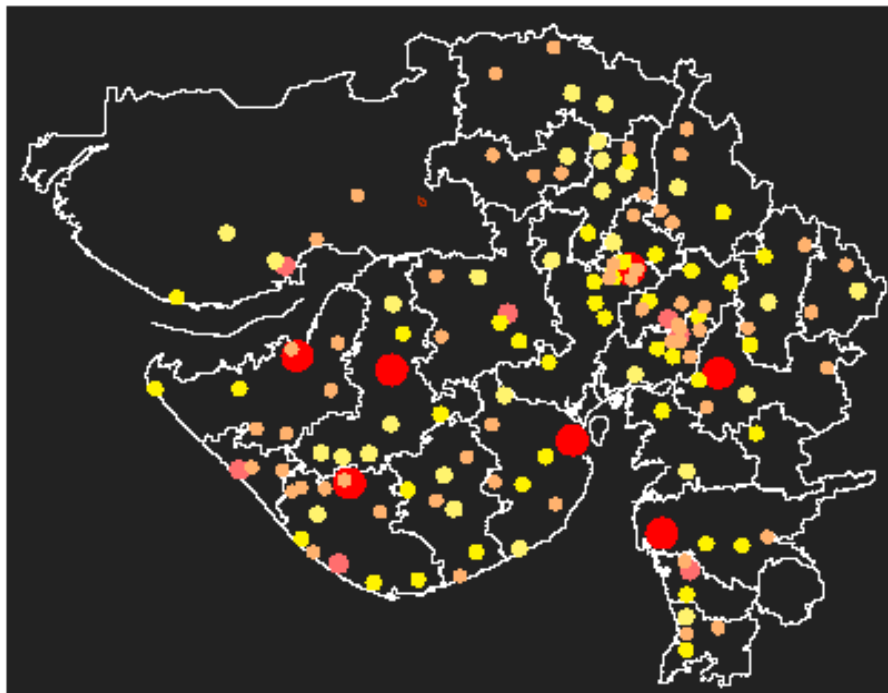




# **e-Governance in Urban Local Bodies**

**Urban Development & Urban Housing Department  
Gujarat State**

**Date : 11<sup>th</sup> October 2012**



## **Gujarat** *(Rapidly urbanizing State in India)*

**8** Municipal Corporations

**159** Municipalities

**3** million plus cities [Surat, Vadodara, Rajkot]

**1** mega city [Ahmedabad]

**31.16%** of India's Population lives in Urban Areas

**42.58 %** of Gujarat's Population lives in Urban Areas .

(2011 Census Report)

- **Occupies 2.4% of its land mass contributing 56% of State GDP.**
- **Ahmedabad , Surat, Vadodara & Rajkot top 100 fastest growing cities in the world.**

# State Initiative

- In the “e-Governance year”- 2004, State Government decided to implement e-Governance in all Local bodies.
- Special Grants for e-Governance have been provided for the following purpose:
  - Application software
  - Hardware procurement.
  - Database creation and maintenance.
  - Procurement of system software.
- Training for ULBs
- Guidelines to ULBs

# State Initiatives – IT application

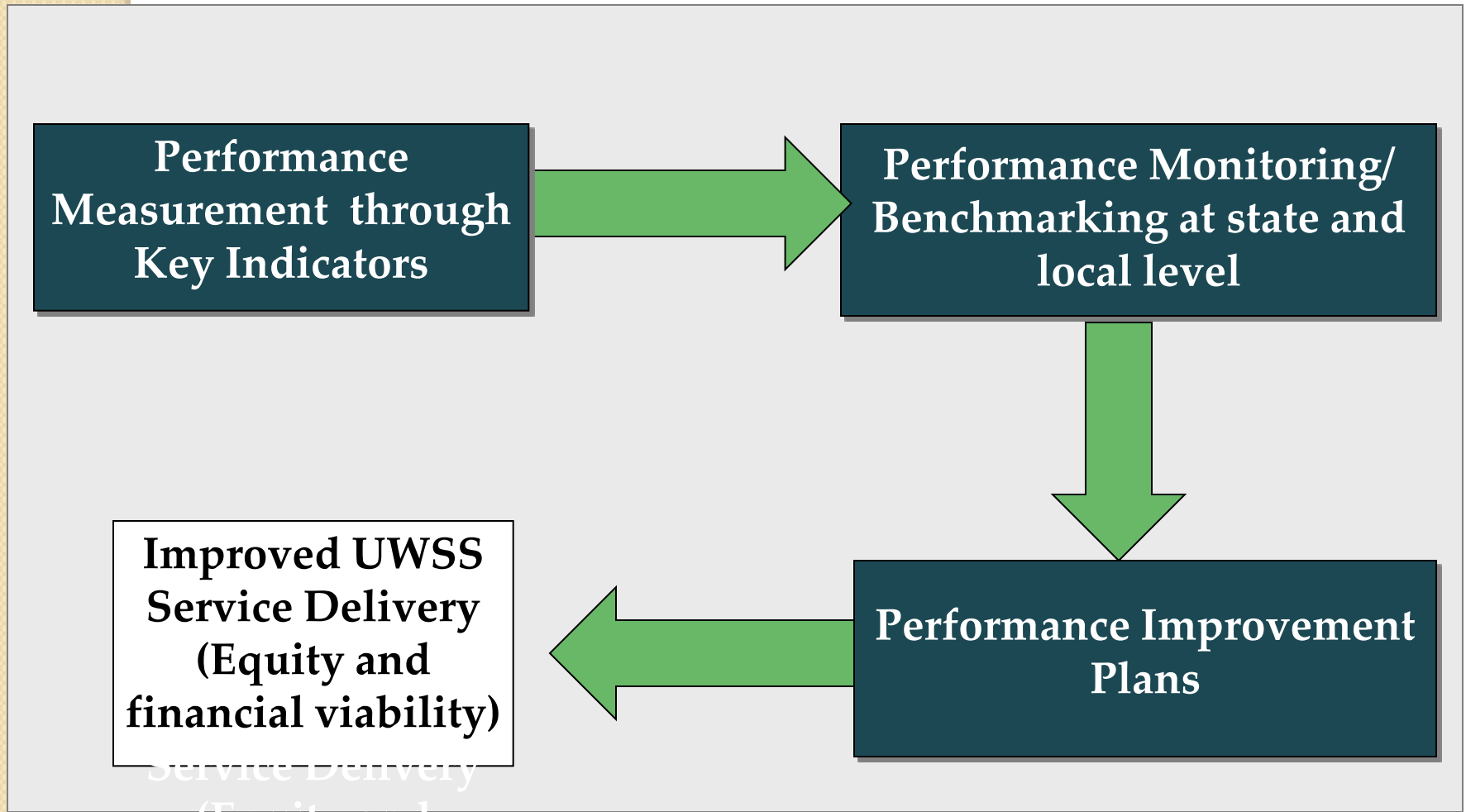
- Common modules for ULBs
  - Area Based Property Tax System
  - Accrual based double entry Municipal Accounts system
- Geo Spatial Municipal Information System
- Solid Waste Management – GUDC
- Performance Appraisal of municipalities – DoM
- Project and Grant Utilization Monitoring – GMFB
- City Civic Centers
- Performance Assessment System (PAS)

# Services Prioritized

- Registration and issue of Birth & Death certificate
- Payment of Property Tax & utility bills
- Citizen Grievances
- Building plan approvals
- e-Procurements and monitoring of projects
- Health
  - Licenses
  - Solid Waste Management
- Accounting System
- Personal Information System

# PERFORMANCE ASSESSMENT SYSTEM (PAS)

A sustainable statewide performance assessment system for improving access to the poor and un-served, and achieve financial sustainability



Focus on ULBs of all sizes

Focus on the Poor

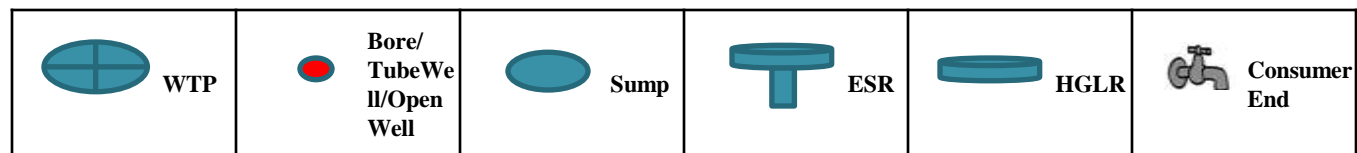
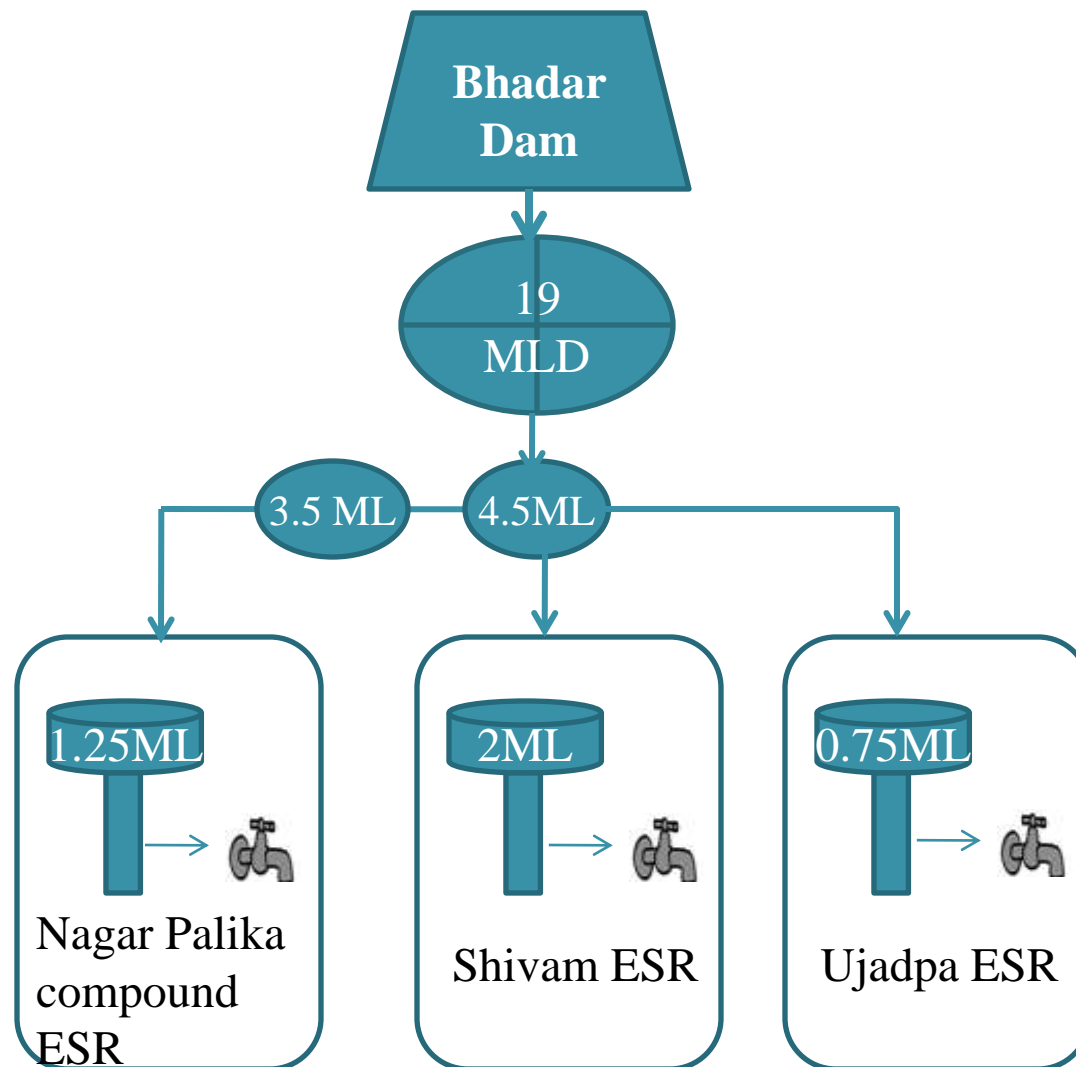
# PAS/ SLB

- MoUD Initiated SLB in Year 2009 in 27 Cities across the country
- PAS : Gujarat
- Information collected for Water & Sanitation Sector since 2009
- 
- Annual Exercise: Gazette notification - Performance and target
- Preliminary Analysis of data
- Reliability of data ensured through validation checks

# Data Collection



# JETPUR: Water Supply Flow Diagram



# JETPUR: Present Water Quality Monitoring

## Present Residual Chlorine Test Regime

Location	Frequency	Equipment used	Conducted by	Recording
Source/WTP	Daily	Chlorometer	ULB personnel (Chemist)	No recording of test
WDS	NO	-	-	NO
Consumer End	Alternate days	Chlorometer	ULB and Accredited Labs	Manually (in register)

## Present Physical/Chemical and Bacteriological Test Regime

Location	Frequency	Equipment used	Conducted by	Recording
Source/WTP	NO	-	-	NO
WDS	NO	-	-	NO
Consumer End	Once in month	-	Accredited Labs	Report copies filed manually

# JETPUR: Record Keeping

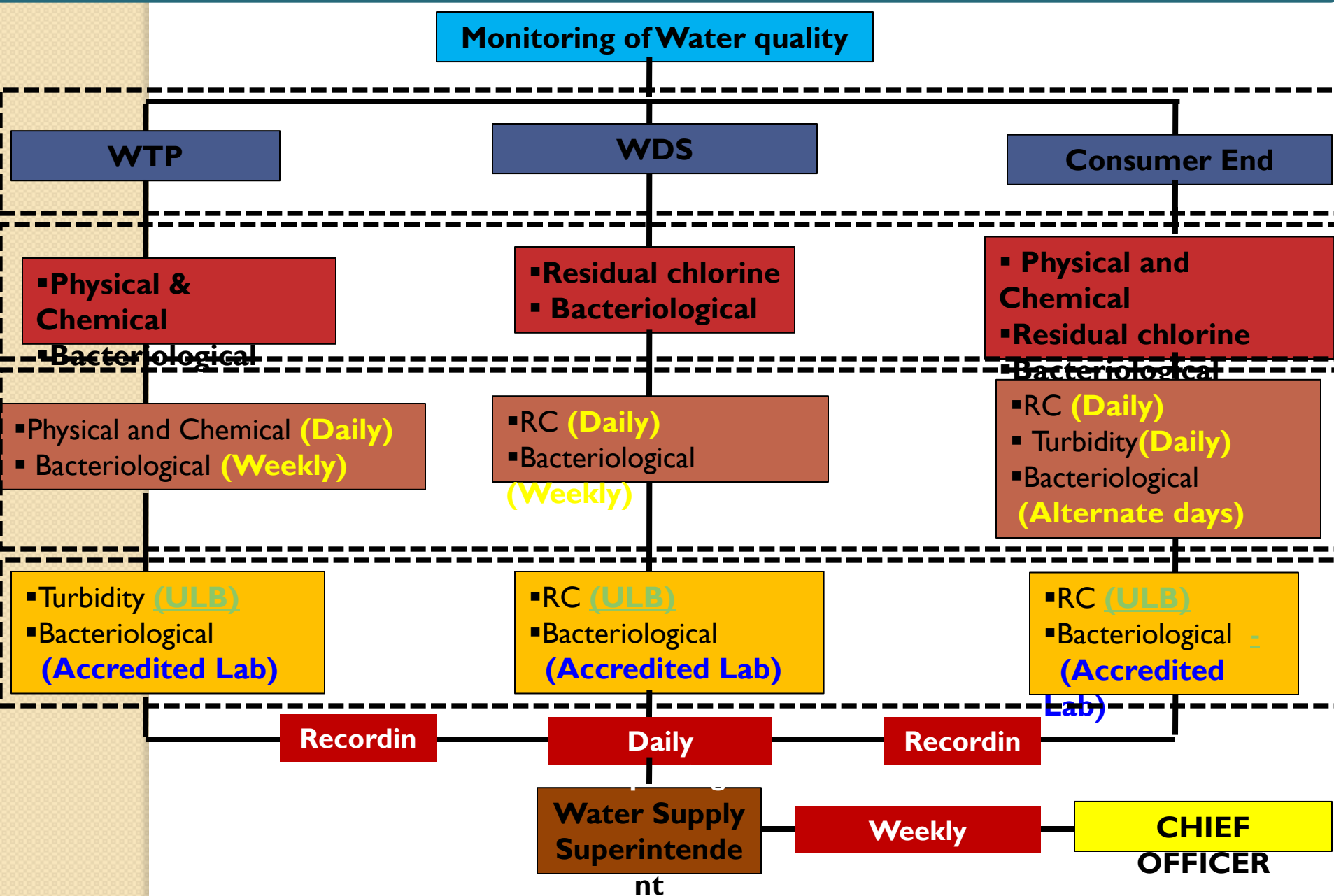
## Residual Chlorine Test :

### Observations and Issues :

- RC test is not performed at WDS
- The RC tests are not performed daily at consumer end
- The RC format does not mention the ward/zone from where the sample is taken
- Only test passed are recorded
- There is not particular system for monitoring and reporting of the test results

Sl. No.	Date	Day	Time	Place & Area. So. the Sample is taken	Total Chlorine P.P.m.
922	21/04/2022	શુક્રવાર	08:34	જોડામગ, પંચમ સુબુ મહાલકામાં લેવા	0.1 P.P.m.
930	"	"	07:00	જોડામગ સુબુ મહાલકામાં લેવા	"
932	"	"	08:30	શ્રી ડેમ્પાર બંધુર વિદ્યાલય પાસે લેવા	"
932	"	"	08:34	શ્રી ડેમ્પાર, વિદ્યાલય પેટ્રોલિયમ પાસે	"
933	"	"	20:00	શ્રી ડેમ્પાર, વિદ્યાલય પેટ્રોલિયમ પાસે	"
938	"	"	20:30	દેવલકાની શાહ પાસેની પાસે લેવા	"
934	"	"	20:34	દેવલકાની, શાહ પાસેની પાસે લેવા	"
935	"	"	24:30	જાલકા પાસેની પાસે લેવા, સુબુ મહાલકા	"
939	"	"	12:34	સુબુ મહાલકા પાસેની પાસે લેવા	"
937	"	"	24:00	દેવલકાની પાસે લેવા, સુબુ મહાલકા	"
936	"	"	25:24	જાલકા પાસેની પાસે લેવા	"
940	"	"	28:34	જાલકા પાસેની પાસે લેવા, સુબુ મહાલકા	"
932	22/04/2022	શુક્રવાર	06:00	વડોદરા બોર, સુબુ મહાલકામાં લેવા	0.2 P.P.m.
932	"	"	06:20	જાલકા પાસેની, દેવલકા પાસેની પાસે	"
933	"	"	06:34	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
934	"	"	06:00	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
934	"	"	06:34	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
935	"	"	20:00	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
935	"	"	20:24	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
937	"	"	22:30	વડોદરા બોર, સુબુ મહાલકામાં લેવા	0.1 P.P.m.
936	"	"	23:30	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
940	"	"	23:34	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
942	23/04/2022	શુક્રવાર	06:30	વડોદરા બોર, સુબુ મહાલકામાં લેવા	0.1 P.P.m.
942	"	"	06:00	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
943	"	"	06:30	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
944	"	"	20:34	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
944	"	"	22:00	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
945	"	"	22:30	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
945	"	"	23:00	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
946	"	"	23:30	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
947	"	"	25:00	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"
950	"	"	25:34	વડોદરા બોર, સુબુ મહાલકામાં લેવા	"

# JETPUR: Recommendations - Water Quality Monitoring



# Cost Recovery

- For financial sustainability and better future budget estimation and operation
- Stable revenue stream helps prevent cash flow or financing difficulties for the utility
- To provide a basis for tariff fixation without compromising quality of sector and better management

**Anand (Class A), Patan (Class A),  
Siddhpur (Class B), Dwarka (Class C)**

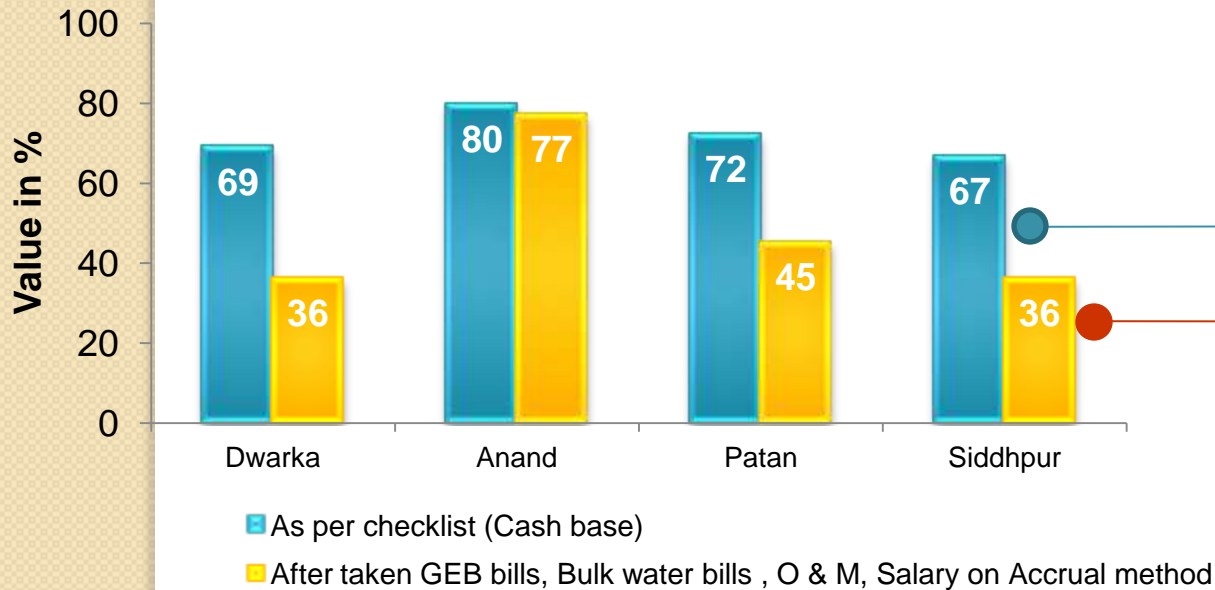


# Understanding real cost recovery

F.Y 2010-2011

Rs. In Lac

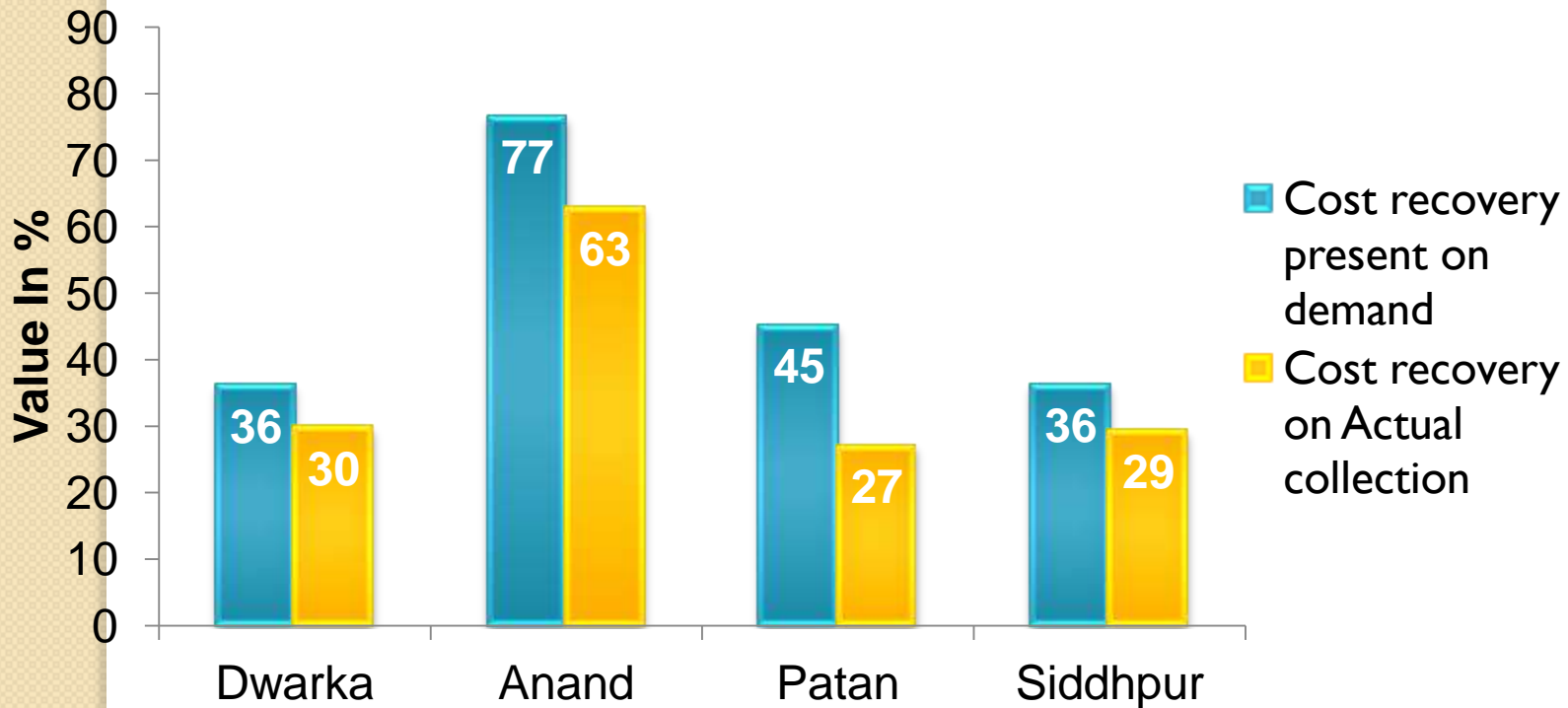
City name	Establishment expenses		Electricity expenses		Repair & Maintenance		Bulk water Purchase		Total	Total
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Dwarka	11.55	21.46	2.01	4.27	1.04	7.39	12.40	23.05	27.00	56.17
Anand	126.50	73.50	113.38	115.48	6.46	12.75			246.34	201.73
Patan			144.00	305.34	10.00	20.00	0	216.00	154.00	541.34
Siddhpur			49.30	97.78			1.75	34.71	51.05	132.49
							<b>Grand Total</b>		<b>478.39</b>	<b>931.73</b>



- Major impact of not paying GEB, Bulk water purchase bills in Dwarka, Siddhpur and Patan.
- Anand pays GEB bills regularly

# Cost recovery on Demand v/s Actual

F.Y 2010-2011



## Calculation on Demand

$$\frac{\text{Total water supply tax demand (Bill raised)}}{\text{Total operational expenditure-Accrual method}} \times 100$$

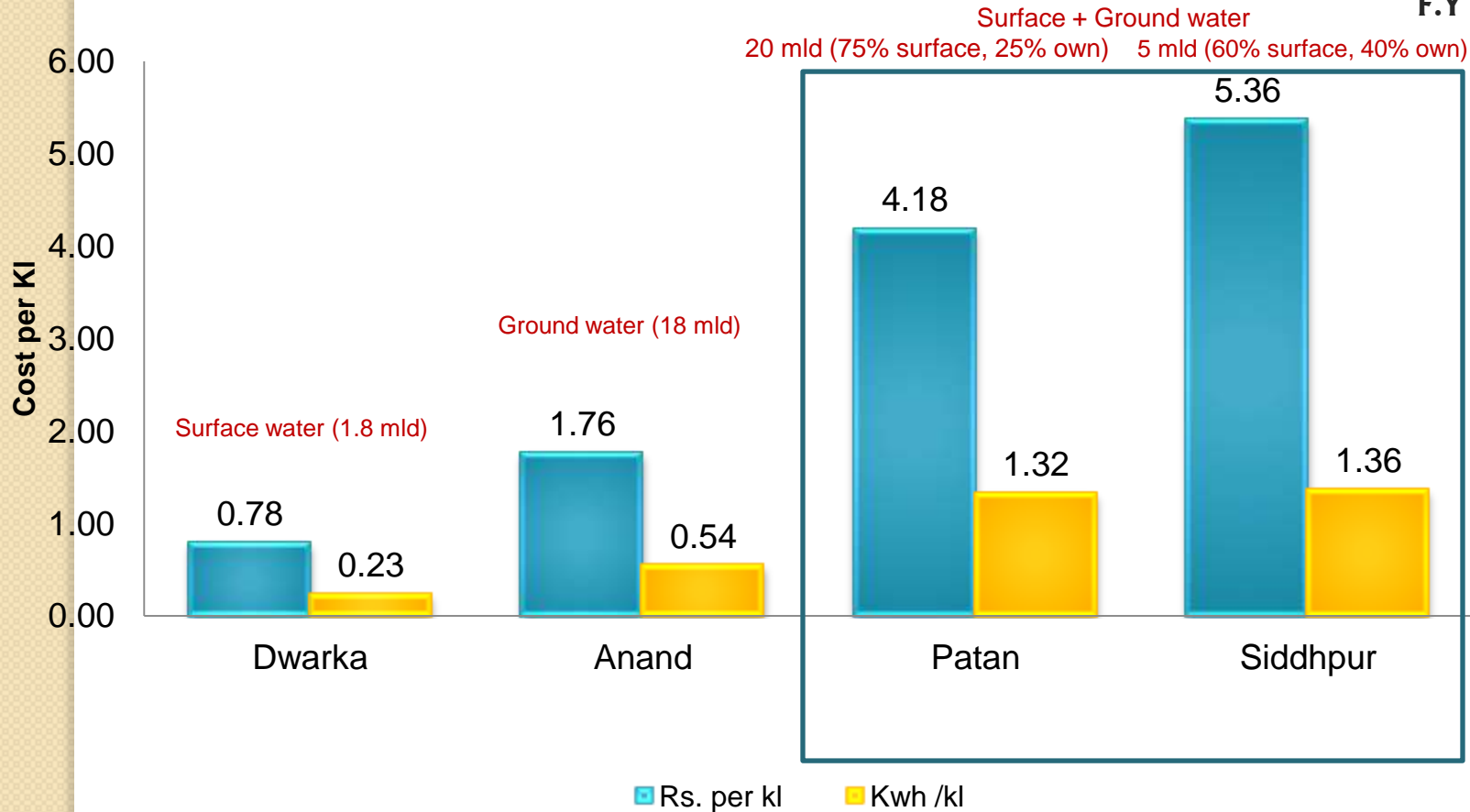
## Calculation on Actual tax recovery

$$\frac{\text{Total water supply ACTUAL tax recovery}}{\text{Total operational expenditure-Accrual method}} \times 100$$

**Real cost recovery is low in all four cities. Very low in Patan due to low collection efficiency 60%**

# ENERGY COST: Kwh and cost per kilo liter

F.Y 2010-2011

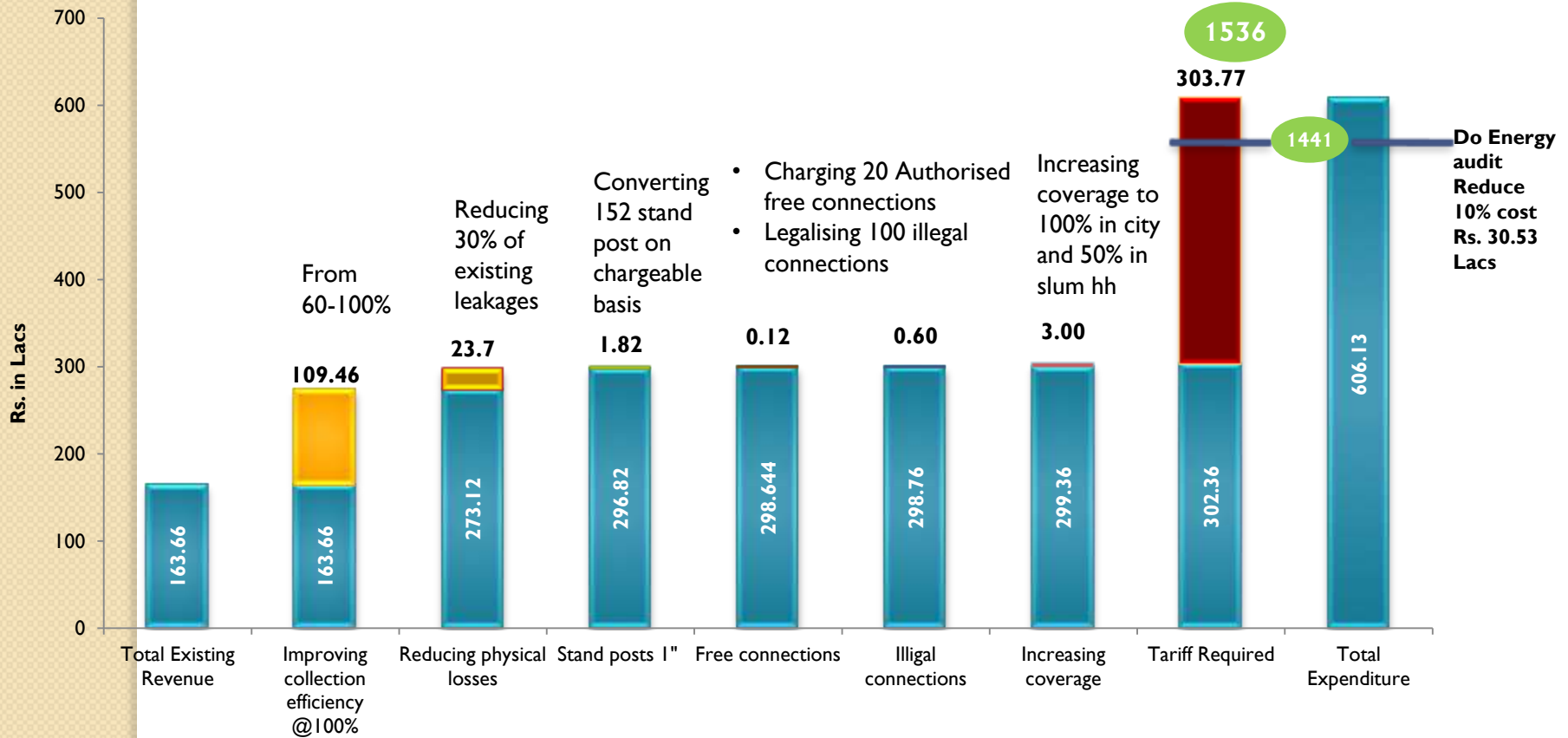


## Need for an Energy Audit

- **Dwarka:** Lower cost and energy consumption
- **Anand:** Almost double cost and energy consumption rather to surface source
- **Patan & Siddhpur:** higher cost and energy consumption rather to surface and ground water.

# Exploring revenue improvements in cost recovery-Patan

F.Y 2010-2011



- Revenue calculated for non revenue water (Reducing physical leakage loss): per kilo liter expenditure incurred to provide service . i.e.(Total loss after reducing stand post water 27360 kl, Free connections 3600 kl, illegal connections 18000 kl, taking 30% of 951840(285552 kl \*8.30).

# Ahmedabad City Profile

- Seventh largest city in India
- Second biggest trade center of Western India
- Commercial Capital & Growth Engine of Gujarat State
- 3rd fastest growing city as per the Forbes magazine.

<b>Population</b>	<b>5.7 million</b>
<b>Area</b>	<b>466 Sq. km</b>
<b>No. of Zones</b>	<b>6 Zones</b>
<b>No. of Wards</b>	<b>64</b>



[www.egovamc.com](http://www.egovamc.com)

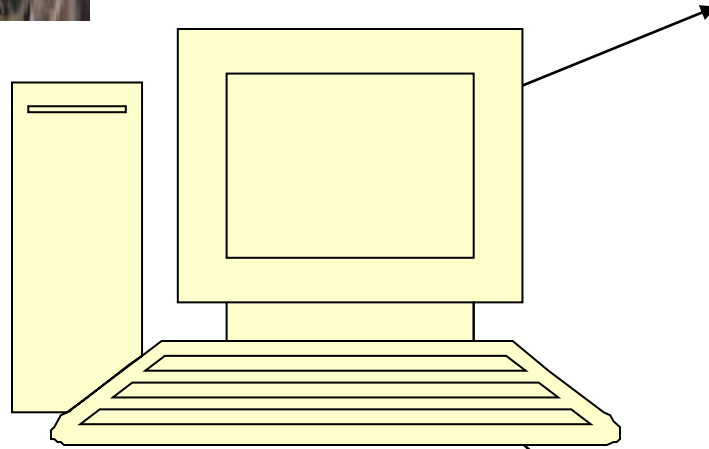


**AMC Offices**

**Ward  
Offices(64)**



**Internet  
Global Access**



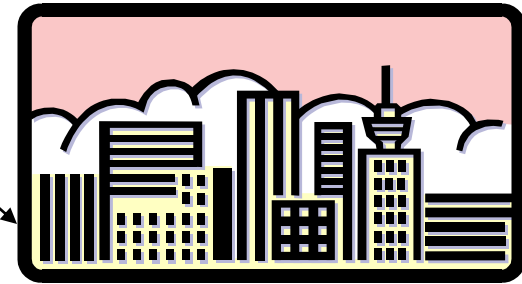
**Head office**

**Civic Centre**

**+**

**Central Monitoring Centre  
(Main Server)**

**50 City Civic Centers  
spread across all Six  
zones**



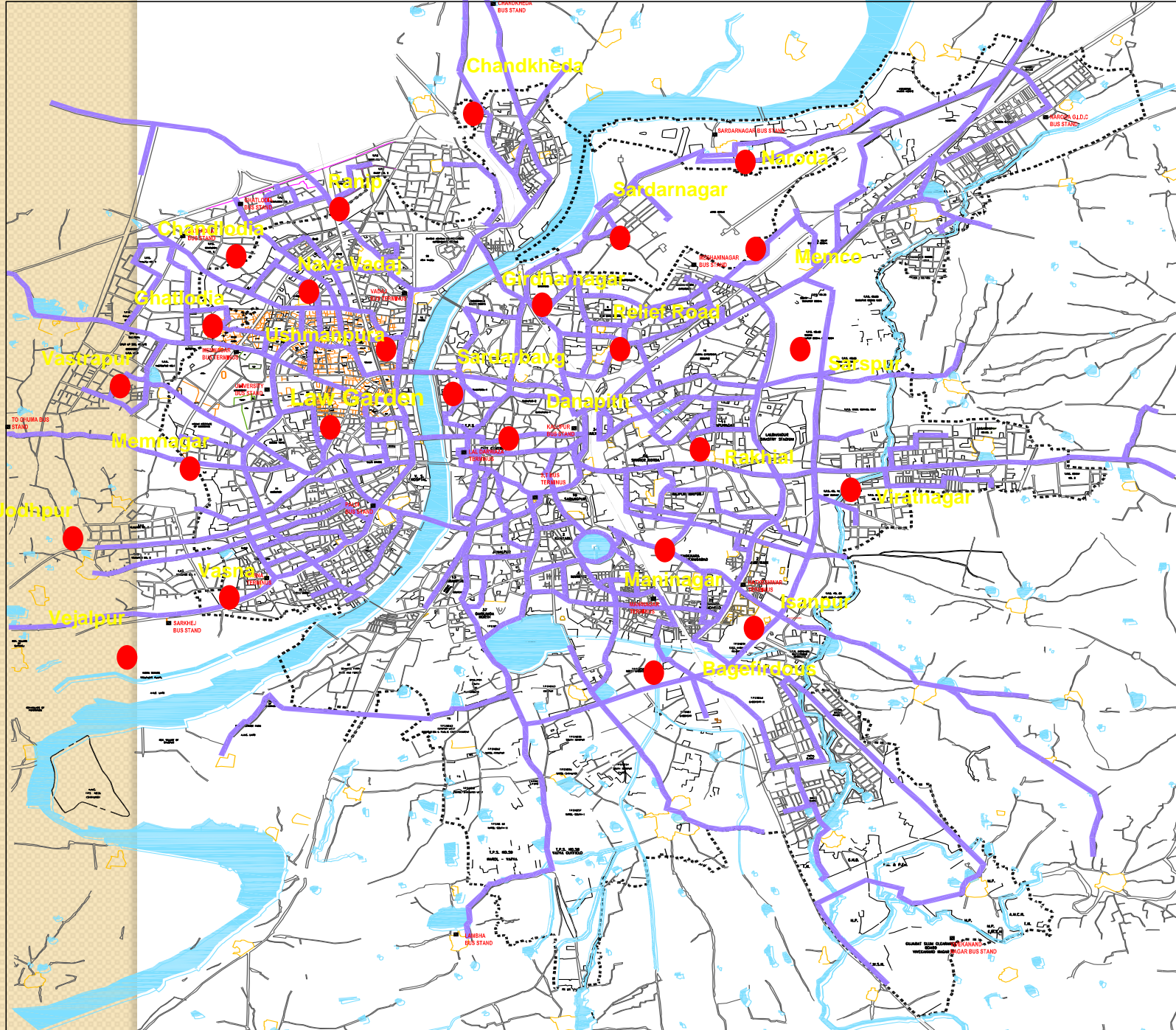
**Banks**

**All offices will be connected via 2 Mbps lease line plus ISDN for back up line.**

**(Network of 2500 Computers on WAN)**

# City Civic Centers

- Situation before
  - Lack of Transparency
  - No IT infrastructure to provide e-services
  - No single point of service and interaction with citizen
  - Lack of connectivity
- Total solution provider (TSP) is appointed through GIL and comprehensive approach has taken for e-Governance project.
- E-governance project preparation commenced in January 2002, and in 2002(18th Sep 2002), AMC started its first civic center at Law garden center for citizens.
- At present Ahmedabad Municipal Corporation established 50 City Civic Centers and almost all the department activities are computerized and services like property tax, professional tax, Birth & Death certificate, health licenses, hawker's license, RTI and building plan permissions are offered at City Civic Center



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**Transactions at AMC City Civic Centers**  
**From 18-SEP-02 to 31-Mar-12**

<b>Services</b>	<b>Transactions</b>	<b>Amount Rs. Lacs</b>
<b>Property Tax</b>	<b>10,16,494</b>	<b>45508.51</b>
<b>Vehicle Tax</b>	<b>1,75,941</b>	<b>2518.216</b>
<b>Building Plan approvals</b>	<b>5,465</b>	<b>9690.606</b>
<b>TDO fees</b>	<b>30,356</b>	<b>15767.57</b>
<b>Shops &amp; Establishment licenses</b>	<b>37,129</b>	<b>33.07588</b>
<b>Birth &amp; Death Certificates</b>	<b>1,05,625</b>	<b>45.34055</b>
<b>Hawkers Licenses</b>	<b>355</b>	<b>1.38275</b>
<b>Restaurant Licenses</b>	<b>171</b>	<b>2.091</b>
<b>Right to Information</b>	<b>12,771</b>	<b>2.52</b>
<b>Professional Tax</b>	<b>5,704</b>	<b>0.8826</b>
<b>Hall Party Booking</b>	<b>1,75,429</b>	<b>6977.489</b>

 **93.19 lakh citizens visited civic centres**

# Property Tax Collections in the City a major function of E-governance through 48 city civic centers & 64 ward offices

- Delivery of bills at the beginning of the year
- Common database to facilitate online access
- Mode of payment through
  - Cheque
  - Credit card
  - Bank
  - Internet payment gateway on [www.egovamc.com](http://www.egovamc.com)



*Law Garden  
City civic centre*

# E-Governance- Impact

REVENUE TYPE	2002-03		2011_12 (Rs.lac)	
	NO. OF RECEIPTS	Rs. lac COLLECTION	NO. OF RECEIPTS	COLLECTION
Property Tax	1,75,949	64,70.77	1161879	50291.86
Vehicle Tax	13,443	89.37	206749	2986.05
Building Plan	497	322.54	6152	9354.07
TDO Fees	0	0	50118	25486.46
Shops	8,599	6.04	29545	26.02
B/D Cert	0	0	113152	49.00
Hawkers License	0	0	375	1.50
Hotels & Restaurants	0	0	11 1	1.35
Right to Information	0	0	6771	1.02
Proffessional Tax	0	0	19048	8186.82
Hall Party Booking	0	0	5147	179.43
<b>TOTALS</b>	<b>1,97,991</b>	<b>68,88.72</b>	<b>17,69,890</b>	<b>87169.51</b>

# Benefits / Outcomes

- Citizen(One Stop Non Stop) can visit any location irrespective of where he/she resides
- 24 hour internet/intranet access for AMC information.
- No. of transactions from citizens increased by 7 times (1.97 lac in 2002 to 17.69 lac 2011-12)
- From providing 3 services it has scaled up to 14 services at single window system in civic center.
- Possibility of corrupt practices reduced considerably.
- AMC is more responsive and transparent .
- Revenue increased from 68 cr 2002 to 871 cr2011-12

# M-Governance at Surat

- SMC has started implementing m-Governance taking into consideration high penetration of mobile phones.
- **VACCINATION ALERT SYSTEM**
- At the time of registration of the birth the mobile number of the parents is captured and various alerts at different time periods are sent to vaccinate their child.
- **SMS information:**
- The Birth Registration No. of child and from where the first Birth Certificate can be obtained
- BCG & Polio Vaccination alert after birth
- DPT & Polio Vaccination alerts at required intervals
- Measles vaccine & Vitamin-A dose required after 9 months of birth
- **Statistics**
- Over 1,29,898 parents have registered their numbers (around 50% of total birth registered).
- Over 8 lakh SMS sent so far.

# Services through SMS

- After the successful start of the Vaccination Alert System, the span of m-Governance has been scaled up
- Citizen can avail the following information by sending structured SMS to 9724222222
- Property Tax Outstanding Amount
- Property Tax Owner/occupancy details
- Professional Tax Outstanding Amount
- Status of the complaint

# E-pay service - Online payment

- Simple and convenient way to pay Property Taxes online through SMC's website instantly with multiple options.
- Citizen can pay through:
  - Credit Card (Master & Visa)
  - Debit Card
  - Net Banking (45+ banks)
- Highlight of the ePay Service:
  - Easy and convenient way to pay municipal taxes.
  - No extra charge for online payment.
  - Citizens get the receipt instantaneously and receive the confirmation email along with the copy of the receipt to the specified email address.
  - Secured with SSL certificate with extended organization validation.

## Statistics

- Over 3500 transactions (from April 2012 to September 2012)
- Over 89 lakh collection

## **E-Tendering**

- Adopted from September 2007.
- More than 3100 tenders processed.
- Enables wide spread bid participation.
- Bring in transparency in the bid process.

## **Building plan approval system**

- Web based Application Software with all the Gujarat Development Control Regulations.
- Used for scrutinizing development permission application and also used to issue license to Architects, Engineers, Developers, Site Supervisors and Structure Designers.

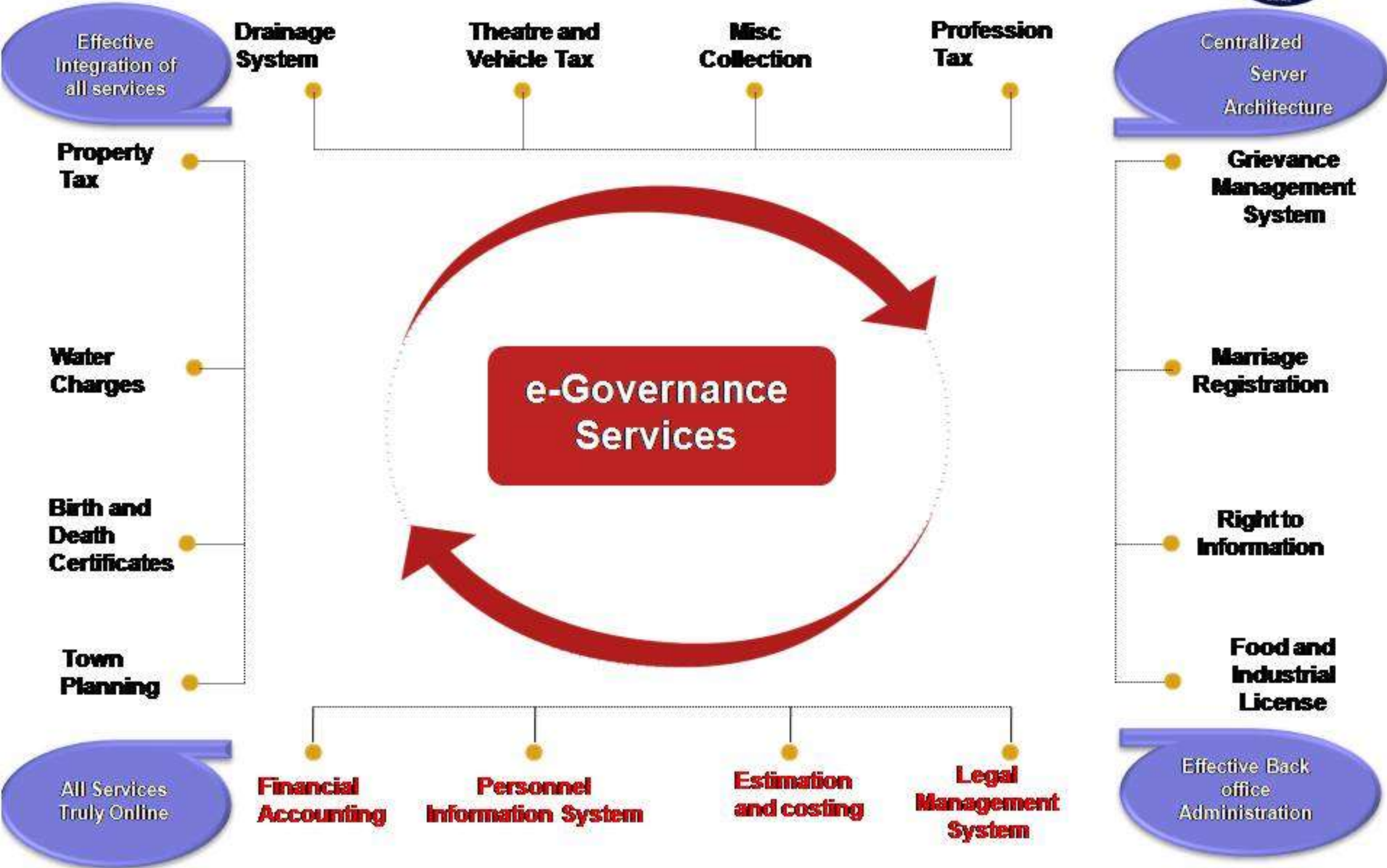
eGovernance  
an efficient way to meet  
citizen's expectation

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**e-Governance : Rajkot Experience**

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## Innovative Initiatives (online services)

### Multi Utility Services

**24x7 Call Center**

**Online Payment of Dues through Credit Card/Debit Card, IVRS and Mobile**

**Payment of Property Tax by EMI**

**Transaction Kiosk for Dues Collection**

**On the spot building plan permission**

**Birth and Death Registration Data 1972 onwards**

### Website

**Birth and Death Certificates (1999 onwards)**

**Property Tax Demand Bill/Receipt (2005 onwards)**

**RTI Status**

**Profession Tax Bill/Receipt**

**Namavali (Names of new born baby)**

**Tracking of Account Bills**

**Citizen Forum on Web (Both in Gujarati and English)**

**Complain Tracking and Registration**

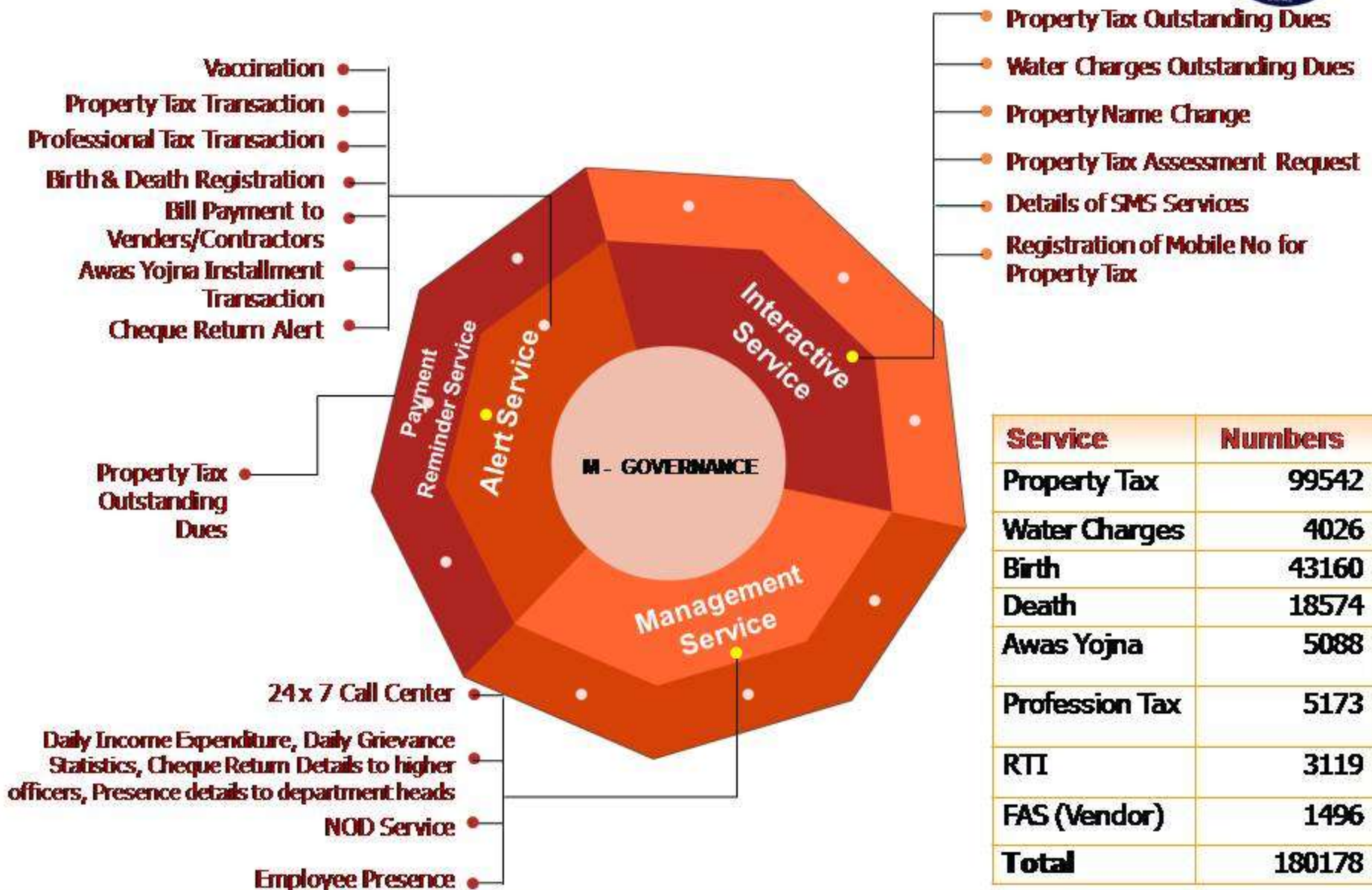
### Tie up with Post Office for better service

**Property Tax Collection**

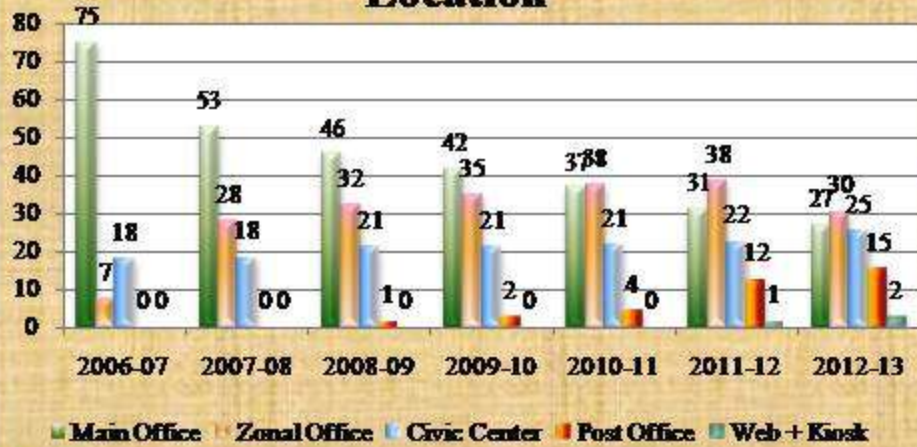
**Water Charges Collection**

**Awaz Yojna EMI Collection**

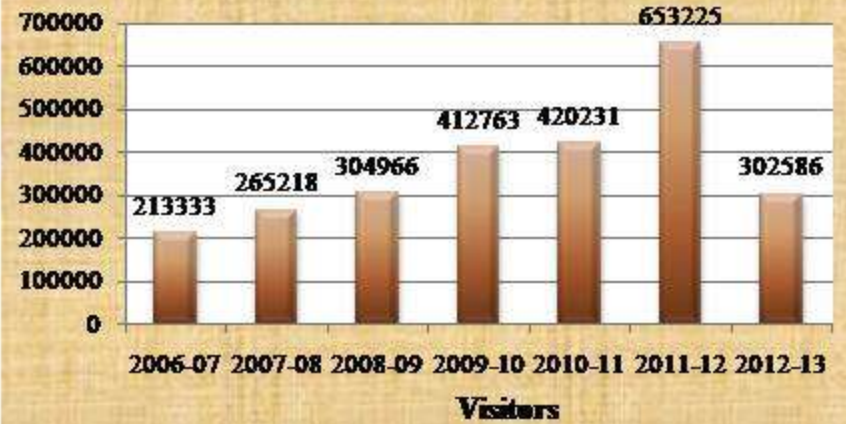
**Profession Tax Collection**



## Effectiveness of Citizen Service Location



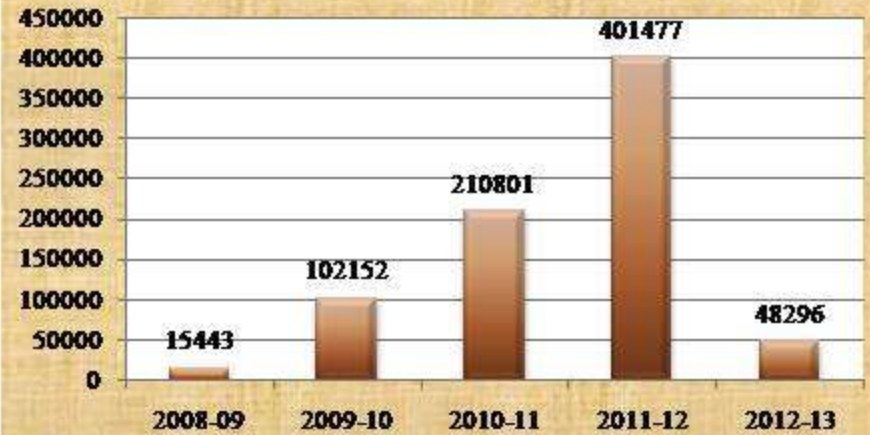
## No of Users (e-Governance)



## m-Governance Transaction



## Call Center Transaction

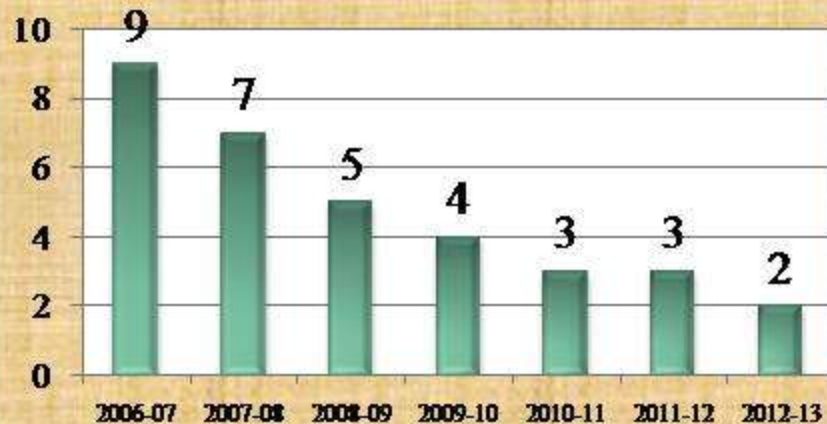




- Information is just SMS away
- Equal quality of service regardless of social or economic status
- Cheapest transaction cost (as low as 1 paise)
- RITE Administration
- Access time for service is reduced
- Interaction becomes more result oriented
- Elimination of middlemen for service

Service:	Impact:
<b>Alert</b>	Transparency/Credibility
	Search of record become faster, citizen visit office after receiving alert
	Vaccination Drop out ratio decreased VPD is almost nil
<b>Interactive</b>	Elimination of queues, information seeker do not need RMC's visit
	Details of RMC m-Governance Services by just one SMS
	Human intervention removed

Distance to Avail RMC Service (in KMs)



Distance to Avail RMC Service (in KMs)

Year	KMs	Delivery Center
2006-07	9	1 HO + 2 ZO
2007-08	7	1 HO + 2 ZO + 2 CCC
2008-09	5	1 HO + 2 ZO + 3 CCC
2009-10	4	1 HO + 2 ZO + 3 CCC + 4 PO
2010-11	<3	1 HO + 2 ZO + 3 CCC + 15 PO
2011-12	<3, 0	1 HO + 2 ZO + 3 CCC + 20 PO + Kiosk + Web + IVRS + Mobile
2012-13	<3, 0	1 HO + 2 ZO + 3 CCC + 20 PO + Kiosk + Web + IVRS + Mobile + EMI by ECS



- Increase in revenue
- Effective Integration of Back office and Citizen Centric Services
- Grievance management become more efficient
- Reduction in operating cost
- Reduction in direct interaction with citizen resulting into lesser grievances and Increase in transparency
- Citizen become more loyal to RMC
- Human Errors avoided due to Fully automated process
- National Immunization programme is now more effective
- Direct communication reduces the response time of the Officers responsible for the specific work
- Officers become more productive due to lesser public interaction
- Reduction in paper usage

## Collection of Taxes



Municipal Dues Collection (Amount in Lac)		
Year	Annual Income	Per Day Income
2005-06	14575	39.93151
2006-07	16966	46.48219
2007-08	18745	51.35616
2008-09	16606	45.49589
2009-10	28281	77.48219
2010-11	33491	91.75616
2011-12	33987	93.11507
2012-13	8162	107.3947

**Mode of Service – Interactive Service**

Sr	Department	Services for	Beneficiaries
1	Property Tax	Property Tax outstanding dues through SMS	32925
		Property Tax Name change details through SMS	1001
		Registration of mobile no for transaction alert	304
		Property Tax Assessment Request through SMS	70
2	Water Charges	Water Charges outstanding dues through SMS	1859
3	General	Details of RMC Services	12738
4	Call Center	Registration of Light Pole complaint through SMS	2087
	<b>Total</b>		<b>50984</b>

**Mode of Service – Management Service**

Sr	Department	Services for	Beneficiaries
1	General	Daily Income-Expenditure SMS to higher officers	6493
2	General	Daily Grievance Statistics to Higher Officers	8698
3	Call Center	Running of Call Center through SMS	729873
4	Staff Presence	Presence on Face Detector	795
	<b>Total</b>		<b>745859</b>

- **Creation of Awareness among citizens**
  - **Three tier awareness program launched**
    - Printing of how to access m-Governance services on Demand bill and Payment receipt and other stationery
    - **Print media and electronic media support creates awareness**
    - **Registration of mobile no at the time of payment of dues**
- **Creating logical group of services based on application**
  - **Based on usage of service three groups have been created**
    - **Alert Services**
    - **Interactive Services**
    - **Management Services**
- **Opposition from employees :**
  - **Tremendous opposition from employees, which was resolved by restricting time to send SMS**
  - **Technical issue**
- **Language Issue : We have to send SMS in English only**
- **Length Issue : Maximum 160 Characters per SMS can be sent**

## Replication

Initiatives can be implemented at any municipal corporation

fits on any database platform as an add-on component

Requires little process reengineering to make it functional

Economically very cost effective

technological innovation is at the least cost

has brought sudden quality improvement in life of citizen

Win-win situation for both Organization and Citizen

brought speed and transparency in administration, resulted in sharp increase in revenue

## Scalability

Highly scalable, any number of new services can be added

Requires alteration of existing database

Initiatives implemented on existing database

Based on GSM mobile technology

Requires process reengineering

Requires gap analysis

Modification in existing database and back-office process

does not require expertise in telecommunication area

### Minimum Requirements

GSM MODEM

SIM Card (for incoming/outgoing SMS)

Software to handle incoming and outgoing SMS

Database integration for m-Governance based system

## Sustainability

Financially very economical  
running cost is very less

with advancement in technology it is becoming cheaper

need no higher level of expertise, once project is implemented

sharp increase in level of satisfaction/revenue compensate expenditure

project further envisages many revenue generation avenues in future

reduces paperwork and there by saves huge cost

plenty of scope for improvement in cost saving in all functional activities

Has potential to improve urban life of India

- ❖ Reduction in Human dependency and lesser human intervention leads to error free administration
- ❖ m-Governance reduces gap between Organization and Citizen
- ❖ Service Delivery mechanism becomes more effective
- ❖ Effectiveness of payment reminder service shows that most of the citizens are ready to pay their dues if proper follow up is taken.
- ❖ Vaccination alert resulted in decrease in drop out ratio of vaccination and VPD has become almost nil.
- ❖ Trust on local government system has increased drastically.
- ❖ It is a win-win situation for both citizens and organization



# JnNURM Components

## Preparatory Activities

- Mission Mode Project of NeGP– Under JNNURM ( 2007-2012)
- e-Governance- Mandatory reforms for funding under JNNURM
- e- Governance project for AMC has been approved
- Application software may be rolled out in other ULBs

# Service Levels

Service	Service Levels
Birth and Death Certificate	Online and through services points (< 15 minutes)
Property Tax, Water Charge, etc. and other utility bill payment	< 15 minutes thru services points Online thru e-Biz portal
Building approvals	Residential < 7 days Commercial < 15 days
Health Program- License	New < 7 days Renewal < 15 days
Financial Accounting System	Double accounting, finalization of A/Cs with 3 months
Projects Management- Approved projects	Online & at service centers, within 1 days of project approval
e-Procurement	Integration with State e-Procurement module
Grievances handling	Acknowledge – Immediate Resolution < 7 days
Personnel Information System	Online, Web based



*Thank you*