CIDCO @ SMART
Newsletter
January 2018 - March 2018 • Vol. 4 Issue 1

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PROJECT IN FOCUS

INTELLIGENT TRAFFIC MANAGEMENT

Background
The entry of new business and companies in Navi Mumbai will lead to increase in the number of job opportunities with further increase in population and increase in traffic on the roads. This leads to an induced demand for better road infrastructure. To keep up the standards of Navi Mumbai in terms of traffic flow and comfort for the commuters on the road, the need for an Intelligent Traffic Management System (ITS) is raised.

Location
Kharghar, Kalamboli, Kamothe, Panvel, Ulwe and Dronagiri

Scale
City

Cost
Rs. 30 Crores

Date of Completion
2017

Detailed Scope
CIDCO proposes ITS in the Navi Mumbai through
• Area Traffic Control (ATC)
• Smart Bus Stops

These projects will be implemented separately under a common framework of ITS. The detailed scope of the projects is as under-

I. Area Traffic Control
ATC in Navi Mumbai under CIDCO will enhance the utility of the already built smart road network in all the nodes. The actions under ATC will include-
• Monitoring traffic through video surveillance
• Synchronised signaling to minimise the stopping of vehicles at every signalised intersection by use of smart signals at local or area/regional level
• Technology similar to loop detection for identifying the queue/demand on the road in real time
• Configuring major signalised intersections to a central control unit similar to the command center in CCTV Project
• Real time traffic monitoring and controlling

II. Smart Bus Stops
The detailed scope of work in the system is as under
• High-tech bus stops sponsored by CIDCO
• Real time information points at bus stops about next bus arrival
• Bus stop location mapping and integration of the same with mobile app
• Citizen information centre at Bus stops

Progress
Both projects under ITS are in conceptual stage

Benefits
ITS in Navi Mumbai will enable more citizens to use public transport through better quality of bus service and disincentives for private vehicle use. Benefits offered under each of the projects in ITS is as under-

Area Traffic Control
• Smooth flow of traffic
• Fast movement in peak hours
• Fuel Saving
• Green Environment

Smart Bus-Stops
• Increased reliability of bus transport system
• Increase in use of bus / public transport and hence decreased use of private means of transport
• Decrease in GHG emissions
• Empowered citizens with live information
• Better bus travel planning equivalent to suburban and metro rail system
UJJWAL PORTAL PERFORMANCE
For the period of July 2017 to March 2018

Findings
- 80% recognise the need for institutionalising trainings
- Personal motivation is as important as organizational needs
- 7 out of 10 top barriers identified for achieving organisational goals are related to capacity building

Training Network
560 courses across 84 institutes and 30 cities
Vetting of the institutes and courses by Head of the Departments at CIDCO

NUMBERS SO FAR

- 55% adoption
- 48% adoption
- 73% adoption

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial</td>
<td>181</td>
</tr>
<tr>
<td>Technical</td>
<td>353</td>
</tr>
<tr>
<td>(Organizational, reform based)</td>
<td></td>
</tr>
<tr>
<td>Behavioural</td>
<td>26</td>
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</tbody>
</table>

525 employees have logged into the system.

- 650
- 403
- 179
- 122

Out of all the class I & II employees, 62% of the Men and 68% of the Women have logged in Ujjwal.

User Experience Rating (16 criteria)
95% Good or Outstanding
94% submitted feedback

Our Network

Cidco@smart Vol 4, Issue 1, 2018
Most attended institutes - ASCI Hyderabad, IIM Ahmedabad, ESCI Hyderabad & National Productivity Council
4 customised trainings with 76 participants
Out of all the logins, 41% of the Men and 43% of the Women have already participated in trainings.

**Intended Impact of Phase I (2017-2019)**

829 (50%) of all CIDCO employees

<table>
<thead>
<tr>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>78%</td>
<td>22%</td>
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</tbody>
</table>

**FEATURED COURSES ON UJJWAL**

<table>
<thead>
<tr>
<th>Name of the featured course</th>
<th>Dates (April to June 2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social impact assessment</td>
<td>9th Apr-13th April</td>
</tr>
<tr>
<td>Personality in managing and leading</td>
<td>20th-21st April</td>
</tr>
<tr>
<td>Sewage treatment plants designed, principles and O&amp;M practices</td>
<td>7th-9th May</td>
</tr>
<tr>
<td>Contract management and dispute resolution</td>
<td>7th-11th May</td>
</tr>
<tr>
<td>Project management in construction industry</td>
<td>5th-8th June</td>
</tr>
<tr>
<td>Towards universal sanitation in urban areas</td>
<td>11th-13th June</td>
</tr>
<tr>
<td>Remote sensing - An overview for decision makers</td>
<td>12th-15th June</td>
</tr>
<tr>
<td>Housing for all - Attaining a national agenda</td>
<td>21st-23rd June</td>
</tr>
<tr>
<td>Environmental impact assessment for projects</td>
<td>22nd-24th June</td>
</tr>
<tr>
<td>Managerial effectiveness</td>
<td>29th-30th June</td>
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</table>
INTERVIEWS AND FEEDBACK

INTERVIEWS OF TRAINING ATTENDEES

What is your opinion about the course Taking People Along: Managing by Persuasion which took place in Indian Institute of Management, Ahmedabad? Can you please detail out a few topics which made it more interesting?

The course was structured thoughtfully with highly competent published faculty. The faculty had excellent communication skills. The course offered classroom training in the first two days and was followed by site visits to avoid monotony. The highlight of the first two days was our senior speaker, Mr. M. M. Moili, who had an excellent command on the medium. At the end of each session, we were given some course materials and were expected to come prepared next day. We were encouraged to participate more in the group discussions and team talks. The class had a good mix of participants from public & private sectors. The groups were divided such that everyone got a chance to speak. In-depth knowledge in the subject were assessed and finer aspects were covered through examples. The training was so good that I would love to go to IIMA again for a different managerial training.

Do you think this course helped you in your current role and how do you relate this course to your day to day life personally as well as professional?

Just before this training program, I was promoted to a Managerial Role as a section head. That’s when I could explore the opportunity of being a leader; it was also the reason for choosing this course. The course has helped me take up my new assigned responsibilities effectively. I now understand the ownership of the assigned task, framework of delegation of work and being open-minded. Not only have I learnt to communicate better, but also the right body language required for an effective expression which I feel is very important at the mid-tier management.

You mentioned on an effective design and delivery of the course. Can you elaborate on the design of the course that actually led to the right delivery of the training objectives?

Each of the training sessions were clubbed with group discussions and field visits. I would like to share one of the field visits which I liked the most. Completely unaware of the subject, we were taken to the blind school and a visually impaired instructor took us to a dark basement. We were divided into two batches and were told about the things present in our surroundings. Then, we were instructed to move around for half an hour in the pitch-dark room. After a snack in the dark, there was a film screening which only had an audio but no visuals. After coming back, we were asked about our experiences. The experiences was co-related and we were then explained that this is similar to going to a new organization or getting assigned a new role. Therefore, you need to communicate to others to get through new things. It was one of the best experiences throughout the training; completely out of the box experience. The style of teaching was in IIMA way, if I may say it, which is to educate through experiences and use theory sparsely.

If other CIDCO employees are sent for similar courses, how do you think they will be benefitted?

For people looking forward to enhance their knowledge should consider IIMA as the right institute. Employees genuinely interested in the topic and aware of its relevance should go for this programme. Institutes like IIMA can be enjoyed best when our level of interest is as high as the celebrated and spirited faculty. Trainings like these are important for the managers but unfortunately, nobody volunteers and we have to force the employees. This is an important training for all middle level managers. Everyone should get the opportunity of being at a campus like IIMA and get a chance to explore their strengths & weaknesses in communication.
You have recently attended a course on Positive Organisational Behaviour in ASCI, Hyderabad. How was your experience?
I had an excellent experience. The campus was really good and I really liked the facilities that were provided to us. All the objectives mentioned in the training program were fully covered. The participants were involved in many group discussions and tasks. Faculties, including Prof. Suhasini, gave equal attention to every participant and also motivated the introverts to express their opinions. The topics covered were on communication skills, leadership quality and motivation. The lecture by Prof. Vikramaditya Duggal on leadership was very good, it taught us many ways to deal with our coordinators and have positive attitude towards our work.

Who were the participants and how was your interaction with them?
There were 11 participants from different cities from both the sectors but a majority of them came from the private sector. A majority of the participants were from the National Small Scale Industry, Delhi, the Sarthi group, Kerala, coast guards and factory managers of JK cements. We interacted with other participants as well.

Has it made any positive impacts in your personal behavioural insights?
Yes, of-course, since this was a behavioural course it has helped me mould my way of thinking. It teaches how one should work in a team and how to communicate with your colleagues. The way of handling my work changed after attending this programme and now I am able to take the ownership of my work. There is a definite change in my behaviour. The course has changed my way of thinking towards this organization and my colleagues.

Would you like to suggest this or similar program to anyone in the organization?
I would like to suggest that all the senior level employees of CIDCO should go for this course. It is a very good course and it will definitely help grow CIDCO as an organization.

NEWS UPDATES

Customized training program was held for DOs and ADOs in YASHADA, Pune on the topic 'Legal training'.
Date – 1st Feb, 2018 to 3rd Feb, 2018

NIUA-CIDCO Smart City Lab initiated a new Course Sharing feature in Ujjwal. This feature enables the officers to share the courses with their colleagues, peers and office mates.

Training cell conducted another ‘Samvad’ session for the planning department at CIDCO.
Date – 7th Feb, 2018.

NIUA-CIDCO Smart City Lab recently initiated ‘Vimarsh’ workshops with the training participants who had gone for a training through ‘UJJWAL’.
Date – 27th Mar, 2018

NIUA-CIDCO Smart city lab participated in the WSDS 2018 by attending the thematic workshop on “Strengthening an evidence-based policy framework for sustainable transport” organized by TERI.
Date – 15th Feb, 2018

NIUA-CIDCO Smart city lab attended the stakeholder discussion on ‘India Urban Mobility Study’ organized jointly by TERI, World Bank and the ITF.
Date – 16th Mar, 2018
KIRKPATRICK MODEL
Four Level Training Evaluation Model

Kirkpatrick model is one of the highly recognized and widely used training evaluation model. It was developed by Dr. Donald L Kirkpatrick (1924-2014). It is one of the most effective models to analyse and evaluate the results of educational programs. It can objectively analyse the impact and efficacy of training. As it proceeds, the evaluation process gets more difficult and time consuming. However, the higher level assessments also generates information that is more critical and valuable.

The Four Levels of Kirkpatrick Model
By analysing each of these four levels, it is easier for a trainer to evaluate an effectiveness of training and find the ways to improve the future trainings. The four levels of the evaluation model are as follows:

1) Reaction evaluation - Training participant’s opinion about the training and the trainer - The personal thoughts and the feelings are captured quantitatively through responses in a questionnaire (typically termed as ‘smile sheets’ or ‘happy sheets’). Questionnaire analyses the training content, methodology, facilities and the course content. Learners also respond to their first reaction to learning experience.

2) Learning evaluation - The extent of learning after the training - It measures the personal development of the trainees by analyzing the increase in knowledge, the acquired skills or enhanced intellectual capabilities. This is assessed before and after (pre-test & post-test) the training so as to ascertain the scale at which learner has gained the knowledge. The evaluation involves observation and analysis of the voice, behaviour and text of the trainee. The measurement at this level gets more difficult and laborious as the participant’s evaluation moves from learner satisfaction to learner’s knowledge advancement.

3) Behavioral change evaluation - The extent to which the trainees applied the acquired knowledge and changed their behavior. This change can be immediate or several months after the training depending on the situations. Behavior evaluation analyses the transfer of acquired knowledge from the training session to the work place. Here, the primary tool for evaluation is predominantly the observation. Apart from the observation, a combination of questionnaires and 360 Degree feedbacks are also used. It is rather difficult to predict the change in behavior and hence, the evaluation process gets even more difficult. It requires important decisions in terms of when and how the trainees should be evaluated.

4) Result evaluation - To assess training in terms of business results. It is measured by assessing the change in key performance indicators of business which involves, achievement of standards and accreditations, number of complaints, profit and loss statements, business volumes, etc. However, since all these factors are also affected by several other external factors it gets difficult to quantify the training impact on business results. This stage helps in identifying the ROI (Return on Investments) of the training.

In the context of trainings through UJJWAL at CIDCO, the training cell team captures the relevant information to evaluate the reaction of the trainees, which is the first level of the Kirkpatrick model. A feedback form that captures the reactions of the trainees is filled by them immediately after the training is over. 85-90% of the submitted participant’s feedbacks have already assessed the institute vis a vis faculty or the Subject Matter Expert (SME), relevance of the course, course content, training methods and other faculties. NIUA-CIDCO Smart city lab also incorporates the second level of the Kirkpatrick model. However, currently this is only being done for high end courses. At this stage, participants are asked to submit a brief on their learning in a pdf or doc version, so as to qualitatively assess the enhanced knowledge of the participant.

It is strongly believed that many of the participants in CIDCO have started implementing the knowledge gained during the training in their professional and personal lives. This can be evaluated through methods of psychometric assessments or 360 degree assessments in the third stage of this model. However, the tools to quantify the change in the application of the knowledge are still in development stages and can be assessed only in a larger group of participants over a period of 12-18 months. As the trainings gets more amenable in the coming months, UJJWAL’s training cell aims to take its evaluation process to the next stages of Kirkpatrick model. By doing so, it intends to measure a system wide impact measurable in terms of the people, the processes and the business of CIDCO.
EMERGING IDEAS

DOCK LESS BICYCLE SHARING IN PALAVA

By Vaibhav Chugh, AGM (Strategy), Lodha Group

A good public transport system supported by a bicycle sharing program for last mile connectivity can serve as a complete solution for solving urban transport issues in the cities. However, the implementation of a well-functioning bicycle sharing system has always been a challenge for the city managers. From the perspective of the city there are three major hurdles. First, high capital investment combined with the ongoing operations and maintenance costs which barely are covered with subscription fees. Second, scarcity of land in the city to build enough parking stations at important nodes. And third, is efficient rebalancing of cycles according to the usage pattern restricting the availability of cycles.

The advent of dock less public cycle sharing system in China reinvigorated the use of shared cycles as a solution for green commute in the cities. Traditionally, the bicycle sharing models relied on a docking system at the parking stations. The docks were capital intensive and constrained the number of cycles that could be parked at a particular station. The model also occupied considerable area at prime locations in the land scarce cities. On the other hand, the new dock less system reduces the capital requirements for the docks and also removes the necessity of defined land parcels. The cycles in the new system are fitted with IoT based GPS locks, which facilitates picking and dropping of cycles at any location. GPS based mobile applications with online payment integration have eased the process of cycle discovery and payments. The low price and ease of usability have facilitated the cycle sharing system to scale extensively. The long term attractive business proposition in the dock less system has also attracted venture capital for initial investments in capacity and innovation. The two large Chinese unicorns Ofo and Mobikes have managed to get investments of over $3Bn in just three years.

But the explosion of the dock less cycle system came with a downside too. The model seen as a boon to transit system became a menace for the streets. More than 2 million bikes are available for sharing in Beijing alone, clogging the streets and footpaths. To manage the uncontrolled growth, cities have resorted to regulations. Seattle was one of the first cities that placed regulations and fines on the cycle sharing companies. In India, a similar system is yet to take off on a major scale. However, Palava is one of the first cities in India which has managed to implement a dock less bicycle sharing model successfully with minimal regulation through technology. This has been achieved by accommodating mixed mobility in the urban design of Palava combined with IoT innovations by partner Zoomcar.

Case Study: PEDL in Palava

Taking a few cues from evolving megacities like Beijing in China and few other European cities, Palava has designed its own system of dock-less cycle sharing that might yet become a trendsetter for not only Mumbai, but other parts of India as well. Palava is a privately built smart city by Lodha group, which can be seen as a blue print for the future Greenfield urban developments. The city is designed on the concept of ‘5/10/15 minute walk’ where daily commute for reasons such as shopping, school, work place are at a walking distance from every residence. 80% of resident’s daily trips can be met by walking or bicycling in Palava.

Implementation

Palava adopted a model for locating cycle stations at every 50 meters from a residence. All the main aggregation points of the city such as shopping mall/arcade, club houses, schools, and city manager’s office were covered. The stations were clearly demarcated on the ground and were geo-fenced. At the launch 30 stations were identified in the city with 200 cycles. Geo-fencing facilitated parking of cycles in the allotted areas and prevented a situation of clutter in the city.

The campaign for launch of cycle sharing was widely circulated through social media such as Facebook posts, watsapp messages, emails and SMS. The cause of cycling was taken up by Palava cycling club and other active social groups within Palava. The well-connected and closely knit communities in Palava were helpful in early adoption of the system post the launch.
Low Maintenance features in PEDL bicycles -
• Aluminium alloy frames
• Anti-Slip chain
• Airless solid tires
• Solar panel for charging Smart locks

Usage and Response
The initial response from the citizens for the service was overwhelming with an average ridership of 1500 trips per day. The novelty factor of using the service attracted many users to the platform. However, with time the usage saw a dip and eventually stabilized at 1000 trips per day. Out of the 30 stations, 8 stations contributed to 60% of the trips. These were mostly popular destinations like shopping arcades, club houses etc. The usage varied during the span of the day, the maximum ridership was in two peaks in the morning and evening. These peaks corresponded with the work commute trips and as well leisure trips for fitness.

Demographic Analysis

The promotional price at the launch was set at INR 1 for 30 minutes hence there wasn’t much difference in the income levels of the users. There was a stark difference in the gender’s usage; only 4% of the females used the system compared to 11% for male. In terms of age structure distribution, the maximum users were in the age bracket of 22 to 35, which is also the largest cohort in Palava.

Learnings
• The parking for dock less system needs to be controlled using system such as geo-fencing. This ensures that the cycles are parked in certain spaces allotted to them and are not cluttered all over the city. The initial geo-fenced station’s radius can be kept higher and then it can be slowly reduced as the people start getting habitual.
• Rebalancing the number of bicycles is very critical for smooth functioning and uptake of the cycle system. The usage pattern for the program at every station level has to be understood and should be subsequently programmed for rebalancing. If proper rebalancing is not done, then citizens will not be able to get cycles at the right place and at the right time. Hence, the whole objective of the sharing the resource might fail.
• Since the mobile application has integrated payment mechanisms, it is easy to create an incentive system. Users could be incentivised with low rates during non-peak hours. Even extra credits can be given for rebalancing (that is taking cycles from unused stations to the highly used ones).
• Apart from the benefits of commute and health, the data collected from the trips made by the commuters gives valuable insights to urban planners and policy makers. The duration and length of the trips, origin-destination studies, time variance and demographics particularly are very useful for overall transport planning in the city.

References
**SMART CITY PLAN**

## MELBOURNE SMART CITY FRAMEWORK

**An ICT Enabled Approach**

### Introduction

Overlooking the natural bay ‘Port Philip’ in the south-eastern part of mainland Australia, Melbourne is the capital of the state of Victoria in Australia. Accounting for about 17% of country’s total population in an area of 9,993 sq.km, Melbourne is Australia’s second largest city (Sousa, 2017). The city is a focus of events of social, educational, sporting and multicultural significance (Melbourne, 2018). High quality in education, entertainment, health care, research & development, tourism and sports has earned Melbourne the title of ‘the most liveable city’ for seven years running (2011-2017). The city is also among the top 15 cities in the Global Financial Centre’s Index.

### Way Forward as the Most Liveable City

Melbourne city has always strived towards maintaining a high quality in its built and unbuilt environment. In 2008, a community plan sponsored by City of Melbourne was developed through open public conversations. The name of the plan was ‘Future Melbourne’. Mostly developed through community discussions, the key vision of this plan was to grow Melbourne as a global, sustainable and the most liveable city in the world. In 2015, six leaders from Melbourne’s community were appointed as ambassadors to sign off a three phase process towards creating Future Melbourne 2026 by refreshing the 2008 plan. Keeping community participation as an anchorage, the phases started with an open invitation to ideas and analysing them. Finally by thorough deliberation processes, ‘Future Melbourne 2026’ was launched (Melbourne C. o., 2018).

### Melbourne Smart City Framework – An Approach using ICT

#### Background

‘Melbourne Smart City’ framework, by Arup, is a notable strategy with stakeholder participation as one of its focus for the city of Melbourne. Arup acted as a consultant expert in providing comprehensive guidance for the complexities faced by Melbourne. The framework was formed by a select group of key stakeholders, Arup and the municipality - City of Melbourne. The framework suggests creative and efficient infrastructure with low impact on the environment that provides better quality of life to the citizens.

#### The origin of the framework

In March 2010, Arup delivered the C40 UrbanLife workshop for the city of Melbourne. The framework is based on two crucial aspects – existing conditions/complexities of the metropolitan city and the use of 21st century tools to provide real time planning decisions. In Melbourne’s case, the framework suggests to overthrow the traditional 20th century governance models and enable contemporary Information and Communications Technologies (ICT) to fully achieve the possibility of becoming a smart city. The workshop addresses the physical components of the city as hard infrastructure and the overlaying social network as soft infrastructure.

![Figure 1 Layers of hard and soft infrastructure](Source: ARUP, 2010)

This C40 workshop primarily focused on reduction of greenhouse gas emissions as a part of City of Melbourne’s broad urban sustainability agenda. Another area of focus was to use contemporary ICT to enable a behavioural change through community engagement initiatives.

#### Role of ICT in Smart City

Smart City framework for Melbourne was laid down with the objective of bringing transparency in the interaction between different urban systems and communities. Any developments in the city’s fabric was to be made clear to the citizens and a collective interaction was preferred over former inflexible and mono-functional systems. To achieve this, the framework suggests quantitative and qualitative measurement of infrastructure, buildings and activities by reporting their status to systems that learn and adapt in response. ICT enables such

The goals and priorities for the City of Melbourne’s ‘Future Melbourne 2026’ are:

- A city that cares for its environment
- A city for people
- A prosperous city
- A creative city
- A knowledge city
- A city with Aboriginal focus
- A connected city
- A deliberative city
- A city managing change
a system on urban scale by giving citizens a way of involving themselves in the direction and operation of their city. This in turn provides real time impacts of actions carried out by the government. ICT implementation takes information/data sharing from the backstage right to the front of stakeholders.

In such a scenario, the framework puts forth the potential of data driven cities and possibility of ICT becoming a major tool of public policy in smart city plans. The framework also states that, the technology driven and sophisticated user pool rely on social media, real-time maps and augmented reality to be connected. Similarly, the system of e-governance can be explored to broadcast real time state of energy, water, waste, housing, streets etc. This concept is known as ‘the internet of things’, where almost any inanimate object can be plugged in a system to an extent.

The framework suggests ways in which this technology can be used to predict the functioning of any system irrespective of its scale in an urban lattice. However, by the inclusion of citizens and communities, their feedbacks, data input and output to this lattice the framework visualizes a smart city where every urban activity is enabled by wireless technology. This, by all means favours the citizens by assuring a personalized interface to the urban infrastructure they use.

“The Arup’s Smart City Framework indicates how ‘urban informatics’ can be engaging public interfaces onto the city and its behaviour, whilst ‘urban information architecture’ can address the organizational layers behind these interfaces. In turn, these layers are fed with data from numerous sources, via ‘instrumented’ systems.”

**Case - Role of ICT in Carbon Emission Reduction in Melbourne**

City of Melbourne has set a target for Melbourne to become a carbon neutral city by 2020. Hence, the strategy ‘Zero Net Emissions by 2020’ was published in 2002 and updated versions were published in 2008 and 2014 successfully based on the original strategy. The strategy set by C40 addresses the major contributors of high energy consumption as public transport and home appliances. The strategy pitches in the possibility of technology enabled advances in the energy sector to achieve good governance and behavioural change in citizens hand in hand.

The workshop points out that, better information given out to people enables behavioural change thus cutting down emission. Understanding civic patterns of a city can help balance out the personalized/individualized tendencies of resource usage. Thus, ICT has the potential to use social media to induce self-reflection on behavioural patterns of citizens and keep a track through smart meters. It is evident from the household water use data of Australia (a reduction of 7% from 2000 to 2005) that, despite the increase in population during this period, informative smart regulation plays a major role in behavioural change.

**Implementation Projects by Arup in Melbourne**

As a follow-up to the workshop, Arup has proposed three project ideas that can bring the vision and strategies of Melbourne’s smart city plan into a reality. The projects included an array of stakeholders and multi-disciplinary group of staffs from City of Melbourne.

1. **100 Green Oases**

   The project overlays a layer of digital infrastructure – wireless sensor network over Melbourne’s green infrastructure measuring and communicating its effect, location and condition in real-time.

2. **Seamless Mobility**

   The projects brings together existing mobility infrastructure in Melbourne.

3. **Real-time City Model**

   The projects proposes a repository of data from various infrastructure areas of the city that acts as a tool to facilitate strategy and design.

**Conclusion**

Instrumental models to sensor activities, analyse feedbacks from the citizens’ end can be used to modify the operation of infrastructure effectively, thus forming a virtuous cycle.

To summarize, the following achievements can be made by the implementation of this model:

- State-of-art technology can be used in every step of implementing a project
- User response towards projects and resources can be monitored
- Rules and regulations can be made and modified for better results
- Data transparency can be maintained
- A total citizen/community inclusive smart city model
- Infrastructure, buildings and activities can become quantitative data and easier to monitor.
CONVERSATION
ENGAGING THROUGH ONLINE PLATFORMS

Introduction
Throughout the world for many years, local bodies have been involved in deliberation of local issues, decision making within their capacities and choosing their leaders. The idea of citizen engagement in public affairs has been long prevalent (GCPSE, 2016). Similarly, the idea that computers and digital technologies can help us improve city in diverse ways, isn’t new either (Bollier, 2016). However, in the recent years there has been an increase in the number of citizen engagement activities and a shift is taking place from the top-down governance to a more horizontal process (Garrigues, 2017). With the changing trend, the policy makers have started looking for active citizen feedbacks to have a better sense of people’s priorities and to decide the need & shape of the public policy (Bollier, 2016; IPAT, 2015). The National Smart Cities Mission also identifies the importance of citizen engagement in the formation of a policy and actively works in applying it at different levels. In our previous newsletters we have discussed the strategies of citizen engagement taken up by different cities and a possible framework of process that can be implemented. This article reflects on different case-studies around the world that initiated citizen engagement models on an online interface. It also reflects on their procedure and how they managed to derive an order in a situation of complexity.

Out of the SCPs of the 20 lighthouse cities there are many cities that understands the importance of using online platforms as an effective way of engaging citizens. Jaipur has come up with an online grievance redressal system app where the citizens can register any issues in their area. Surat has come up with many initiatives at different levels to ensure a horizontal process (IPAT, 2015). The concept of citizen engagement requires an active dialogue between the citizens and the decision makers; it is not entirely similar to citizen participation (Garrigues, 2017). In citizen engagement, cities (or social systems) directly involve the citizens in the decision making process, it is a more formal structure that is organized by the public officials or the government. They do it by providing tools to consult and access public information, discuss with the elected representatives and monitor the implementations (Garrigues, 2017). Citizen engagement creates a sense of citizenship and educates the public in many ways (IPAT, 2015). For an effective engagement process the public officials play an important role in mediating the preferences of the citizens and developing a network among the citizens with common interests. It is also very important the development model and the whole process is transparent. This is where an online platform can be of many utilities. Through the different case studies around Europe, we can develop an understanding on how they work.

Insights from the Case-Studies in Europe
1) ZO!city
The model was implemented in Amstel III which is the south-eastern neighborhood of Amsterdam. Post-2008 financial crisis, the area once had 25-30% vacant spaces (Beer, 2014). The existing stakeholders had limited contact with each other and cohesively lacked a sense of ownership.

The fragmented stakeholders were the key strength of the neighborhood. However, to setup a collaboration among them was the main challenge. The implementation of the model, initiated by Saskia Beer, was a step-by-step process:

1. Analyse the neighborhood and identify the main strategic points where smaller interventions could've made a lot of difference.

2. Informal meetings with the local stakeholders were held, which included real estate owners, companies, business associations, community organizations, etc. to understand the priorities, their willingness and their capacities to invest in the development model.

3. Using metaphorical and non-technical language, the services to the citizens and implement the strategic direction of the policy decided by the politicians.

3. Citizens – In a sort of ‘social contract’ with the politicians; gives the authority to the politicians and expects good public services in return. This also includes the local businesses and entrepreneurs.
mediators created a manifesto that triggered the stakeholders to envision their own ideas and make the planning process seem more accessible to the citizens and the stakeholders.

This was done by deliberately using a ‘light-hearted and positive’ campaign over a rather serious vision (Beer, 2014). The development model works on three interconnected pillars. The municipality simultaneously had its own objectives for the development model.

Saskia Beer initiated ‘glamourmanifest’ which follows the model of co-operation and co-creation with a collective instrument of interventions and investments. An adaptive practice has been implemented to adjust to the changes and the opportunities that come along the way (Beer, 2014). By collecting the ideas and the demands of the users an urban vision was then synthesized. The initiatives and the desires of the stakeholders were located on a map and overlapped. The ‘high energy zones’ were identified where a lot of ideas and stakeholders overlapped.

It was realized that to establish an effective network of co-operation between the stakeholders it was very important that the information regarding the various initiatives is provided to them at ease. A sense of transparency and availability of information is always required, to accommodate this need an online platform was launched and ‘glamourmanifest’ changed its name to ‘ZO!city’.

Anybody using the website has the liberty to suggest an initiative which is then opened for public voting and sources of funding. The initiatives are geo-located on a map which are also classified and colour-coded on the basis of its functionality. The ideas are then openly scrutinized by the other users and is up-voted if it develops similar interests. When the project gathers enough response, it is then made open for public funding. By the use of the database and understanding the priorities of the stakeholders, the companies and their capital has started to come together. Most of the initiatives are proposed through the interface. In many cases, the investments are done by the private stakeholders, this reduces the dependency on the municipality and generates a state of financial self-reliability. The progress of the project can be tracked and users can directly give their feedbacks. As on 2017, the initiatives has kick-started the following projects:
2) Madame La Maire, J’ai Une Idée (Madame Mayor, I have an idea!)

In Paris, a new participatory budgeting scheme was piloted by the mayor Anne Hidalgo in 2014. Unlike ZO!city, the ideas here were not crowdsourced, instead the city administration proposed ideas which were then brought upon to the citizens for discussions and voting. In the initial years, the process concentrated on encouraging the citizens to initiate a discussion for the proposals.

After a few years of initiations by the city authority, the participatory budgeting process is now online and fully active (Simon, Bass, Boelman & Mulgan, 2017). The citizens of Paris can now directly propose an initiative by themselves. Currently, the process has five phases distributed (Simon, Bass, Boelman & Mulgan, 2017):

1) In January and February, the proposals are made online which are supported by many neighborhood workshops.
2) From March to May, a co-creation process takes place which brings the representatives of similar proposals together.
3) Over the next few months, the ideas are shared online for public review. Selected by an election committee, these ideas meet the minimum criteria such as, public benefit, technical feasibility, the financial feasibility, etc. During this period, an elected committee assists the people in promoting and campaigning their idea.
4) In September, the citizens are then allowed to vote for the most desired proposals.
5) By December, the successful ideas are selected. The implementation and the budget is allocated in the following year.

The progress of the projects can be then tracked through various means such as on online platform, geo-located and overlapped on google maps and by infographics created by the teams.

Since the year of inception, the project has seen substantial growth. Currently, it is considered as one of the biggest citizen engagement programs in practice (Simon, Bass, Boelman & Mulgan, 2017). In 2014, the project received around 41000
votes for various proposals, the number raised to 67000 votes in the next year and then 160000 in 2016. The number of projects selected for implementation also increased from 9 to 219. The transparency of the process, political support and the continuous citizen engagement are the main reasons for the success of this initiative.

Although, the process of these models are highly inclusive to the context of the neighbourhoods or cities, but still, similar projects in their own capacities have started emerging all over the world. For example, Madrid has ‘Decide Madrid’, which tracks proposals, debates, participatory budgeting and sectoral processes. Jakarta has initiated its share of citizen engagement from ‘Qlue’ which has different interfaces for different activities. Reykjavik, Finland has ‘Better Reykjavik’ which works on similar grounds.

**Key Take-aways**

In the context of a neighborhood, the number of the stakeholders present are never specific and to define the style of interaction among them is rather complex. Even if the decision-making process might be spontaneous and time consuming, the objectives can be clearly laid out and a definite process can be put in place. It is equally important to identify the stakeholders and understand their needs and ideas for urban transformation. According to their desires and the ambitions of the stakeholders, a proper network between them should be created. An online interface in these case comes of many uses. By the use of the interface, a database of the existing stakeholders and their interests can be created. The database can also be created on the basis of the proposals and the feedbacks of the users, at the same time it can also work as a source of information for them. The whole development model like this is highly transparent and allows the users to track the progress of the projects they are interested in. A possible framework can be summarized in the figure - 7.

Although, the SCP of Indian cities has considered many initiatives for citizen engagement, for example, mygov has forum which actively asks the citizens for feedback and discussions. However, a similar model is hard to find. There are many takeaways from the above case-studies that the Indian cities can use to develop an effective citizen engagement process. Implementing a similar model can help the decision makers in foreseeing a long-term urban synthesis and develop a sense of trust among the stakeholders.

**Fig 7 – A summary of the possible framework of using an online interface for better citizen participation. (Source – glamourmanifest 2014)**

Indian cities has always had diversified actors with multiple interests. Identifying similar interests and developing a network among them can be a complex challenge and also an opportunity. An online interface can help the mediators and the decision makers to derive a sense of order in the complex network of interests and develop an incremental order in the development process.
UPDATE

SMART CITIES CHALLENGE ROUND IV

SELECTED CITIES

On January 19th, 2018 the Ministry of Urban Development announced the selection of 9 cities in the round IV of the National Smart Cities Mission. The count of cities along with the cities previously selected bring the total to 99 cities under the National Smart Cities Mission. Previously, 20 cities were selected in round I that concluded on January 2016, and subsequently 13, 27 and 30 cities were selected in the following rounds.

The total cost of investment for the selected 9 cities is estimated to be around 12,000 crore rupees. From the total investments, 17% of the cost has been allocated for pan city solutions and the rest 83% has been allocated for Area based development costs. The selection of these nine cities brings the total estimated investment for the 99 cities to be more than 2,00,000 crore rupees.
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Engaging through online platforms


The Kirkpatrick model