Citizen Services in a Smart City New Paradigm

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A ‘smart’ economy is about people thinking and working smarter, generating new ideas and getting more for less right across the economy.

Endurance of systems and processes invoked as part of smart initiatives which includes the four interconnected domains: ecology, economics, politics and culture.

Quantum improvement in the quality of life of the local population.
Smart City - Premise

‘By having right information at the right time, citizens, service providers, and city governments alike will be able to make better decisions that result in an increased quality of life for urban residents and the overall sustainability of the city’ (Mostashari et al., 2011)

Two fold impacts:

• It allows service providers (such as utilities and transit companies) and city government to provide more efficient and sustainable services (top down), and

• It shifts the social behavior of citizens towards a more efficient and sustainable utilization of city resources (bottom up)
Smart City – Surveillance Society

• All significant infrastructures – including roads, bridges, tunnels, rail, subways, airports, seaports, communication infrastructure, water, power, and major buildings – are monitored in order to maximize the services available to residents (including security services) while optimizing the use of resources (Hall, 2000)

• In practice, residents will live in a ‘surveillance society’; that is, where societies are connected but completely unknown to one another (Aus et al)
Smart City is not just about Smart Tech

To be able to use smart technology, we need

Technology needs to essentially align with organizational ability and people needs

Essentially Its about:

- Smart Organizations
- Smart Citizens
- Smart Production
- Smart Delivery
- Smart Consumption
Diversity of Application in a Smart City

Smart City Management

- **Smart Travel**
  - Digital Area
  - E-ticket
  - Food
  - Accommodation

- **Smart Logistics**
  - Smart Logistics Park
  - Smart Port
  - Smart Customs

- **Smart Business**
  - Smart Business Park
  - Smart Parking
  - Smart Properties

- **Smart Education**
  - Digital Campus
  - E-Learning
  - Campus Security

- **Safe City**
  - Digital Video Monitoring
  - Underground Pipeline Network Monitoring
  - Manufacture Safety Monitoring
  - Fire Control Management

- **Public Service**
  - Citizen Card
  - Mobile Payment
  - Government Services
  - Social Security

- **Public Utilities**
  - Smart Grid
  - Smart Water Supply
  - Smart Gas Measurement

- **Ecological Environment**
  - Air Pollution Monitoring
  - Water Resources Monitoring
  - Key Pollution Sources Monitoring
  - Automobile Exhaust Monitoring

- **Water Resources Management**
  - Management
  - Monitoring
  - Water Quality Monitoring
  - Urban Drainage Monitoring

- **Agriculture Management**
  - Cultivation Expert System
  - Agriculture Produces Track
  - Storage and Transportation

- **Municipal Management**
  - Garbage Transportation Monitoring
  - Noise and Dust Monitoring
  - Manhole Cover Management
  - Digital Law Enforcement

- **Smart Community**
  - Smart Home
  - Smart Building
  - Building Energy Consumption Monitoring

- **Smart Medical**
  - Electronic Medical Records
  - Distance Medical Diagnostic
  - Family Health Services

- **Smart Society**
  - Smart System
  - Smart Technology
  - Smart Environment

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Some Relevant Example of Smart Citizen Services

- Transportation Planning
- Traffic Management
- User Interface
- Benchmarking
- Smart Participation
Multi Modal Travel Planning and Ticketing
Real Time Information & Routing Options

Problem anticipation
Systemic Control
Real Time Feedback

Dynamic View of City’s changing travel patterns
Complex “what if” modelling of system wide impacts.

The Commuter

The Controller

The Planner
Smart City – Transport Planning

- Transport Modelling leading to strategic and operational management decisions
- City Big data leading to smarter decisions
- Public transport – dynamic service scheduling

Variety | Volume | Veracity | Velocity
Smart City – Dynamic Traffic Management

- Use of communication and mobile technology to predict real time traffic patterns
- Advanced Traveller information
- Ability to deliver decision capable information to traffic managers
- Aid policy decisions
Dynamic Traffic Management

Traffic Movement

- Classified Volume Count (Unreliable, Static)

Traffic Monitoring

- Traffic Congestion
- Junction Improvement
- Area Traffic Control

Parking Sensor

Static Traffic (Strategic Planning)  Dynamic - Traffic Monitoring & Control
Smart City – Urban Transport Benchmarking

• Data driven model to scientifically evaluate service levels

• Aid Long term strategies Medium term investment plans Short term operations management

www.utbanchmark.in
Smart City – Peoples connect (AMC’s Janseva)

A Comprehensive Service Delivery Framework which is

- Easily accessible
- Responsive to citizens needs
- Enable quick decision capability
- Connect all stakeholders with right kind of information in the quickest possible timeline
- Allows all stakeholders clear visibility and communication

158 Complaints

Top 10 Problems

<table>
<thead>
<tr>
<th>Problem</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encroachment</td>
<td></td>
</tr>
<tr>
<td>Dangerous Building</td>
<td></td>
</tr>
<tr>
<td>Tree Cutting/Trimming</td>
<td></td>
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<tr>
<td>Storm Water</td>
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<tr>
<td>Road</td>
<td></td>
</tr>
<tr>
<td>Public Building</td>
<td></td>
</tr>
<tr>
<td>Footpath</td>
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</table>

Single point of contact for all types of complaints
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<thead>
<tr>
<th></th>
<th>Level 1 Silo</th>
<th>Level 2 Single Mode Integrated</th>
<th>Level 3 Partially Integrated</th>
<th>Level 4 Multimodal Integrated</th>
<th>Level 5 Multimodal Optimized</th>
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<tbody>
<tr>
<td>Planning</td>
<td>Functional Area Planning (single mode)</td>
<td>Project-based Planning (single mode)</td>
<td>Integrated agency-wide planning (single mode)</td>
<td>Integrated corridor-based multimodal planning</td>
<td>Integrated regional multimodal planning</td>
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<tr>
<td>Performance Measurement</td>
<td>Minimal</td>
<td>Defined metrics by mode</td>
<td>Limited integration across organizational silos</td>
<td>Shared multimodal system-wide metrics</td>
<td>Continuous system-wide performance management</td>
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<td>Customer Relationships</td>
<td>Minimal capability, no customer accounts</td>
<td>Customer accounts managed separately for each system/mode</td>
<td>Multi-channel account interaction per mode</td>
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<td>Data Collection</td>
<td>Limited or Manual Input</td>
<td>Near real-time for major routes</td>
<td>Real-time for major routes using multiple inputs</td>
<td>Real-time coverage for major corridors, all significant modes</td>
<td>System-wide real-time data collection across all modes</td>
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<td>Analytics</td>
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<td>Periodic, Systematic analysis</td>
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<td>Manual Cash Collection</td>
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<td>Manual detection, response and recovery</td>
<td>Manual detection, coordinated response and manual recovery</td>
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<td>Location-based, on journey multimodal information</td>
<td>Location based, multimodal proactive re-routing</td>
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<td>Transport System Maturity Model (IBM)</td>
<td>Ahmedabad</td>
<td>Global Leading Practice</td>
<td>Yet to Initiate</td>
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<td><strong>Network Ops. Response</strong></td>
<td>Ad-Hoc, Single Mode</td>
<td>Centralized, Single Mode</td>
<td>Automatic, Single Mode</td>
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Conclusion

• We need smart **organizations** and smart **people** to **collectively produce**, deliver and consume services – Capacity Building (Organisations & People)

• Smartness index is ever evolving and hence capacity and innovation capabilities become the most critical factor for sustenance

• Influencing People Behavior as key factor
  • Tools- Voice to people by enhancing communication connect via easy accessible apps & communication services.
  • Outreach system to ensure wider participation.
  • Holistic connect process to engage all section of society (Universal wifi!)
  • Ensuring framework to enable citizens participation.

• Collaborative effort – Long term collaborations needs encouraged
  • Technology Providers
  • A framework for collaborations with universities/educational institutions, People Organisations needs to be developed
Influencing People Behavior as key factor

• Tools- Voice to people by enhancing communication connect via easy accessible apps & communication services.
• Outreach system to ensure wider participation.
• Holistic connect process to engage all section of society (Universal wifi!)
• Ensuring framework to enable citizens participation.
Thank You…!
Public Transport Planning

- PT Network Planning
  - PT Mode selection
  - Routes Planning
  - Service / Frequency planning

- Performance Monitoring
  - Bunching Monitoring