

# E governance for Regional Transport Offices in India

Prof Vaibhav Gandhi\*, Dr C K Kumbharana\*\*

\* Research Scholar, Department of Computer Science, Saurashtra University,

\*\* Professor & Head, Department of Computer Science, Saurashtra University

**Abstract** – India had cross population of 1.3 billion and is 2nd largest country after china. India is having almost 17% of world population. The population density in India is 452 per Km<sup>2</sup>[1]. Even whole country is divided based on different language, different terrain, different rituals, different regions and other parameters. India consist of total 28 states and 7 union territories. Efficient governance in such huge country with different diversity is very difficult task. Government of India is aggressively using Information and Communication Technology (ICT) to provide good governance. By using various methods, tools and technology for E Governance application, government is providing effective service to every citizen at their doorsteps. Transportation is one of the major concern for large country like India. People of India is every year purchasing high numbers of cars, motorcycles, Scooters like personal vehicle as well as very high number of vehicles are purchased for mass transportation and good transportation. Registration of all such vehicles are done through Regional Transport Offices (RTO) situated in all states and union territories. Purpose of this paper is to examine e governance implementation for RTO offices across India.

**Index Terms**- e governance, RTO, Regional Transport Office, RTA, Regional Transport Authority, challenges in e governance implementation, NeGP, Vehicle database

## I. INTRODUCTION

Since few decade, use of Information and Communication Technology is increasing exponentially. Every governments are aggressively using information and communication technologies in their everyday work. Due to that, the study of e-government evolved and different methods to describe e-government and develop digital government research have been advanced.[2][3]. Sometimes terms “E-Governance” and “E Government” is used in place of each other, but actually, E Government is just as subset of E-Governance. We can even define that E-Government is an application of E-Governance. This uses the latest technologies of information and communication technology (ICT) and to make government more efficient, effective and to provide transparent services[4]. The major demand on

government is that it should be fully accessible to cater all requirement of citizens promptly, without wasting time. 365 x 24 x 7 access is expected by citizen for many government work. This can be achieved through E-Governance only. The evolution of e-government initiatives in terms of their degree of technological and organizational sophistication can describe e governance easily.[2][3][5].

E-Government is a small discipline which deals with the expansion of online government services to the citizen and businesses such as e-tax, e-transportation, e-procurement, e-participation etc. E-Governance is a broader thing that deals with the whole range of the relationship and networks within governments regarding the usage and application of ICT for benefit of citizen. The “E” part of both e-government and e-governance stands for the electronic platform or infrastructure that enables and supports the networking of public policy development and deployment.

## II. DEFINITION OF E-GOVERNANCE :

There is no single definition is accepted for E governance. Many governments, organizations or researchers are defining ‘E-Governance’ as per their goals and purposes.

As per UNESCO’[6] E-Governance is “*Governance refers to the exercise of political, economic and administrative authority in the management of a country’s affairs, including citizens’ articulation of their interests and exercise of their legal rights and obligations. E-Governance may be understood as the performance of this governance via the electronic medium in order to facilitate an efficient, speedy and transparent process of disseminating information to the public, and other agencies, and for performing government administration activities.*”

E-Governance defined by ‘The Council of Europe’[7] :

“*The use of electronic technologies in three areas of public action:*

- *Relations between the public authorities and civil*

society

- *Functioning of the public authorities at all stages of the democratic process (electronic democracy)*
- *The provision of public services (electronic public services)”*

As per this definition, the emphasis is on use of electronic technologies with a view to improve interaction between government and citizens and provide public services.

E-Governance is define by Word Bank as[8] “*E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/ or cost reductions.*”

We know that usage of ICT is surely giving lots of advantages for E Governance. Various researcher had recognized many advantages of E-Governance.[9][5][10][11],

- Improve citizen involvement in government process
- E governance is giving transparency in system which build trust between citizens and government by improving government image in citizens’ mindset.
- Reduction in cost by providing online solution. This reduction in cost is applicable to both Government and Citizen.
- E-Governance services can reach easily in remote areas by use of technology and it is faster.
- Better and more efficient service delivery by Government.
- Citizen is having access to all information online so having insight in government policies.
- Service reaches to citizen rather citizen reach for service.
- Citizen can avail all information of Government through a single window at any time and any location with a device having Internet connection.

- Increase accountability and transparency of government.
- Online process of e governance decrease corruption in many places.
- More efficient and convenience way of utilizing government services.
- Eliminate human errors in the manual process.

### III. EVOLUTION OF E-GOVERNANCE IN INDIA

All over the world, their government had started usage of E Governance at various stages. In India, usage of computers was started just after independence.

Evolution of E-Governance in India can be considered in three phases[12]

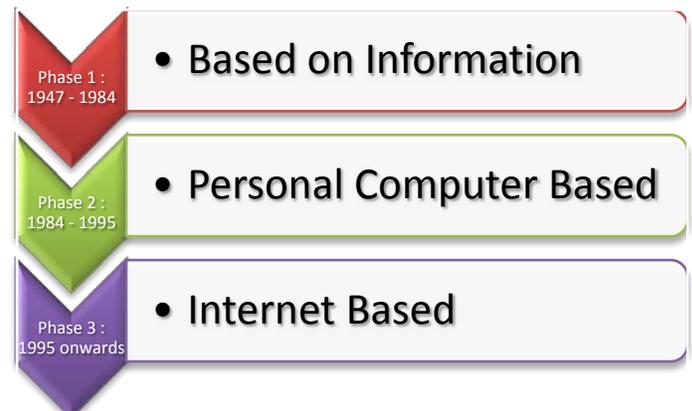


Figure 1 Phases of E Governance in India

- Phase I: 1947-1984 Information based E-Governance
- Phase II: 1984-1995 Personal Computer based E-Governance
- Phase III: 1995-onwards Internet based E-Governance

During all above three phases there are many significant decision were taken, which can be considered as a milestone for e governance evolution.

Whole e governance can be thought initiated in 1950s, where computer is required to use for National Level Planning.

Bhabha committee was formulated for identifying scope and requirement of electronics development in India. 1966. Bhabha Committee recommend requirement of establishment of Department of Electronics (DoE) to support electronics and computer industry.



Figure 2 Evolution of e governance in India

One of the bigger milestone was the establishment of the National Informatics centre (NIC) in 1977 under Department of Electronics. Currently NIC is providing whole backbone for E Governance in India.

Establishment of Computer Maintenance Corporation (CMC) in 1975 was another milestone for E-Governance in India.

In 1984, another major milestone in evolution of E governance in India was happen. A new IT policy introduced in 1984 through which 100% growth in number of computers in India at 50% reduced cost happened.[13].

In 1987, National Informatics Center Network (NICNET) was launched. This was used for providing backbone of Network across India. After NICNET, District Information System of the National Informatics Centre (DISNIC) was introduced, which is to connect all district offices. This DISNIC was working by providing hardware and software to government offices so all can take part in E-Governance initiative.

A National Task Force on Information Technology and Software Development was constituted in May 1998[14].

Indian Government had recognized 12 point minimum agenda for deploying E-Governance in 2000. This was accepted by all union Ministries / Departments.[15].

2008 was one of the major milestone in Indian E governance effort. Department of Electronics and Information Technology (DEITY) and Department of Administrative Reforms & Public Grievances (DAR&PG) had formulated National E-Governance Plan (NeGP) based on which all recent e governance implementation started.

This National E-Governance Plan (NeGP) was comprising of 27 Mission Mode Projects (MMPs) and 10 components which was approved by The Union Government on May 18, 2006.

#### IV. FOUR PILLARS OF E GOVERNANCE

They are listed as under.

- State Wide Area Network (SWAN)
- State Data Centre (SDC)
- Common Service Centre (CSC)
- Service Delivery Gateway (SDG)

For implementation of e governance basic requirement is infrastructure. As per our NeGP, government has decided 4 infrastructural pillars for implementation of e governance.

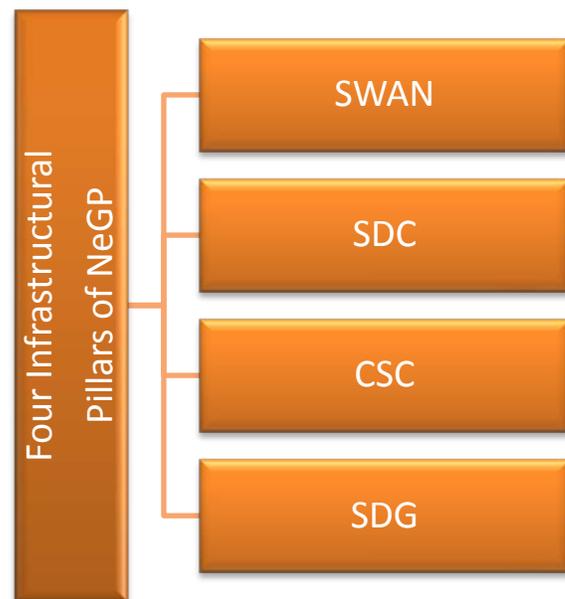


Figure 3 Infrastructural pillars of E Governance

**SWAN** :Government has sanctioned the State Wide Area Networks (SWANs) implementation across the country, in March, 2005 at a total expenditure of Rs.3,334 crore to be given by the Department over a period of five years. Under this Scheme, technical and financial help will be provided to the all States/Union Territories (UTs) for establishing SWANs to connect all State/UT Headquarters, District Headquarters and Block Headquarter, in a hierarchical structure with a minimum bandwidth capacity of 2 Mbps per link. Each of the State / UT can enhance the bandwidth up to 34 Mbps between SHQ and DHQ and up to 8 Mbps between DHQ and BHQ depending upon the utilization[16].

**SDC** :State Data Centres are defined so that every state can consolidate services, applications and infrastructure to provide efficient electronic delivery of Government to Government (G2G), Government to Citizen (G2C) and Government to Business (G2B) services. State Data Centre would provide many functionalities [17].

- Central Repository of the State
- Secure Data Storage
- Citizen Information/Services Portal
- Remote Management
- Disaster Recovery
- Online Delivery of Services
- State Intranet Portal etc..

**CSC** :Large population of India is living in rural area only. Government can develop applications providing E Governance

services, Internet can be avail to every village/ nearby area using SWAN, but government can not force each and every person living in India to use personal Internet access. This is basic reason for approving Common Services Centres. A main use of CSCs is that it will offer services in rural areas, including application forms, certificates, and utility payments such as electricity, telephone and water bills etc...

**SDC** :Various Local, State and Central government had started to implementation of e governance applications. All government systems are using different platform and technologies for E Governance solutions, and it is very difficult to make interoperability between these heterogeneous platforms. This is the reason for implementing various Service Delivery gateways (SDG), which will work as standards based messaging switch between various heterogeneous applications and providing seamless interoperability and sharing of data across different government applications. [18].

## V. E GOVERNANCE IN REGIONAL TRANSPORT OFFICE

India is developing country. Country like India, where huge population is leaving, and transportation is one of the major concern. Approximately 155 million two wheeler, 29 million car, jeep or taxies, 2 million buses and 16 million other vehicle like tractor, three wheeler were registered in 2015- 16[19]. Even approximately 21 million other vehicles were registered in 2016 – 17. Registration of all such vehicles and record of all these vehicles are taken care by Regional Transport Offices (RTO). This work is govern by Ministry of Road Transport and Highway.

For smoother conduction of work, Ministry of Road Transport and Highway had divided work among various States and Union Territories. All vehicle purchased are given unique number and record is maintained with all vehicle identification like engine number, chassis number, type of vehicle, fuel used in vehicle, owner of vehicle etc. For maintaining all such records, task is divided among different states and union territories. To identify vehicle, each state or union territory has unique series. All different series can be found from below figure. We can see list of 29 States and 7 Union territories in below mention figure. Each state and union territories are having many Regional Transport Office. Vehicle related all work is distributed among all these RTO as per region/districts such that all such offices can work properly and citizen can be served better.

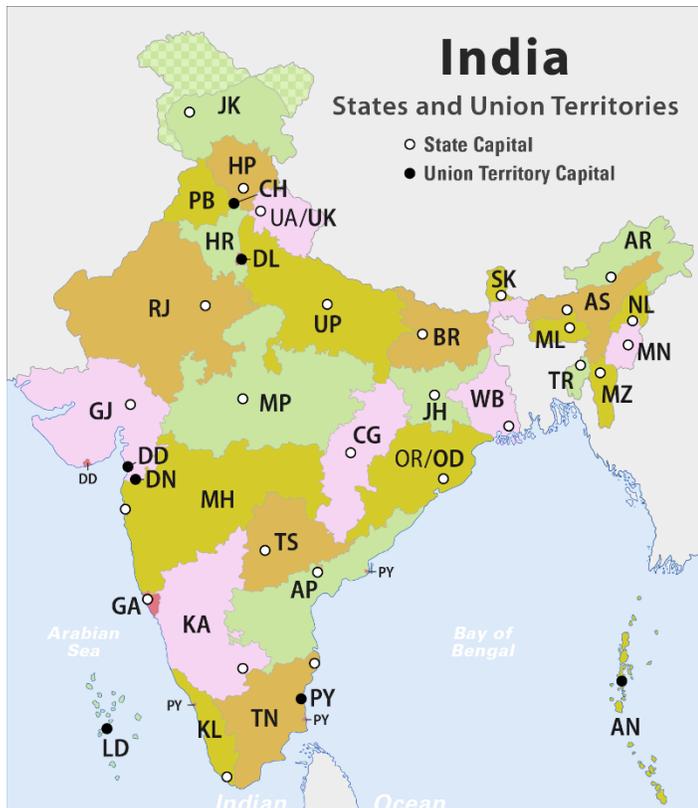


Figure 4 Unique identifier of vehicle series in States and UT [20]

Below mention table consisting list of all State and Union Territory in ascending order with RTO series.[21][22]

S.NO	State/ UT	R.T.O. Series
1	Andaman & Nicobar	AN-01 to AN-02
2	Andhra Pradesh	AP-01 to AP-37
3	Arunachal Pradesh	AR-01 to AR-20
4	Assam	AS-01 to AS-28
5	Bihar	BR-01 to BR-56
6	Chandigarh	CH-01
7	Chhattisgarh	CG-01 to CG- 30
8	Dadra and Nagar Haveli	DN-09
9	Daman and Diu	DD-03 & DD-02
10	Delhi	DL-1 to DL-13
11	Goa	GA-01 to GA- 12
12	Gujarat	GJ-01 to GJ-38
13	Haryana	HR-01 to HR-88
14	Himachal Pradesh	HP-01 to HP-86
15	Jammu and Kashmir	JK-01 to JK-22
16	Jharkhand	JH-01 to JH-24
17	Karnataka	KA-01 to KA-57
18	Kerala	KL-01 to KL-73
19	Lakshadweep	LD-01 to LD-09
20	Madhya Pradesh	MP-01 to MP-70
21	Maharashtra	MH-01 to MH-62

22	Manipur	MN-01 to MN-07
23	Meghalaya	ML-01 to ML-10
24	Mizoram	MZ-01 to MZ-08
25	Nagaland	NL-01 to NL-08
26	Orissa	OD-01 to OD-35
27	Pondicherry	PY-01 to PY-05
28	Punjab	PB-01 to PB-77
29	Rajasthan	RJ-01 to RJ-51
30	Sikkim	SK-01 to SK-04
31	Tamil Nadu	TN-01 to TN-99
32	Telangana	TS-01 to TS-36
33	Tripura	TR-01 to TR-08
34	Uttar Pradesh	UP-11 to UP-96
35	Uttaranchal	UK-01 to UK-18
36	West Bengal	WB-01 to WB-96

Table 1 List of RTO in States and UTs

#### Different activities performed by RTOs

- Issue of Learner's License to drive a motor vehicle.
- Issue of permanent License to drive a motor vehicle and renew the same.
- Issue Badges to the drivers of Public Service Vehicles like Auto rickshaw, Taxis etc
- Issue International Driving Permits.
- Motor Vehicles registration.
- Grant Certificate of Fitness to transport vehicles.
- Inspect private vehicles which are more than 15 years old and renew the registration.
- Issue Permits to Transport Vehicles.
- Issue of authorizations and permits for National Permit Vehicles.
- Issue authorizations and permits for All India Tourist Cabs and Buses.
- Ensure that the motor vehicles are covered by valid certificates of insurance
- Take action on vehicle owners not complying with the provisions of the Motor Vehicles Act and the Tax Act.
- Levy and collect Motor Vehicles Tax as provided under the Bombay Motor Vehicles Tax Act, 1958 and enforce the related provisions.
- Prepare and up-date office record pertaining to all the above activities.

For performing above activities, every citizen need to go physically. Huge number of people visit RTO Offices per year for various purposes as mentioned above. RTO is one of such offices of the Government which is having a huge public interface. Amont them, mostly young people who visit Government office for the first time. Now many states have started using ICT and online implementation of various RTO activities. Prior to this e governance implementation, people were served on first come first serve basis every day from 10 am to 7 pm and applicants used to stand in queue every day from 7 am itself so that they could avail services at earliest.

#### E Governance Implementation in various states for RTO

Gujarat	Rtogujarat.gov.in
Assam	https://vahan.as.nic.in/srsvices/

Jharkhand	<a href="https://vahan.jhr.nic.in/jh/">https://vahan.jhr.nic.in/jh/</a> <a href="https://vahan.jhr.nic.in/SRReports/">https://vahan.jhr.nic.in/SRReports/</a>
Maharashtra	<a href="https://transport.maharashtra.gov.in/">https://transport.maharashtra.gov.in/</a>
Odisha	<a href="https://vahan.ori.nic.in/epermit/">https://vahan.ori.nic.in/epermit/</a> <a href="https://vahan.ori.nic.in/srservices/">https://vahan.ori.nic.in/srservices/</a> <a href="https://vahan.ori.nic.in/echallan/">https://vahan.ori.nic.in/echallan/</a>
Haryana	<a href="https://haryanatransport.gov.in/srservices/">https://haryanatransport.gov.in/srservices/</a>

Table 2 Examples of RTO e governance implementation in few states

Above table is example where different states have implemented various e governance facilities for RTO related tasks.

## VI. SUMMARY

Author had studied implementation different software developed and maintained by different states for doing RTO activities. By using these portals, these states are serving citizen of their respective state so that they can have benefit of e governance implementation and they don't need to wait in long queue at RTO office. As per our study, different state had implement e governance in RTO offices as per their own analysis. Online portal implementation is done by hiring any third party professional company by every states. Due to this differences, there is no common solution is available nation wide for e governance implementation for RTO. In place of it, if implementation is defined and designed nation wide than government can define common way of implementation of e governance services which can be used by all citizen of India. Advantages of common implementation is that only one portal having common User Interface which can be available in vernacular languages is used for e governance in RTO. This solution saves time and cost of analysis and implementation for every states.

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## AUTHORS

**First Author** – Prof Vaibhav Gandhi, B Sc(Instrumentation), MCA, PhD (Pursuing), Associate Professor & Head, Department of MCA, B H Gardi College of Engineering and Technology, email : [gandhi.vaibhav@gmail.com](mailto:gandhi.vaibhav@gmail.com).

**Second Author** – Dr C K Kumbharana, MCA, PhD, Professor and Head, Department of Computer Science, Saurashtra University, email : [ckkumbharana@yahoo.com](mailto:ckkumbharana@yahoo.com).

**Correspondence Author** – Prof Vaibhav Gandhi,  
Email : [Gandhi.vaibhav@gmail.com](mailto:Gandhi.vaibhav@gmail.com), Cell No : 9825779948.