

AWARDS SCHEME FOR EXEMPLARY IMPLEMENTATION OF e-GOVERNANCE INITIATIVES

III. NAME OF CATEGORY- 'INNOVATIVE USE OF TECHNOLOGY IN e-GOVERNANCE'

1. **Coverage – Geographical and Demographic :-**

(i) Comprehensiveness of reach of delivery centres,

The geographical reach of the service spans over the entire city of Surat which is the 2nd largest city of Gujarat and the 9th largest city of India. It has an area of 326 sq km with a population of 5.2 million.

(ii) Number of delivery centres

604 Cameras for city wide surveillance are installed at 113 locations across the city. Apart from this, a total of 16 workstations have been setup for live monitoring of the surveillance system.

(iii) Geographical

(a) National level – Number of State covered

(b) State/UT level- Number of District covered

(c) District level- Number of Blocks covered

Please give specific details:-

The initiative has been spearheaded by the Commissioner of Police, Surat City and is aimed at providing a city wide state of the art surveillance system which provides the following services :

1. Traffic Management
2. Surveillance
3. Post-Incidence Forensic Examination
4. Disaster Management

(iv) Demographic spread (percentage of population covered)

The population of Surat City is roughly 5.2 million and spans over 326 sq km.

2. Situation Before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project #):

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Gujarat is a rapidly developing state with one of the highest growth rate because of its ability to attract industrial establishments. Over the past few years, this has led to prominent cities of the state realizing tremendous urbanization trends which will only get intense as we go forward.

Surat being the 2nd largest city of the State and the 9th largest city of India, is a testimony to this trend. As it happens, Surat is a prominent center of major commercial activities including those related to petrochemicals, diamond and textiles. This trend has brought Surat under focus all over the country because of the employment opportunities and its significance as the commercial hub of Southern Gujarat.

Unfortunately, one of the aspects associated with rapid urbanization is a tendency of increasing crime rates which must be faced head on to provide a sense of safety to inhabitants of a prominent metropolitan. This was the primary driver behind the conceptualization of the project.

Of course the need for a Surveillance System was further backed by global incidents related to terrorism which rattled everyone.

High Volume of Vehicular Traffic

The city has 2.81 million registered motor vehicles and a large number of vehicles visit/pass through the city for various economic activities. The issues such as poor urban planning, lack of public transport system, dependence of the general population on auto-rickshaw and motor cycles, inadequate man power available with the law enforcement agency make the task of traffic management and enforcement difficult.

Threat of Terrorist Activities

The city has pockets of mixed population and history of communal clashes. The thriving economy, presence of migrant population, long coast on the west dotted with landing points and the proximity with Mumbai expose the city to the threats of terrorism. There were successful terror attacks in the year 1993 and a large number of bombs ridden with explosives were planted in Varachha-Kapodra areas targeting diamond industry in the year 2008 and unsuccessful attempts were made for causing explosions. These incidents had created fear in the minds of corporates, businessmen and ordinary citizens of the city.

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Rising Population leading to poor people police ratio

The rising population, presence of migrants, growth of slums, increasing socio-economic inequalities, unemployment, lure of quick bucks among youth etc. is leading to rise in crime. The incidents of theft/burglary/robbery, murder, rape, kidnapping, drug trafficking, extortion, human trafficking, crime against children and financial crimes make the citizens of the city feel insecure. The police-people ratio is a measure of public safety and United Nations has prescribed 222 policemen per 100,000 populations as the minimum scale. However, the police-people ratio in Surat City is 73 per 100,000 populations as against the national average of 137 per 100,000 population. The rising crime and people's expectations put serious pressure on the limited resources of the law enforcement agency.

Incidents of Terrorism in recent past

Unsuccessful attempts by terrorist (Indian Mujahedeen) to execute serial bomb blasts in the year 2008 in Surat and their desire to target the city again for redeeming their 'credibility' compounded by bomb blasts in Zaveri Bazar and other places in Mumbai on 13th July, 2011 wherein apparently Gujarati diamond establishments/markets were targeted, had underlined the importance of effective surveillance system in Surat City. These incidents highlighted the needs for proper mechanisms to protect vital installations, public places, prevent and detect crime, traffic management and enforcement.

Traffic Awareness Movements

A traffic awareness program called ***I-follow*** in August, 2011 with the help of Drashtikon–Surat Photography Artisans, Traffic Education Trust, Radio Mirchi 98.3 FM Surat and Youngistan, a Surat based NGO. ***I-follow*** with the motto of safety-discipline-awareness had launched an extensive campaign to reach the public through hoardings, banners, posters, pamphlets, distribution of hand bands, painting competition for school/college students, photography competition, street play, seminars and workshops. 126 programs were organized in which over 91,000 people from different sections of the society participated. The idea of closed circuit television (CCTV) camera based surveillance system for better enforcement and traffic management was discussed during ***I-follow*** campaigns and the demand for such as system started coming from representatives of industries, eminent citizens and various other stakeholders.

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Suraksha Setu

Government of Gujarat had launched a community policing initiative for strengthening police-public partnership. It has provided budgetary support for taking up innovative projects for the benefit of general public.

These factors along with a rapidly growing dependence on ICT tools for better governance led to the Police Commissionerate's decision of embarking on this ambitious project

3. Scope of Services/ Activities Covered (Relevance of choice of application for client/ agency, Extent of e-enablement in terms of number of services, Extent to which step in each service have been ICT- enabled #)

The project is designed for surveillance, crime prevention and detection, post incident forensic examination, traffic management and enforcement, for providing disaster management support and pollution control measures (Pollution Sensors)

Cameras: There are 604 IP cameras including 26 PTZ cameras (360° view) and 578 fixed cameras (Day & Night Vision) installed in 113 strategic locations with local power backup. These cameras are connected to the Command and Control Center through the dedicated 200 km long underground dark optical fiber network.

Command & Control Center: A state of the art, fully air conditioned hall with 280 ft. Video Wall with 9x2 LED Projection Cubes of 67 inches, with 1024x768 resolutions. The Video Wall has the capacity to view 256 cameras at a time. It has 16-workstations, Emergency War Room, Video Management & Incident Management System, camera tampering and health sensors. The data center is equipped with IBM Servers with a storage capacity of 210 TB for 30-days. The police wireless communication room and Dial-100 system has been integrated with the Command & Control Center.

Enforcement Automation Center: It has access to RTO database for issuing e-challans with photograph of the traffic offenders. Surat City Police has entered in to a Memorandum of Understanding (MoU) with Dena Bank declaring its branches and ATMs in Surat City and neighbouring Districts as collection centers for the collection of fines from the traffic offenders. More than 2,83,091 e-challans have been issued.

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Safety and Security: The Data Centre is equipped with rodent repellent, fire alarms, water leak sensors, [FM 200 fire suppression system](#) and access control system. The Command & Control Center is erected on the first floor keeping floods into consideration with emergency exit and weather proof IP66 housing. It is also equipped with traceable camera tampering, redundant UPS, camera recoding export protection, redundant PAC, redundant UPS and anti-static false floor

Other Utilities: The video wall is 2D map integrated and IP cameras are integrated with the 2D map. The camera can be popped up by just a click on the map. The system enables installation of GPS in police control room (PCR) vans for vehicle tracking for coordinating police responses to Dial-100 calls. The system can also facilitate Integrated Traffic Management System (ITMS) for finding smart solutions to traffic problem in the city. The system can provide disaster management support in case of natural calamities like floods, earth quake, industrial accidents etc. The rescue and evacuation plan can be prepared using video feed. The software has the capabilities for [post incident forensic examination](#), automatic number plate recognition (ANPR), face recognition system, frame by frame playback of video, abandoned object identification, head counting, loitering identification, intrusion detection and pollution sensors.

4. Strategy Adopted

(i) The details of base line study done,

Unsuccessful terror attacks in 2008, and subsequent bomb explosion in Zaveri Bazar, Mumbai targeting Gujarat Diamond Businessmen triggered off the conceptualisation of this project. Use of technology as a force multiplier was considered essential.

(ii) Problems identified,

1. Low Police - Population ratio (73 per One Lac Population)
2. Poor Public transport facilities leading to use of two wheelers auto rickshaws which not only create traffic problems but also easy carrier of explosives.

(iii) Roll out/implementation model,

The forum of Traffic Education Trust was used for the implementation of the project in public-private-people-partnership (4P) model. A technical committee comprising of Prof. Rakesh Gohil, Head, Department of Computer Science, SVNIT, Surat and 4-other eminent

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citizens with technical back ground was constituted for the finalization of technical specifications and overseeing the implementation of the project. The technical committee played the role of the consultant in the implementation of the project and no consultancy charges were incurred. Five sub-groups comprising of Police Officers and Members of Traffic Education Trust were constituted for holding a series of meeting with stakeholder and mobilization of funds. The sub-groups had mobilized the funds during meetings held with different stakeholders and citizen groups.

104-cameras were to be installed in 23-strategic locations and a Command & Control Center with video wall, video analytics and data center was to be set up at Police Bhavan as part of Phase-I. Shri. Sanjay Srivastava, IPS, the then Jt. Commissioner of Police (Sector-II), Surat City was initially appointed as the Nodal Officer for the implementation of the project. The technical committee had finalized the technical specifications and tender was issued on A transparent procedure prescribed by the World Bank was adopted for awarding works under the private-public-partnership (PPP) model was followed. The company offering best technology (T-1) available for lowest price (L-1) was selected for awarding the contract. M/s. Innovative Telecom & Software Private Limited, Surat which had tied up with M/s. Verint Systems Limited, Israel and M/s. Delta, U.S.A. was awarded contract for the installation of cameras and setting up of Command & Control Center on 28.08.2012. M/s. RK Infratel Limited, Surat was awarded the work related to networking of cameras. The companies had commenced their work from 30.08.2012 and had completed the same by 31.12.2012, in a record time of 4-months.

The technical expertise and professional competence of academics and professionals with technical background was used in the planning and execution. No consultant was hired for the implementation of the project thereby saving consultancy charges.

It was decided to go for CCTV based surveillance system covering vital installations, entry-exit points, markets, public places, busy traffic junctions and crime prone areas in first phase so as to win the confidence of the people.

A non-intrusive and transparent e-challan system was introduced for enforcement of traffic rules. The people were given the option of

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payment of fine through the network of branches and ATMs of Dena Bank in Surat City and neighbouring towns/cities totally free of service charges.

(iv) Communication and dissemination strategy and approach used.):

Certain promotional activities were conducted to ensure that citizens are well aware of the project and the potential benefits. Higher involvement from citizens and industry was expected to lead to better acceptance and faster implementation.

1. Surat Night Half Marathon, an international event was organized on 23rd February, 2012 in which athletes from different parts of the world participated. The event was used to motivate people and popularize (CCTV) camera based surveillance system for traffic management.
2. More than 45-meetings were held by senior police officers to reach out to the stake holders and educate them about the positive impact of closed circuit television (CCTV) camera based surveillance system on policing.
3. The awareness campaign under the *I-follow* program was used for building public opinion in favour of installing surveillance and traffic management system through a network of closed circuit television (CCTV) cameras
4. The peoples support and goodwill was channelized through the forum of Traffic Education Trust and good counsel of eminent citizens of the city was used to strengthen the police-public partnership.
5. The active participation of local corporates, business houses, eminent citizens and service organizations was ensured through community policing approach.
6. The episodes of prevention and detection of incidents of crimes by police based on video footages collected from the places of occurrence were given publicity in print and electronic media for educating the people regarding the benefits of camera based surveillance system on policing.

5. **Technology Platform used-**

(i) Description,

Surveillance Camera

Verint

2 MP IP camera

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Day and Night vision, Local Power Backup, Capable of detecting number plates
36x Zoom PTZ cameras for 360* vision
Local storage capacity
Two way audio communication
Data Center
IBM Blade servers
210 TB for 30 day storage
Precision Air Conditioners

(ii) Interoperability

Integration with various other IP based systems possible through their API as the system is based on open WINDOWS platform.

(iii) Security concerns

Security concerns in ICT based administration are inevitable but the concerns can be covered sufficiently. In this case the following tools were used :

1. Access control centers at the Command Center
2. Water Leak Sensors, Rodent repellent, Fire alarms for Data Center
3. FM 200 Fire Suppression system
4. Weather proof IP66 Housing
5. Traceable Camera Tampering
6. Redundant UPS
7. Camera Recording cannot be exported
8. Redundant PAC and Power Supply
9. Anti static false floor
10. Command Center has been built on 1st Floor to prevent disruption due to flooding and Emergency exits have been provided.

(iv) Any issue with the technology used

The system has never gone down for even a minute in last months of operations. The architecture design and planning done by SI is redundant and very much robust.

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- (v) Service level Agreements(SLAs) (Give details about presence of SLA, whether documented, whether referred etc. #)

SLA signed and documented with this Systems Integrator and Net work provider.

6. **Demonstrate innovative use of ICT for development** (Give details about use of new and emerging technology, innovative usage of ICT for process change to improve quality of the life/ organizational effectiveness, relevance of technology to provide the service #)

The security surveillance system has helped to cover several aspects of Police Administration at one go thus turning Surat into India's first Safe City. With a plan for further expansion, the city intends to further tighten security measures and excel in Traffic Enforcement and Regulation. The Surveillance project has helped in the following areas:

1. Traffic Regulation and Enforcement

- a. eChallan System for Traffic violation
- b. Automatic Number Plate Recognition
- c. Traffic Rules Violation

2. Policing Services

a. Crime prevention and Detection 27% crime rate has gone down in areas where cameras have been installed. 58 numbers of cases (under various heads) detected with the help of CCTV footages.

- b. Debriefing
- c. Post Incident Forensics services
- d. Traffic Management
- e. Disaster Management

3. Pollution Sensors

4. Integration of Maps with Cameras to get location related information

5. GPS Integration and vehicle tracking system

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- 6. Police Resource Management System
- 7. Integrated Traffic Management System
- 8. Integrated Signal Management System

7. Citizen Centricity (Give specific details on the following#)

(i) Impact on effort, time and cost incurred by user,

While citizens don't need to interact with this system on a daily basis, the final benefits of the safe city project are borne by them in the way of a feeling a being safe and better enforcement of rules and regulations throughout the city.

(ii) Feedback/grievance redressal mechanism,

NA

(iii) Audit Trails,

The video record is stored in the data center which has a storage capacity of 210 TB for 30 days.

(iv) Interactive platform for service delivery,

A state of the art, fully air conditioned hall with 280 ft. Video Wall with 9x2 LED Projection Cubes of 67 inches, with 1024x768 resolutions. The Video Wall has the capacity to view 256 cameras at a time. It has 16-workstations, Emergency War Room, Video Management & Incident Management System, camera tampering and health sensors. City is monitored through this medium.

(v) Stakeholder consultation

Corporates & Business Houses: They had joined hands with the police leadership and had participated at various stages of planning, design & implementation. They had mobilized finances and had extended co-operation by providing human and material resources for the project.

Citizen Groups: A number of charitable organizations, professionals and Non Governmental Organizations created goodwill in favour of police and helped in popularizing CCTV camera based surveillance and traffic management system.

Housing Co-operative Societies: They had appreciated the positives of CCTV camera based surveillance and traffic

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management system. The residents of various localities and citizen groups had come forward for meeting the expenses of network expansion for securing their localities.

Traffic Education Trust: It had played key role in planning, mobilization of funds and implementation of the project. The members had provided technical & institutional support by way of documentation, account keeping, auditing etc. for the implementation of the project. **I-follow movement** had helped mobilizing people and galvanizing public opinion in favour of camera based surveillance and traffic management system.

Police Leadership: Shri. Rakesh Asthaana, IPS, Commissioner of Police, Surat City had conceived the idea of Safe City Project and had carried the experience of implementing the same in a small scale in Vadodara City during his previous tenure as Commissioner of Police, Vadodara City. He had sold the idea to the members of M/s. Traffic Education Trust and had played the leadership role in planning, mobilization of funds, securing approval from Government of Gujarat and implementation of the project in the short period of 1-year.

Shri. Sanjay Srivastava, IPS, Joint Commissioner of Police (Sector-II), Surat City: He was the Nodal Officer for the implementation of the Safe City Surat Project. A B.Tech. from NIT, Suratkal, he used his technical background in finalization of technical specifications, preparation of tender documents and processing of technical bids.

Shri. B.S.Jebliya, IPS, Addl. Commissioner of Police(Sector-I), Surat City: He had taken over as Nodal Officer for the implementation of the Safe City Surat Project from 07.04.2012 and had overseen the implementation of the project by M/s. Innovative Telecom & Software Pvt. Ltd., Surat. He had actively participated in the identification of strategic locations for the installation of cameras and had worked out the network expansion plan for Phase-2.

Shri. Narasimha N. Komar, IPS, Additional Commissioner of Police (Crime & Traffic), Surat City: He had joined the team on 07.09.2012 and played an important role in starting Enforcement Automation Center for the issue of e-challans against traffic offenders. He had also coordinated with the technical committee in

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drafting standard operating procedures, designing curriculum and imparting training to the personnel and institutionalizing the systems and procedures.

8. **Adaptability and Scalability** (Give details about Local language support, ability to leverage shared Government infrastructure, Standardization of technology used (hardware, software, application etc. #)

The system and platform is highly scalable Horizontally and vertically without any limitations. The system is also capable of adding up additional modules for Smart city solutions, Disaster Management solutions, etc. (eg. Pollution control sensors, Sysmeic Sensors, etc.). The technology used is completely on open platform with user friendly interface GUI.

9. **Adaptability Analysis**

- (i) Measures to ensure adaptability and scalability

The technology used is on open standards platform hence easily adaptable and has no limits in terms of scalability.

- (ii) Measures to ensure replicability

The system currently designed is completely redundant at all stages including servers, storage system, power backup, and all the applications. It has also capability of replica by creating a Disaster Recovery site.

- (iii) Restrictions, if any, in replication and or scalability

There are no restrictions in terms of replication and scalability in the system.

- (iv) Risk Analysis

The entire system is designed and contracted for 5 years warranty with comprehensive maintenance and later Maintenance agreements will be done with SI. Hence the smooth running of systems has been taken care from day one.

10. **New Models of Service Delivery** (Give details about type of partnership model use, Links to/Supported by Public/Private Organization Links provided to relevant websites etc. #)

While the initiative was headed under the leadership of the Police Commissioner of Surat, it was collaborative effort on the part of the city

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because it involved efforts of various representatives of the industry, technical experts and government officials to bring the entire project together in very short time.

1. The technical expertise and professional competence of academics and professionals with technical background was used in the planning and execution. No consultant was hired for the implementation of the project thereby saving consultancy charges.
2. The entire project was implemented in private-public-people partnership (4-P) model. There is no revenue model for the private investor to invest in the project and hence, the local corporates, business houses, civic organizations, housing co-operative societies etc. came forward to finance the project. The people of the city can reap the benefit of enhanced safety, security and better traffic management and enforcement in return for their investment.
3. Enforcement Automation Center with access to vehicle registration database of RTO issues e-challans with photographs of the traffic offenders. Surat City Police has entered into MOU with Dena Bank for the collection of traffic fine without service charges and all the branches and ATMs of Dena Bank are notified as collection centers for the benefit of the citizens.
4. The fine amount collected through e-challan system will go to Gujarat Marg Suraksha Nidhi, a corpus created for building traffic infrastructure in the state. The share of Surat City from the Gujarat Marg Suraksha Nidhi will be sufficient to cover the operating cost of the project.

11. **Efficiency Enhancement** (Give specific details about the following #)

(i) Volume of transactions processed

The volume of Data handled with 604 cameras is 1.5 Petabytes.

(ii) Coping with transaction volume growth

The architecture design and planning has been taken care by SI to handle such a large volume of Data (i.e.) 1.5 Petabytes.

(iii) Time taken to process transactions,

The system architecture is designed to process each devices data pumping and 12 mbps for 24 x 7 x 365. This is done absolutely online without any data loss. The retrieval of data is also in milliseconds.

(iv) Accuracy of output,

The entire data is stored with best possible parameters and with exact date, time, location stampings. Whenever retrieved, it gives highest level of accuracy with all defined parameters.

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(v) Number of delays in service delivery

The proactive preventive maintenance and daily health check system is already done by SI on regular basis avoiding any downtime till date.

12. **User convenience** (Give specific details about the followings #)

(i) Service delivery channels (Web, email, SMS etc.)

The CCTV cameras are IP cameras connected over the internet and monitored through the Command Centers. While these cameras are not delivering services to the citizens exactly, they are used as smart governance tools by law regulators to ensure safety of citizens and to ensure compliance to rules and regulations.

Incase of traffic violations, e-Challans are produced

eChallans are generated by taking the snap and type of vibration, uses the RTO database to pickup the address of violator, and delivered on the address of violators through carrier/post service. For the convenience to the citizens Surat Police has tied up with Dena Bank all branches across city for penalty collections.

(ii) Completeness of information provided to the users,

The citizens gets complete information related to eChallan like the photograph with time, date, location of violation.

(iii) Accessibility (Time Window),

The citizens can pay penalties during banking hours, during all working days.

(iv) Distance required to travel to Access Points

The citizens do not have to put in any additional effort to support this system.

For users of the Commissionerate as well, the monitoring is done form a central command centre and hence no travelling to Access Points is required.

(v) Facility for online/offline download and online submission of forms,

The citizens get complete information related to eChallan like the photograph with time, date, location of violation.

(vi) status tracking

(1) Tracking is done on the basis of number of violations done by citizens. (2) Everyday recoveillation of payments receipts against penalties is done and notices are issued to all defaulters.

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13. **Sustainability** (Give details about sustainability w.r.t. technology (technology used, user privacy, security of information shared – Digital Encryption etc. #), Organization (hiring trained staff, training etc. #), financial (Scope for revenue generation etc. #))

1. A network of 604-cameras connected to Command & Control Center has been created and the same can serve as backbone for future expansion. The network will be expanded with 5104 cameras over a period of 3-years. Government of India and Government of Gujarat have planned Safe City Project in other cities and the Safe City Surat Project can serve as a model for the implementation of the same.
2. The technology, network and the software used are of international standard and are compatible with best of technologies available in the market.
3. The fine amount collected through e-challan system will go to Gujarat Marg Suraksha Nidhi, a corpus created for building traffic infrastructure in the state. The share of Surat City from the Gujarat Marg Suraksha Nidhi will be sufficient to cover the operating cost of the project.
4. Surat City Police has entered in to agreements with M/s. Innovative Telecom & Software Pvt. Ltd. and M/s. RK Infrastructure Pvt. Ltd. for the maintenance of the project for the next 5-years.
5. 150-police officers of various ranks have been trained in the operation and maintenance of the Safe City Surat Project. The training of other 150-police officers has been planned for creating a cadre of trained personnel to ensure the sustainability of the project.
6. Standard Operating Procedures (SOPs) and User Manual have been prepared for the operation and maintenance.

14. Result Achieved/ Value Delivered to the beneficiary of the project-(share the results, matrices, key learning's, feedback and stakeholders statements that show a positive difference is being made etc):

(i) To organization

The Surveillance system has helped to improve the operational efficiency of the police administration by a quantum amount. With a very poor police to people ratio initially, manual monitoring of various city parameters was humanly impossible. With a centrally monitored city, law enforcement has become easy and has streamlined processes which were understood

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and followed vaguely earlier.

Law enforcement has become easier and security loopholes have been covered sufficiently.

(ii) To citizen

As explained, a rapidly urbanizing region is also equally exposed to a rapidly increasing crime rate which threatens to oppose development and creates unnecessary fear in the mind of citizens.

The manner in which this project was implemented by keeping the city completely informed and involved has created a sense of safety in everyone's mind which is extremely crucial for a healthy city.

(iii) Other stakeholders

15. Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc):

Some key objectives of the project which have been comprehensively fulfilled are :

- To develop an organized network of cameras to maximize surveillance and visibility in strategic and crime prone areas to facilitate prevention, detection and investigation of incidents of crime.
- To reduce the opportunities for committing crime and terror attacks by employing access control systems, cameras and police personnel to denying access to potential targets and deter incidents of crime/terror attacks
- To develop post incident forensic examination tools for crime detection and investigation.
- To manage traffic at junctions by monitoring the volume of traffic and enforce traffic rules through non-intrusive methods.
- To manage and monitor the movement of VIPs /VVIPs and large public processions. Example: Ganesh Immersion Procession, Taziya Procession, visit of Chief Minister/Prime Minister.
- To coordinate the efforts of various agencies for rescue, relief and rehabilitation during natural calamities and disasters Example: Floods, Cyclones, and Industrial Accidents.

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16. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, change in legal system, rules and regulations

| Sl. No. | Performance Parameters | Impact | |
|---------|------------------------|---|---|
| | | Before the Implementation | After the Implementation |
| 1 | Prevention of Crime | <ul style="list-style-type: none"> • Beat System for surveillance of criminals and anti-social elements • Foot Patrols, Car Patrols and Preventive Detentions • Surveillance based on human observation and analysis | <ul style="list-style-type: none"> • CCTV Camera based surveillance system • Availability of video footages form archives for detailed analysis |
| 2 | Detection of Crime | <ul style="list-style-type: none"> • Crime Detection based on human intelligence • Dependence on evidences based on physical trails left by the criminals for the purpose of prosecution | <ul style="list-style-type: none"> • Crime Detection based on video footages • The video footages serve as good piece of evidence in the court of law. • 58-cases detected. (chain snatching, hit and run cases, bag snatching, robbery in auto rickshaw etc.) |
| 3 | Traffic Management | <ul style="list-style-type: none"> • Manual assessment of volume of traffic • Incidents of traffic jams, congestion, road accidents are reported to the control room by the field officers leading to delay in police response and long traffic holdups | <ul style="list-style-type: none"> • Instructions to field staff regarding volume of traffic based on the analysis made in the Command & Control Center • The analysis of video footages regarding traffic jams, road accidents has led to quick police response and reduction in road accidents. |
| 4 | Traffic Enforcement | <ul style="list-style-type: none"> • Field enforcement teams stopping the traffic offenders for collection of fine • Allegations of high handedness, abuse and corruption by police personnel | <ul style="list-style-type: none"> • 2,83,091 e-challans issued till date and total fine to the tune of Rs. 78,46,850/- collected. • Non-intrusive method of enforcement has ensured transparency and reduction in corruption |

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| | | | |
|----|---------------------------------|--|---|
| 5 | Management of VIP/VVIP Movement | Long holdups, diversions during VIP/VVIP movements | A well-coordinated traffic management during VIP/VVIP movements |
| 6 | Law and Order Management | <ul style="list-style-type: none"> • Deployment of large posse of policemen for surveillance and crowd control • Dependence on statements of eye witnesses for prosecution • Difficulty for the supervisory officers in getting information regarding the development on the field on real time bases | <ul style="list-style-type: none"> • CCTV camera based surveillance serves as a deterrence • The video footage service as clinching evidence against rioters • Real time information to the supervisory officers • The system was of help during Ganesh Immersion and Taja Procession • Surat Night Half Marathon, an international event was held on 23.02.2013 without any incident |
| 7. | Disaster Management | <ul style="list-style-type: none"> • Delay in inter departmental coordination • Dependence on field reports for monitoring the rescue and evacuation operations. | <ul style="list-style-type: none"> • Provides multi-mode communication system to coordinate the efforts of various agencies. • Video based coordination for ensuring speedy rescue and evacuation operations • The system was of great help during the fire accident on 05.01.2013 at Indian Oil Corporation, Hazira, Surat. |

17. Other distinctive features/ accomplishments of the project:

1. This is one of the first Safe City projects of India
2. This has been nominated for Prime Minister's award for Excellence in Administration

This is just an indicative list of indicators. Applicant can add on more information based on suitability of the project nominated.