

### History:

- pride, central iconic object (flag and space (CP-central ring/ historic architecture/ arcade)
- information on area – Where are we? What is it? When and why was it built?

### Inclusion:

- sport private and public
- games and play (roller & board skating, chess playing, other games)
- shopping at "different" levels/ qualities
- male/ female user
- accessibility for differently abled people

By using the question:

**I wonder if this means that...**

the team defined a range of needs and insights: signage, more seating, proper shading, security and safety measures, traffic control, street lighting, orientation spots, relaxing zones, equality and inclusion, full accessibility, background information and overview of history and availability of shops, cafes and restaurants, mobility and manoeuvring traffic, sport and games facilities, suitable waste containers etc., recycling

### Personas: Typical Users of Connaught Place

**Visitor:** local, female, single, student, 24 years, active life, comes to shop, meet & play at CP, hope for more security, safety and better sanitation facilities and quality, climatically controlled meeting spots

**Shop Owner:** local, male, married, 45 years, self-employed, sells quality goods, identifies with CP, problem with informal vendors, waste and clarity of space in arcade realm

**Law Enforcer:** local, male, 55 years, civil servant (police man) proud to be stationed at CP area, believes that everything is in good order and under control

### IDEATE

Ideas around the following clusters, based on the questions had been thrown on the ideas board:

- natural comfort (trees in central green, more planting, water cooling by little fountains, wind cooling fans, tree-shaded seating)
- comfort and fun by man-made structures (puri puri zones, cultural events, dedicated zones for street vendors, "human library"/ speakers corner, pavilions for

The team proceeded with the 'visitor'-persona.

**Pooh (Pooja):** 24-year old, female, single, student of journalism, local to the area (lives about 8km away) and calls herself a regular visitor of Connaught Place. She leads an active life, likes: shopping, meeting friends and hanging out together. Modern young person, with traditional Indian roots.

The members asked following question:

#### How might we...

...be able to enhance the natural comfort in CP?

...enhance comfort of moving around while she shops in CP?

shading, small user pockets and quite zones – dedicated resting and relaxing)

- interactive (games, sport and meeting areas i.e. skater area/ loops, information kiosk, e-train in central circle "hop-on/hop-off to get around shops and restaurants)
- orientation (signage, WIFI, recognisable spots, information kiosk, mobile apps, gaming apps)
- security and cleanliness (secure and clean WCs, sanitised water spots, orientation signage,

...make Pooh comfortable outside regarding shading and climate?

...create a safer, more inclusive and more comfortable outdoor seating area for Pooh?

...create a safe & secure 24/7 CP area?

...put up directional signs and symbols so it would be more efficient for her to orientate herself in the area of CP?

...make waste bins easily reachable?

...make recycling possible? (e.g. plastic food and beverage waste)

...enhance overall experience in CP for Pooh?

regular efficient waste and waste- and recycling management, quick call buttons/call response for security) better access (free movement "walkable city", pedestrianisation- no traffic inside inner circle, remove barriers within shopping area, enhance accessibility for all, e-rickshaw, taxi call, bicycle route)

The group identified several possible solutions from the six listed headings above, which were now clustered into two:

A. **comfort of stay**, by communicating and interacting in a non-digital way

B. **comfort of movement**, by communicating with means of digital as well as traditional ways

### PROTOTYPE

The members decided to move forward with a combination of a physical info-box and a digital application for the prototyping. The prototype was going to be called **CC or Connaught Connect**.

They decided to split into groups to build two prototypes of the "Connaught Connect": one larger structure suitable for the inner circle green area and one which can be placed anywhere on the streets, arcades and walkways.

**Problem to be solved** - How can we enhance Pooh's experience in CP, making it safe, accessible and help orientate herself?

**The users** - the users that we targeted are regular visitors, tourists,

For option A the group developed two ideas, that are both focussing on the inner circles' green area of CP:

- an open skate board "arena" or area together with a simple hut or open pavilion for drinks, resting, observing and meeting people through the activity.
- an open "games and play" area for traditional board games together with a children's playground also with a structure for resting with shading and cooling.

shoppers, vendors and local employees.

**The pain points** – the users pain points/ needs are accessibility, orientation, safety and security, interaction and outdoor thermal comfort

**The solution** – our solution works like this...

Information kiosk in its physical form as a pillar/column or box of some shape connected to GPS with LED screen showing maps and local info, directional signage, extended with a shaded seat plus fan, electrical charging point, WIFI hotspot, clean water vending, emergency call button, CCTV surveillance, bin for litter as well as service call point for e-rickshaws, taxis etc.

For option B the group developed also two ideas:

- an info-box type solution like a single column or vending machine with security/ safety call buttons, local & historical info, local maps for orientation and shopping as well as foldable seat with mini shading, clean water supply and surveillance.
- Apps for games, general and historical information about CP, security

**The impact** – the benefit of the solution is a betterment of experience through ease of above listed needs and pain points.

**The actors** – stakeholders – our solution involves NDMC, Private Entities (through PPP model), Delhi Police, Shop Owners Association

**The costs** – the solution needs investment for...

Production and installation, space rent, marketing, operation and maintenance

**The revenues** – our solution generates profit by advertisement of digital and traditional ways, tax revenue, paid apps, selling water (water ATM)



Photos: Marcus Jettner, 2017



**Group #4: Last-mile Logistics**  
Ulrike Walter  
SERVICES  
m&I

## UNDERSTAND

The team was asked to gather insights from users, to investigate daily routines of distribution of goods and services at CP. Furthermore they were divided into three small groups to explore each of the three rings of CP and to interview people. This should provide a broad insight into the logistics processes around the square. People were consulted, who are active in the shops and restaurants of CP (formal sector). In addition, street vendors (informal sector) were interviewed, who sell from small areas on the sidewalk. Neither a questionnaire nor a fixed structure was given for the interviews. It was much more important to gather the personal impressions and experiences of the people.

## EMPATHIZE & DEFINE

Different topic clusters derived from the talks, mentioned by several people in different contexts. In the individual thematic clusters, various observations were made in the formal and informal sectors.

The formal sector mainly consists of clothing retailers. CP also provides several bookstores. Cafes and restaurants represent a large share of the commercial space. The goods offered by street vendors are much more varied.

- **Supply:** Formal shops and catering establishments are usually supplied by transporters during the night hours between 11 pm and 4 am. Since there are no delivery zones or large parking areas directly in front of the shops, the vehicles park on traffic lanes during delivery. Goods are predominantly supplied by the adjacent cities and peripheral areas bordering Delhi, where large chain warehouses are located. Street vendors are generally supplied with small vehicles (bicycles, car-rickshaw or small transporters). They receive their goods from the major markets in Delhi, such as Sadar Bazaar or Chandni Chowk, just a few miles away from CP. Goods are delivered in the morning (9am) and unsold goods picked up again in the evening (9pm).
- **Storage facilities:** Some of the formal businesses at CP own small storage areas. In general, however, there is no comprehensive warehousing and the goods are delivered "just-in-time". Dealers of the informal sector have no stock directly at the point of sale due to the small sales area on the sidewalks. Unsold goods are picked up again at the end of the day and stored until the next morning near the area. In case goods were sold out, they will be delivered by the surrounding markets at short notice.

The team members used the collected information to generate the following conclusions:

### I wonder if that means that ...

- a jointly commissioned logistics service could optimize the complex processes.
- there is a firm agreement of logistics costs and delivery times in the informal sector
- there are established supply and distribution networks in the informal sector
- logistical processes in the informal sector could be optimised at reasonable prices

Based on these findings, two perso-

nas with specific needs and possible fields of action were defined. The two personas are from the informal sector, as the team had developed more insights and needs in this field.

**RAVI:** 30 years old, lives in Laxmi Nagar, profession: street vendor, delivery of the goods 8:30am, pick-up 9:30pm, irregular demand, high expenses for the management of unsold goods  
> It would be helpful for Ravi, if distribution networks are more flexible and on demand.

**PYAASE Lal:** 28 years, father of two children, lives in Daryaganj, occupation: rickshaw driver (for the informal

## IDEATE

Based on the personas the team elaborated the present questions:

### How might we...

- increase the flexibility of the street vendors?
- provide more security for the rickshaw-drivers?

Subsequently, the team began brainstorming on these questions. After a short individual collection of ideas, the team members presented their results to each other and supplemented in the ensuing discussion.

sector), delivers goods for street vendors at 8.30am, picks them up at 9.30pm, irregular employment meanwhile, knows his clients – the street vendors – personally  
> It would be helpful for Pyaase, if there were fixed timetables and a fixed income to get more certainty for his family.

The following topic clusters were developed:

- Security (legal contracts, fixed times for the transport of goods, formal collaboration of the workforce)
- Storage (mutual storage, nearby Connaught Place)

The idea of a "Cooperative Society" with a connected "Warehouse Management System" (Software) was subsequently developed and further defined by the team members.

## PROTOTYPE

### CPeLS - Connaught Place (e) Logistics System

**Problem to be solved** - How might we...

- increase the flexibility of the street vendors? (A)
- provide more certainty for the rickshaw-drivers? (B)

**The users** - The users that we targeted are...

- the members of the informal sector at Connaught Place (street vendors and rickshaw-drivers)

**The pain points** – the users pain points and needs are...

- the sellout of goods (A) > Need: Efficient supply chain (transport and storage)
- irregular income (B) > Need: formalise workforce

**The solution** – our solution works like this...

„Cooperative Society“ including a „Warehouse Management System“: The rickshaw drivers and street vendors are organised in an association that runs a joint warehouse for several vendors in the immediate vicinity of Connaught Place. Warehouse stock is captured by a software system, ensuring constant availability. The transport and delivery orders

are given to the rickshaw drivers by the administrative staff of the association, after the street vendors have reported a corresponding order to them. Simultaneously incoming orders can be combined and costs thereby can be reduced.

**The impact** – the benefit of the solution is...

- less traffic congestion around Connaught Place by combined delivery of several orders
- assured income for the Rickshaw-drivers
- optimized and simplified processes, easy access
- cost savings

**The actors** –our solution involves...

- rickshaw-driver
- street vendors
- society's administration staff/ warehouse manager

**The costs** – the solution needs investment for...

- technology and software costs
- personnel and administration costs

**The revenues** – our solution generates profit by...

- increased sales/revenues (due to granted goods availability), scaling up operation

- increased income levels through commonly organised processes
- goods can be sold online with an additional software-module



Photo: SPA, 2017



Photos: Marcus Jeutner, 2017





**Group #5: Waste (and Water) Management**  
Klaus Hoppe & Thomas Block

Photo: Marcus Jeutner, 2017

## UNDERSTAND

The team considered the topic “waste” as a priority, and possible questions for the interviews with users of the Connaught-Place (CP) were discussed and elaborated.

## EMPATHIZE & DEFINE

During the field interviews, the participants asked various questions about waste relevant topics in groups of each two people: from road cleaning to the disposal of packaging waste in shops. They gained an insight into everyday routines and could solve problems and identify needs to subsequently assess the different solutions and / or non-solutions for waste. One group explored the terrain on a rickshaw and was hence able to talk with users of the square in 11 different places.

Upon return, the collected experiences were presented by each group. Essential findings from the conversations and observations were collected on a display wall and interesting or surprising findings were further formulated.

The interviewees of the Urban Design Thinking Team were diverse users and visitors of the Connaught-Place: businessmen and their employees, people who had come to the CP for shopping or the plastic bottle return machines, and passers-by who were curious about the interviews

Key findings were:

- Dustbins exist but are difficult to spot and therefore not used
- Inadequate washing facilities and if existing, foul smell has been identified
- Plastic bottle collection systems with machines are in place
- Each machine is accompanied by one care taker;
- Two different types of machines are working, one machine is out of order
- Littering especially in neglected corners
- Municipal effort is not visible
- Drug abuse related waste and general security aspects

In the next step, the individual subjects were clustered in thematic groups to obtain a better overview, which was helpful for the further process. The general topics were defined as:

- Public Waste Services of the New Delhi Municipal Council (NDMC)
- Recycling of different types of material (paper, plastic)
- Littering
- Awareness raising
- Security Aspects related to waste management
- Sitting / leisure areas as well as waste management
- Drinking water supply, Storm water drainage

The most striking observation was a different perception of the findings on site by the team members. Contrary opinions were stated, especially regarding the cleanliness of the place. One reason might be the different origin and background of the group participants, who are all used to a different conditions of the urban environment.

In addition, there was a discrepancy recognised between NDMC’s advertising campaign for waste management and the opportunities offered to the team members regarding a sensible collection of waste and separation for visitors of the CP. In the context of the discussion, a general discrepancy between the expenditure for an official citywide campaign (inter alia by means of a large video screen) and what is eventually perceived on the spot by the citizen. There were also quite contrary experiences regarding the waste disposal at the CP.

Participants who went further into the second circle of the CP could report a functioning separation, at least of paper and plastic waste, which already starts around the shops at the CP and the other business center located in the underground.

Grouping into knowledge, personas and first fields of action

The participants agreed on concentrating the further steps on the topic of waste and have elaborated the following findings from the collected information:

**I wonder if that means that ...**

- the NDMC offer is not target group oriented enough?
- waste containers must be better identified?
- the locations of the waste containers are strategically unfavorable?
- users’ awareness is not associated with waste?
- it needs more bonus systems, such as the plastic collection points?
- the synergy effects between e.g. plastic collection points and WLAN availability cannot be used?
- the regular programme of events on the Connaught-Place should also not tackle the issue of waste?
- waste separation and recycling must be optimised?

## Personas

### Rutuja: buyer, 35 years

She lives in Rohini, about 25 km from the CP, comes for shopping once a month and leaves waste on the street at the CP without the available disposal possibilities to use.

### Our perspective on Rutuja (Point-of-View)

She does not know that the corresponding possibilities exist. She is also not aware of the consequences for the CP. Overall, she perceives the CP as a generally clean part of Delhi. She behaves like most visitors of the CP. She sees her own behavior as normal and non-polluting. It would be helpful for Rutuja if there was more visible information in the form of advertising banners or similar measures, explaining where

## IDEATE

The group work started with tasks to implement the findings of the previous findings, including the conducting of an 'high impact brainstorming' and developing solutions for the persona as well as designing the prototype.

A progress in the solution should also be achieved by dealing with errors.

disposal possibilities are, how to separate, and why and what the consequences associated with a behavioral change are. A bonus system would be helpful.

### Anil: shop manager, 39 years

Anil must drive 15km each day to the CP to get to the shop, which he is responsible for.

### Our perspective on Anil (point-of-view)

Since he works at the CP, he has a certain understanding of the subject "waste" and generally throws nothing carelessly away. In business, however, he does not have the possibility to separate the various types of waste. He behaves like all other shop managers and leaves the responsibility to the public waste disposal agencies. If he had the pos-

For selected aspects of the first brainstorming fields, the group developed solutions for the improvement of the situation of the persona with subsequent focus points and individual aspects. The question of how the life of the defined persona could be changed positively was now central to the group. Not all topics of the first round of the

sibility he would separate. It would be helpful for Anil, if there were more possibilities for the separation of the waste and these would be additionally provided with a bonus system.

In further steps it shall be possible to discuss the topics "visibility of disposal possibilities", "awareness formation" and "system of waste separation" with the responsible municipal authorities at Connaught Place. It would require elaborating possible improvement concepts to the overall system and the big gap between the existing supply and the perception of the same.

brainstorm were deliberately pursued to maintain the focus. Following aspects remained in the discussion:

### Recycling potentials:

- Establish an efficient collection and recycling system
- Interface on the user side by clear colour separation of waste bin

### Awareness:

- Electronical mapping, arrows on the pavement and online applications for a quick reach of waste bins
- Electronic monitors showing information on the correct separation behaviour, also serves to avoid „negative places“

## PROTOTYPE

The prototype was developed as the sum of the individual measures under the leitmotiv „From Waste to Beauty“ within the framework of the model design of the CP. In this way, complex facts could be visualised.

### Problem to be solved:

Teach Persona how to deal with waste on CP and raise awareness for all stakeholders by showing simplified practical solutions and information to help cleaning the CP and provide the knowledge in advance to the day by day local waste generation

### Online:

Effective for the users of CP like local workers, shopkeepers, regular visitors, tourists and the natural and artificial environment

- awareness campaigns with information panels in trains / metro driving to the CP
- Interactive event and information centre in the heart of the CP treating information on waste management
- Info campaigns via local radio stations / broadcast about waste management on the CP

### The User „Painpoints“:

Orientation and understanding of relevant actions and accessibility to the local waste management system at CP, avoidance of dirty environment due to intensive utilisation of CP by public society and business

### The Solution:

Awareness campaign to train all relevant stakeholders in the execution of simple action for proper local waste management, physical available separation system in place

### The Impact:

Improved situation on site regarding the understanding about waste stream segregation and separation with direct impact to local cleanliness and hygienic aspects as well as generation of secondary raw materials.

In addition to these aspects, the group proposed the setting up of hanging gardens, irrigated with rain-water as well as using composted organic waste as a plant substrate, thus contributing to the greening and microclimate improvement at the CP.

### The Actor:

The involvement of individual persons, local society, responsible city departments as well as NGO's and potential investors would be required

### The Costs:

A cost overview will include operational cost for the system operation as well as investment costs for the setup of relevant local infrastructure, to be figured out in second step

### The Revenues:

Revenue Generation was not evaluated in detail, but recyclable materials will contribute to a circular economy





| Feedback

Photo: Marcus Jeutner, 2017

## I liked...

- this entire UrbanLab #1 workshop conducted at New Delhi by very efficient, visionary, insightful, intellectual, conversant team from Germany under the leadership of Prof. Elke Pahl-Weber with active support of Marcus Jeutner and his other German colleagues. I don't have words to express the productiveness of this workshop.
- the interdisciplinary, innovative and people-centric approach of IGSI involving effective transformation processes.
- how engaged the organisers were and how they never stopped the energy flow, besides introducing people to the concept of urban design thinking.
- the strategy to get feedback of real life problems from the visit to CP.
- the methodology of the workshop to get the outcomes by a new and efficient approach.
- the interactive conversations and the approach to the study and analysis as well as the brainstorming exercises during the workshop.
- the interactive learning approach for the workshop. Learning by Doing has made the experience more enriching.
- the approach that was adopted in evolving the entire exercise and the design thinking process that was used to achieve the same.

## I wished...

- to continue my association with this very much inclusive and engaging German Team. I would be always eager to cooperate with this entire group.
- there would be more in-depth involvement of the Institute of Town Planners, India, to make IGSI more meaningful.
- there were more people from more backgrounds, and that the workshop would have some tangible results, such as actionable changes in CP for example.
- teams were given long term targets to develop more comprehensive solutions for the problem they were addressing. For example, giving a month time for the Indian counterparts of the team to meet again among themselves and finally prepare a report with much detailed solutions.
- we were engaged some more days for the same project to learn more.
- I could be a part of this organization in the future. I would also like to be the part of all UrbanLab workshops in the future.
- the design findings and prototypes designed could have been discussed or presented to the development authorities.
- these innovative new methods and approaches to design and planning are implemented in the planning curriculum in India for students to break with the monotonous and rigid framework of education that currently exists.



DGI Bauwerk  
Architektur + Management



PATZSCHKE  
ARCHITEKTEN

se·g architekten

p2mberlin



Innovation Centre for Mobility  
and Societal Change



ENGELKE · MINX · PARTNER

DIE DENKBANK

automotive  
engineering



BUROHAPPOLD  
ENGINEERING



KLAUS HOPPE CONSULTING  
*Energy solutions for cities*

REMONDIS®  
WORKING FOR THE FUTURE



## IGSI Indo-German Smart Initiative

 [www.igsi.info](http://www.igsi.info)

 [mail@igsi.info](mailto:mail@igsi.info)



TU Berlin

Dpt. for Urban and Regional Planning

Chair of Urban Renewal and

Sustainable Development (Sek. B7)

Hardenbergstr. 40a

D-10623 Berlin

Delhi/Berlin 2017