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All India Study Report on Computerisation in Motor Vehicle Department

Comptroller and Auditor General of India
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PREFACE

As part of the National e-Governance Programme of the Government of India, in order to usher in transparency and e-governance including delivering citizen centric services in timely and cost effective manner, through induction of Information technology (IT) in Transport Sector, the Ministry of Road Transport and Highways undertook the challenging task of computerisation of the functions of the RTO Offices across the country. The National Informatics Centre (NIC) was selected as the implementing agency, in 2002, for development of a standardised software for use by the RTOs and creation of a national database of Vehicles Registered and Driving Licenses issued.

We took up the audit of Computerisation in the Motor Vehicles Department, with the objective of reviewing the implementation of the Computerisation in the Motor Vehicle Departments in all the States in terms of reviewing the Computerisation in all the RTOs/DTOs across the country, Interconnectivity to all the RTOs/DTOs and establishment of State Register and National Register of Vehicles registered and driving licenses issued.

We conducted the audit of the computerisation in the RTOs, at the Ministry of Road Transport and NIC Hqrs at New Delhi. We took up the examination of the computerised systems and records in the RTO Offices in 24[1] States during the period June to October 2011

The audit findings of the Performance Audit are incorporated in the C&AG's Reports on State Receipts 2010-11 (SRA) of the respective States which are now in the public domain. This Report is a compilation of the findings mentioned in the SRA Reports. The Study Report gives recommendations based on the audit findings.

The Consolidated Study Report, we believe, would benefit the main stakeholders of this computerisation initiative namely the Ministry of Road Transport and the project implementation authority the NIC, New Delhi, since it gives a total picture at a glance of the status of the computerisation in the States. Besides, the Report would be circulated to the State Governments and would be available in the public domain for all stakeholders/citizens at large.

[1] States of Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha ,Punjab, Rajasthan, Tamil Nadu , Uttar Pradesh, Uttarakhand and West Bengal.

Executive Summary

Introduction

Under National e-governance programme (NeGP), GoI has emphasised automation and computerisation of data intensive functions of Governments by use of Information Communication Tools (ICT) for establishing connectivity, networking, and setting up systems for processing information and delivering citizen centric services in a timely and cost effective manner.

In the Road Transport Sector, the Central Government has been encouraging the States to work on a standardised application format and to undertake computerisation of the back end processing based on such standardised formats and interoperable software so that the Vehicle Registration Certificates (RC)/National Permits (NP)/Driving licenses (DL) are readable throughout the country.

With the above stated purpose, and as part of the National e-Governance Programme, in order to usher in transparency and e-governance through induction of Information Technology (IT) in Transport Sector, the Ministry of Road Transport and Highways approached the National Informatics Centre (NIC) in 2002, for development of a standardised software and creation of a national database. Ministry entrusted the NIC the task of standardising and deploying the software VAHAN for Vehicle Registration and SARATHI for Driving Licenses and compilation of data with respect to Vehicle Registration and Driving Licenses of all the States in State Register and National Register.

The Computerisation project started in the financial year 2002 with the objective of developing uniform software form for Vehicle Registration and Driving Licence and the same was operationalised at one pilot site in each State. The Phase–II of the Computerisation, which included porting of legacy data and building of State/National Registers, started in the financial year 2009.

This Report

We took up the Performance Audit of the computerisation project in 24 States with the following objectives, to assess whether:

- the overall objectives of computerisation through the NIC developed computer applications of VAHAN and SARATHI were achieved;
- the phase wise implementation schedules for the States for VAHAN and SARATHI were achieved as per time frames fixed;
- whether local applications for vehicle registration and driver licenses developed and implemented by the States, differed from the structure of VAHAN and SARATHI, and if so, to what extent the computerisation objectives of the Ministry were achieved;
- computerised systems implemented were complete (module wise) and correctness and completeness of the data captured was ensured by the RTO offices;

- connectivity was established between RTOs in the State for creation of State Registers of vehicles and licenses and National Registers and Central Servers were put in place towards achievement of above stated objectives;
- reliable general and security controls were in place to ensure data security and audit trail besides back up of data for loss of data/crash of systems; and
- to have an overall assurance of the functioning of the computerised system for the stated objectives.

We conducted the audit of the computerisation in the RTOs, at the Ministry of Road Transport and NIC Hqrs at New Delhi. After finalisation of guidelines for the audit, we took up the examination of the computerised systems and records in the RTO Offices in 24[1] States during the period June to October 2011. Entry and Exit Conferences were held both at NIC Hqrs and the States with the Transport Commissioners/RTOs and the local NIC Officials. The audit findings are incorporated in the CAG's Reports on State Receipts 2010-11 (SRA) of the respective States, which are now in the public domain.

This Study Report is a compilation of the findings mentioned in the SRA Reports, for the benefit of the main stakeholders of this computerisation initiative, namely the Ministry of Road Transport and the project implementation authority, the NIC, New Delhi. Besides, the Report would be circulated to the State Governments to enable them to remove the anomalies and irregularities/shortcomings pointed out in the functioning of the RTO Offices and would be available in the public domain for all stakeholders/citizens at large.

We believe that this Study Report which presents a pan-India status of the Computerisation, together with Conclusions and Recommendations would be of immense use to the implementing agencies and other stake holders, since this is an ongoing project which requires intense monitoring with the State Governments to achieve the unfinished objectives of the computerization work

Audit Findings

Planning and Implementation

As per Ministry/NIC records at the end of March 2011, 100 per cent computerisation had been achieved in 27 States/UTs and 903 out of 975 (93 *per cent*) RTOs were computerised.

We reviewed the computerisation in 24 States and saw that the States which have achieved hundred percent computerisation for VAHAN and SARATHI were Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jharkhand, Kerala, Karnataka, Maharashtra, Meghalaya, Tamil Nadu and Uttarakhand. Whereas the States of Punjab, Haryana, Jammu & Kashmir and Madhya Pradesh were lagging behind in computerisation of both VAHAN and SARATHI, the States of Rajasthan, UP and West Bengal were lagging behind in SARATHI, for issue of driving licenses.

[1] States of Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu , Uttar Pradesh, Uttarakhand and West Bengal.

Most States did not chalk out a well defined IT Strategy for computerisation of the RTO functions. Even after successful pilot operations in districts, the pace of computerisation was very slow despite all the technical support from NIC both for hardware and software, mainly due to absence of planning for computerisation. The project implementation had not been monitored at higher levels in the State Governments.

We saw that none of the States had implemented the Enforcement Modules in VAHAN and SARATHI whereas some States had not implemented the modules relating to "tax", "fitness of vehicles" etc. Delhi had not implemented the new Vahan for transport/commercial vehicles and was using the earlier versions of Vahan leading to non integration of separate databases, whereas States like Rajasthan and Meghalaya were not utilising the Permit Module in VAHAN for commercial vehicles/taxis/ maxicabs etc. To that extent there was under-utilisation of computerisation efforts which had resulted in non-achievement of the expected benefits and objectives of the computerisation.

Unreliabale Database

The review of implementation of VAHAN and SARATHI shows that due to absence of validation controls/defective validation controls, data validation not done at the RTOs, there were serious inaccuracies in the database, in terms of duplicate entries/inaccurate particulars of vehicles/driving licenses, thereby making it unreliable for reference, to all the stakeholders. Due to non-porting of legacy data, the database was also incomplete.

Data Security

Data Security was compromised in the implementation of VAHAN and SARATHI, in the States mainly due to non implementation of a strong IT Security Policy to prevent unauthorised access to the hardware as well as the application systems. Documentation of change management control was not done. There were instances of manipulation of VAHAN data through back-end mode. States were heavily reliant on NIC for implementation of the work and Departments had not built their own technical expertise. Those States which had outsourced computerisation work had not ensured that their RTOs effectively supervised the work, resulting in manipulations and fraudulent cases of issue of driving licenses and mismatches in the databases and the Smart Cards issued.

Non Mapping of Business Rules

Though VAHAN and SARATHI Applications had mapped most of the Business Rules for the States, there were instances where due to non–communication of requirements by the States, there were some gaps in implementation, resulting in incorrect issue of driving licenses, taxes being collected manually and not being updated in the system, non-capturing of essential information relating to vehicles and driving licenses, irregularities associated with issue of choice numbers to applicants etc. Non-mapping of tax provisions and their changes have implications of revenue loss to the States.

State and National Registers of Vehicles

The work of porting of the State and National Registers of Vehicles (SR/NR) registered and Driving licenses issued which began in 2009, was incomplete in all States both for current data and legacy data, in absence of any milestones for its completion. During the

Exit Conference we were informed that the GoI is now considering proposals to give financial incentives to States to complete the work. States like Andhra Pradesh and Delhi which have developed their own application systems and have not adopted the NIC developed systems were having difficulties in porting both legacy and current data to the State and National Registers, thereby fragmenting the computerisation efforts and defeating the national objectives of the computerisation project.

There was junk data in the SR which had been ported to the NR also. This not only defeated the end objectives of computerisation to have an up-to date correct database which could be viewed on an anywhere basis but also rendered verification of fake registrations/driving licenses a difficult job for all enforcement authorities.

Recommendations:

In view of the various findings detailed above, we recommend that the Department:

- **formulate and adopt a comprehensive IT Policy encompassing aspects such as technology up-gradation, service delivery, staffing and security to serve as a roadmap for future development;**
- **ensure proper supervisory checks over the system and data entry in particular;**
- **strengthen the security infrastructure by adoption of a well formulated security policy, introduction of logical access controls in tune with best practices, enabling a trail of user actions etc.;**
- **strengthen application controls so as to ensure better mapping of the provisions of the relevant Acts and Rules;**
- **implement both the systems early in those States which have not as yet completed the computerisation work viz. Punjab, Rajasthan, Madhya Pradesh, Uttar Pradesh, West Bengal, and in those States which have implemented the computerization, it may be ensured that complete modules are implemented in all the Regional Transport Offices, such as Enforcement Module, Tax Module and the generation of the Cash Registers. It may also be ensured that monitoring and settlement of Departmental Statutory Authority (DSA) cases etc. are also brought within the ambit of information technology;**
- **complete the entry of legacy data and porting of legacy database on priority in a planned and time-bound manner, for complete State and National Register of Vehicles and Driving licenses. Those States which had not adopted Vahan and Sarathi, be made to carry out the necessary changes to ensure porting of data to the SR and NR.**
- **network all the RTOs in the State to enable real time communication between them, enabling better monitoring and service delivery;**
- **adopt more secure means of interfacing with the smart card printing software and introduce Smart Card reading devises that adopt such technology as would enable detection of absence of digital attestation, tampering with data etc.;**

- **migrate to a web based system by which the general public can gain direct access to the services offered by the Department for registration, payment of fees, taxes etc. It will substantially improve the effectiveness of the Department in achieving the objectives of e-Governance;**
- **ensure design of appropriate MIS reports to make effective use and monitoring of computer systems; and**
- **adopt a comprehensive programme of Human Resource Development involving induction of technically qualified functionaries at various levels of Information Systems Management, providing training in the various aspects of database, network and security administration etc. so that the RTO Offices can function independent of the NIC for the Vahan and Sarathi work.**

Chapter-I

INTRODUCTION

Road transport is a concurrent subject under the Indian Constitution. Whereas the legislation and coordination of road transport among States is done by the Central Government, the implementation of the various provisions of Motor vehicles Act is done by the States. Due to the increasing road network and phenomenal growth in the past decades, the Government of India (GoI) had felt an urgent need to create a National Database of registration of Vehicles, Driving Licenses (DLs), National Permits (NP) issued etc. to serve as a reliable planning tool both for the Central and State Governments.

Under National e-governance programme (NeGP), GoI has emphasised automation and computerisation of data intensive functions of Governments by use of Information Communication Tools (ICT) tools for establishing connectivity, networking, setting up systems for processing information and delivering citizen centric services in timely and cost effective manner.

The Central Government has been encouraging the States to work on a standardised application format and to undertake computerisation of the back end processing based on such standardised formats and interoperable software so that the Registration Certificates (RC)/National Permits (NP)/Driving Licenses (DL) are readable throughout the country.

With the above stated purpose, and as part of the National e-Governance Programme, in order to usher in transparency and e-governance through induction of Information Technology (IT) in Transport Sector, the Ministry of Road Transport and Highways approached the NIC in 2002, for development of a standardised software and creation of a national database.

The Ministry of Road Transport & Highways has been facilitating computerisation of Road Transport Officers (RTOs) across the country. The RTOs issue Registration Certificate (RC) & Driving License (DL), which are valid for use across the country. It was necessary to define same standards for these documents on a pan-India level to ensure interoperability and correctness and timely availability of information. SCOSTA committee setup for this purpose had recommended uniform standardised software across the country. Ministry entrusted National Informatics Centre (NIC) the task to standardize and deploy the software VAHAN for Vehicle Registration and SARATHI for Driving Licenses and compilation of data with respect to Vehicle Registration and Driving Licenses of all the States in State Register and National Register.

The VAHAN and SARATHI are conceptualised to capture the functionalities as mandated by the Central Motor Vehicles Act, 1988 as well as State Motor Vehicle Rules, with customisation of the core product, to suit the requirements of all the States.

1.1 Objectives of Computerisation

The main objective was to develop a national database by developing and providing a uniform software which could be used by all the States for computerisation of Transport Offices responsible for issuing vehicle registration certificates and driving licences, to improve the quality of service delivery to the citizens, to improve the quality of work environment of the RTOs, for quick implementation of Government policies from time to time, instant access of vehicle/driving licence information to other Government/ Departments.

The Ministry has been stressing upon common specifications for the software, to ensure that the documents issued by any State are readable throughout the country. In absence of uniform software it would not be possible to link the RTOs to create a National Register of Vehicles or to have interoperability of such documents. This Scheme aimed at bringing about uniformity in both backend computerisation and also in the forms of driving and registration certificates to be issued.

The technology behind VAHAN and SARATHI

VAHAN /SARATHI is a 32 bit, GUI rich application written entirely in JAVA. It has three-tier application architecture. The components of the tiers are:

- **Database** – This is the bottom most layer or the back end. VAHAN/SARATHI supports three database namely DB2 version 7.2 or higher, Oracle 8i and version 8.1.6 or higher and MS SQL Server 2000 or higher.
- **Application Server** – This is the middle layer which manages the business rule that manipulates the data as per the governing condition of the applications. It provides a database independent interface for applications and makes the front end robust. This application uses the JAVA RMI framework to establish connection to clients. This feature enables a program running on the client computer to make method calls on an object located on a remote server machine. It gives the ability to distribute computing across a networked environment. The JAVA JDBC framework provides a standard interface to establish connection to the database.
- **Client** – The presentation and control logic is embedded in the client tier. This is the GUI layer of the application using Swing component of JAVA, which will interact with the Application server by means of forms.

1.2 Brief description of VAHAN and SARATHI

VAHAN is an ICT based solution for vehicle registration and SARATHI, a one stop solution to licensing. National register has been created from State register under transport project to act as a central repository for all crucial information related to Registration certificates (RCs) and Driving licences (DLs) which are valid across the country. It was thus necessary to define some standards for these documents on a

pan-India level to ensure interoperability and correctness and timely availability of information. SCOSTA committee was set up for the purpose had recommended a uniform standardised software across the country and was assigned to NIC to standardise and deploy software viz. *Vahan* and *Sarathi* for all the States. State register has been created to act as centralised database at State level for all the RTOs of a State.

National Register has been established at NIC Data Centre, Hyderabad. Its architecture has been designed for high availability, reliability and scalability. It will also act as a database backup for State register and is connected through high availability NIC network (NICNET) bandwidth. This supports the real time data replication from State register to National Register.

National Transport Portal has been designed and developed by NIC. It aims to deliver G2G, G2C, G2B services related to Vehicle Registration and Driving Licence from National register. It aims to provide "Anywhere Anytime basis Services" to various stakeholders as well as citizens at large.

1.2.1 VAHAN- application for Vehicle Registration

VAHAN is a highly flexible and comprehensive Software Application used for processing all transaction related to vehicles which has six defined user levels i.e.

- Cashier
- Entry Clerk
- Backlog operator
- Print Operator
- Officer
- Administrator

It takes care of all the burdensome activities of Vehicle Registration, leaving the Transport Department to deal with more important business issues. The software enables the computerisation of processes at RTO/ARTO involving Vehicle Registration, Vehicle Fitness, Vehicle Taxes and Permits and Enforcement functions.

Every State Transport Department is governed by both Central Motor Vehicle Regulation (CMVR) and State specific Motor Vehicle Regulation (State MVR). Consequently, VAHAN was conceptualised as a product that would capture the functionalities as mandated by CMVR as well as State MVRs. The various services available in VAHAN are mentioned below in detail:

1.2.1.1 VAHAN Services

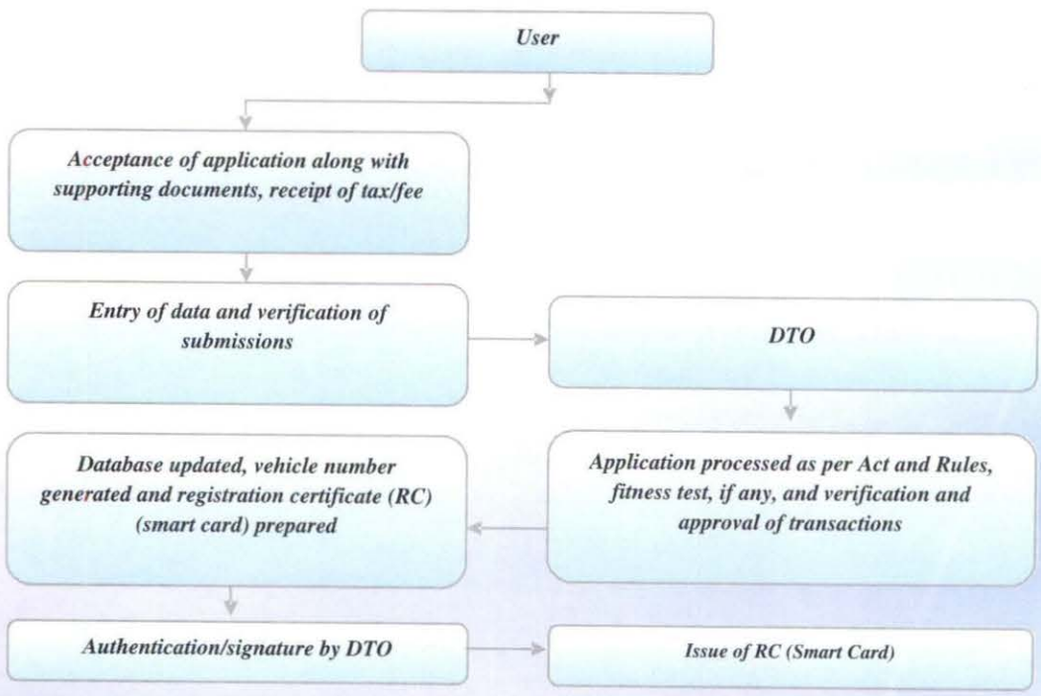
- **Vehicle Registration**
  1. New Vehicle Registration
  2. Renewal of Registration
  3. Transfer of Ownership

4. Change of Address etc.

- **Permit**
  1. Issue of National & Interstate Permit
  2. Renewal of Permit
- **Taxes**
  1. State-wise tax calculation & Payments received
- **Fitness**
  1. Issue of Fitness Certificate
  2. Renewal Of Fitness Certificate
- **Enforcement**
  1. Issue of Challan
  2. Settlement of Penalty Amount

1.2.1.2 Registration of vehicles through 'VAHAN,

Vehicles are classified as (i) transport and (ii) non-transport vehicles. Each vehicle is allotted a permanent registration number within one month of application for registration, by the jurisdictional DTO and a registration certificate (smart card) is issued through 'VAHAN' software. Details like name of the owner, cost, engine number, chassis number, life time tax paid and date of registration etc. are captured during the registration process. The workflow process of 'VAHAN' application software is shown below:



1.3.1 SARATHI

SARATHI is a comprehensive system for all the activities related to issuance of Driving License by RTOs. It is based on a 3-tier architecture as well as platform and database independent software, customized to cater to the needs of individual States. The software enables the processes, at RTOs involving issuance of Learner's License, Permanent Driving License, Conductor's License, and Driving School License etc.

1.3.1.1 User defined levels in SARATHI

- Operator
- Cashier
- Entry/printing authority
- Testing authority
- Licencing authority
- Verification authority
- Administrator

1.3.1.2 Services to be delivered through SARATHI,

Learners License

- Issue of fresh Learner's Licence
- Renewal of Learner's Licence
- Duplicate Learner's Licence

Driving License

- Issue of fresh Driving Licence
- Renewal of Driving Licence
- Change of Address of Driving Licence
- Change of name in Driving Licence
- Duplicate Driving Licence

Conductor License

- Issue of fresh Conductor Licence
- Renewal of Conductor Licence
- Change of Address in Conductor Licence
- Duplicate Conductor Licence

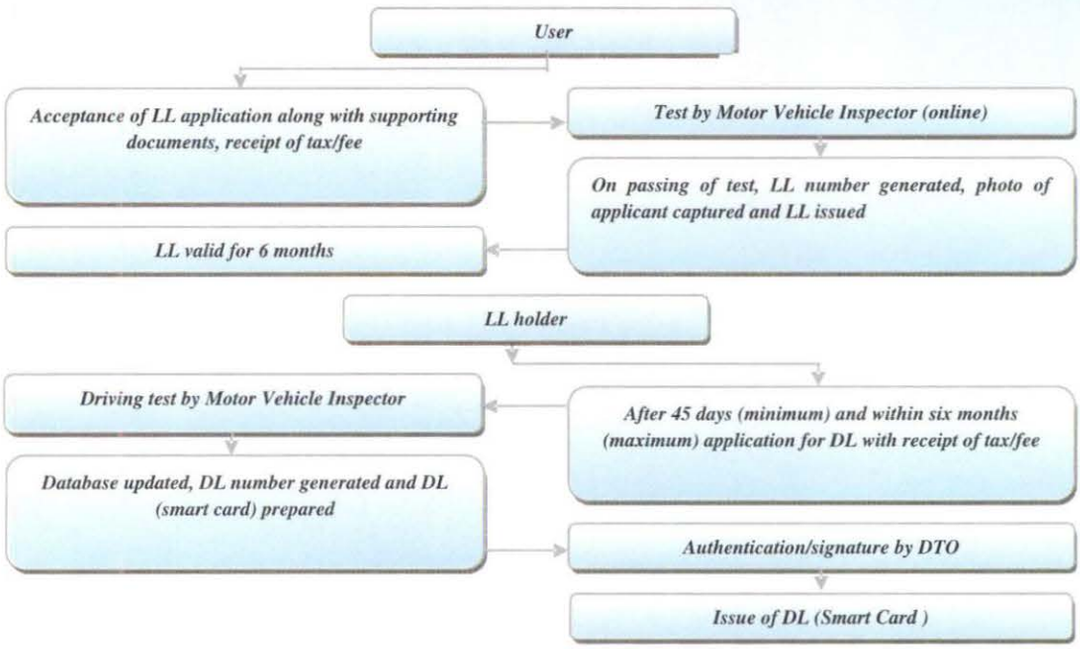
Driving School License

- All the activities related for the issuance, renewal of Driving School Licence

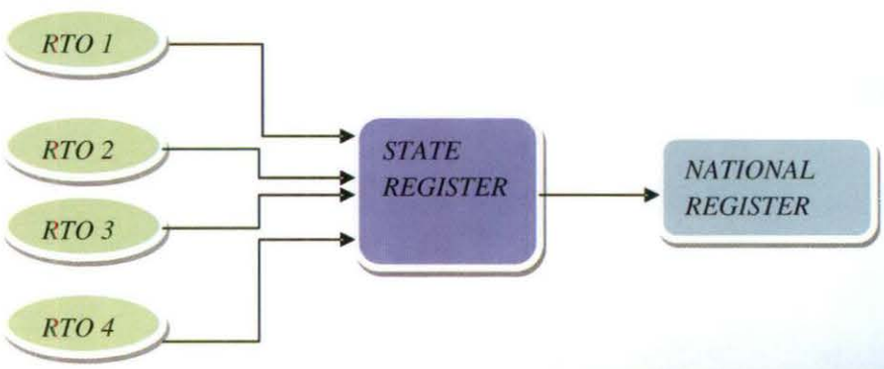
1.3.1.3 Issue of driving licences through 'SARATHI'

An individual above 16 years of age seeking a DL (for two wheelers without gear) and individuals aged 18 years and above (for other vehicles) are initially issued a learner's licence (LL) valid for six months. The applicant has to clear a simple test and his/her details like name, date of birth, address are captured and subsequently, a permanent DL is issued through 'SARATHI' for a period of 20 years or 50 years of age, whichever is

earlier, on the applicant passing a driving test. The workflow process of 'SARATHI' application software is shown below:



1.4 State Register and National Register



1.4.1 State Register

The information captured at the RTO level may entirely go to State data base, so as to avoid any dependency of introducing new services on the level of information available at the State level. The State Register is designed to act as a repository at the State level providing information to State Transport Department, RTO/ARTO, Automobile Dealers, Police Department and other G2C Services.

1.4.2 National Register

Data from the different State Registers situated at State Data Centres flow to the National Register. Selected information has been envisaged to be captured at the national level. The National Register is designed to act as a central repository of all crucial data/information, enabling users to avail the service on "Anywhere Service" basis. National Register is expected to provide information to DoRTH, RTO/ARTO, Inter-State Check Post, Police Department and other stake holders.

1.4.1.1 Services being offered at present

- **Vehicle Search** – It provides a nationwide search over the digitized data of Registered Vehicles. Stakeholders may view the details of Registered Vehicles online based on the certain parameters viz.
  - Registration No. either full or partial
  - Chassis No
  - Engine No
  - Body Type
  - Fuel Type
  - Colour
  - Name of Manufacturer
  - Make/Model etc.

1.4.1.2 Various Reports on Registered Vehicles

- Year and Month wise no. of registration in different States
- Year and Month wise no. of registration in different RTO/ARTO in a State
- Vehicle Class wise no. of registration in different RTO/ARTO in a State

1.4.3 Connectivity

RTO connectivity with the respective State Data Center is essential for the flow of data from RTO to State Register. For this a suitable and secured network infrastructure having adequate bandwidth to support data transfer between individual RTO/ARTO and State Registration/National Register is required.

1.5 Anticipated benefits of VAHAN and SARATHI

The expected benefits were as follows:

- Creation of a National Register of Vehicles to serve as a national database for number of registered vehicles, their category-wise break up, age profile, etc. which will aid planning for the Transport Sector.
- Creation of a National Register of Driving Licences which will give all details of Driving Licences issued by RTOs and enable checking of their validity on Pan India basis.
- Data on Collection of road taxes will be easily available which in turn will help in tracking down tax arrears and augment tax collection.

- A uniform document containing all relevant data will cut down delays at interstate borders and will also help reduce the existing barriers to free movement of vehicles across States.
- When properly implemented the entire computerisation process would act as an effective tool for financial management, MIS and prevent leakage of revenue.
- Enforcement issues, such as tracing of stolen vehicles, tracing vehicles which are old and polluting and vehicles which have been escaping payment of taxes could be monitored with the help of enforcement agencies.

CHAPTER II

We took up the audit of Computerisation in the Motor Vehicles Department, with the objective to review the implementation of the Computerisation in the Motor Vehicle Departments across all the States in terms of Computerisation of all the RTOs/DTOs across the country, Interconnectivity to all the RTOs/DTOs and Establishment of State register of RC and DL in all the States/UTs and National register of RCs and DLs. The Computerisation project started in financial year 2002 with the objective of developing uniform software form for Driving Licence and vehicle registration and the same was operationalised at one pilot site in each State. The Phase–II of the computerisation started in financial year 2009.

2.1 Audit objectives

The audit objectives were to ascertain whether:

- the overall objectives of computerisation through the NIC developed computer applications of VAHAN and SARATHI were achieved;
- the phase wise implementation schedules for the States for VAHAN and SARATHI were achieved as per time frames fixed;
- local applications for vehicle registration and driver licenses developed and implemented by the States, differ from the structure of VAHAN and SARATHI, and if so, to what extent, the computerisation objectives of the Ministry were achieved;
- computerised systems implemented were complete (module wise) and correctness and completeness of the data captured was ensured by the RTO offices;
- connectivity was established between RTOs in the State for creation of State Registers of vehicles and licenses and National Registers and Central Servers were put in place towards achievement of above stated objectives;
- reliable general and security controls were in place to ensure data security and audit trail besides back up of data for loss of data/crash of systems;
- internal control mechanism was in place both at the Ministry and State level to monitor the implementation of projects; and
- to have an overall assurance of the functioning of the computerised system for the stated objectives.

2.2 Audit Criteria

The audit criteria was derived from the following sources:

- Central Motor Vehicles Act,1988;
- Central Motor Vehicles Rules,1989;
- Motor Vehicles Acts and Rules of respective States;
- Generally accepted IT best practices for data accuracy, data safety, and security controls; and
- IT Audit Manual of the C & AG.

2.3 Scope and methodology of audit

We conducted the audit of the computerisation in the RTOs, at the Ministry of Road Transport and NIC Hqrs at New Delhi. After finalisation of guidelines for the audit, we took up the examination of the computerised systems and records in the RTO Offices in 24[1] States during the period June to October 2011. Entry and Exit Conferences were held both at NIC Hqrs and the States with the Transport Commissioners/RTOs and the local NIC Officials. The audit findings are incorporated in the CAG's Reports on State Receipts 2010-11 (SRA) of the respective States which are now in the public domain.

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We believe that this Study Report, which presents a pan-India status of the Computerisation, together with Conclusions and Recommendations, would be of immense use to the implementing agencies and other stake holders, since this is an ongoing project which requires intense monitoring with the State Governments to achieve the unfinished objectives of the computerisation work.

2.4 Acknowledgement

We are grateful to the Ministry of Road Transport and the NIC Hqrs at New Delhi for providing valuable inputs for our scrutiny of the implementation of the project. We also thank the State Governments Transport Departments and the local NIC Units for all the cooperation rendered to our State Accountants General Offices during the course of the audit in the States which enabled us to conduct this audit.

[1] States of Andhra Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand and West Bengal.

CHAPTER-III

3.1 Implementation of VAHAN and SARATHI

The computerisation project was undertaken in two phases. **Phase I which started in FY 2002** was with the objective of developing **uniform software for registration of vehicles and issue of driving licenses**. The idea was to standardise the software as per requirements of Individual States, since each State have their own Motor Vehicles Act derived from the Central Motor Vehicles Act and to operationalise the computerisation in one pilot site in each State. Conceptualisation and Development of **SCOSTA for Smart Card was also part of Phase I.**

For Phase II, which started in FY 2009, the objectives were to:

- create ICT infrastructure at all the States/UTs;
- provide network connectivity at all the RTOs;
- establish State Register of RCs and DLs at all the States UTs;
- establish National Register of RCs/DLs; and
- identify and roll out State-wide and and Nation-wide services.

The software for registration of vehicles and for issue of driving licenses/registration of cards in electronic forms - SMART CARDS, was to be done during 2004-07.

As per Ministry/NIC records at the end of March 2011, 100 *per cent* computerisation has been achieved in 27 States/UTs and 903 out of 975 (93 *per cent*) RTOs were computerised.

Our Scrutiny of the status of Implementation of the Computerisation in the States revealed the following:

State wise Status of VAHAN SARATHI and STATE-NATIONAL (SR/NR) REGISTER implementation:

(Table 1)

S. No	States	No. of RTOs	RTOs Computerised		Connected to SR/NR		Comments
			VAHAN	SARATHI	SR	NR	
1	**Andhra Pradesh**	43	42	42	42	42	Locally developed software (CFST) being used in all the RTOs. Though connectivity with SR/NR has been claimed there is serious backlog in preparation of NR/SR for want of standardisation of data structure
2	**Assam**	26	25	25	25	25	Started in the year 2005. The remaining One DTO was expected to be completed in March 2012.
3	**Bihar**	38	38	38	38	38	In Patna computerisation of vehicles and licenses was achieved without any delays, though it had the maximum vehicles and licenses. In Darbhanga

							district, the work was delayed by 27 months due to infrastructure constraints. In four RTOs, tax collection was being done through the previous application, NICTRAN, due to non porting of legacy data in ***Vahan***. State and National registers were incomplete.
4	**Chhattisgarh**	16	16	16	16	16	Though SARATHI was installed, two RTOs were not using it till March 2012.
5	**Delhi**	13	13	13	Not connected, except for non-transport vehicles	Not connected, except for non-transport vehicles	VAHAN Application used for registration of Non-transport vehicles only. The earlier version **Vahan 2.0** was being used for limited commercial vehicles i.e auto rickshaws, school/maxi cabs, whereas heavy transport vehicles were being registered separately and thus databases were not integrated. ***Sarathi*** for DLs was used for some time and later customised software developed by a third party was being used.
6	**Goa**	9	7	7	7	7	Implementation proposal approved by State Govt. only in January 2010. Delay reported of one to eight months at RTO levels.
7	**Gujarat**	26	26	26	26	26	Tax module relating to registration of specially designed vehicles falling under non-transport category and transport vehicles were not designed in ***Vahan*** system and hence not implemented. The ***Sarathi*** system was implemented; however, the modules meant for issue of driving licences, conductor licences and enforcement were not implemented.
8	**Haryana**	21 RTAs 54 SDOs	72	72	72	72	Due to use of unauthorised software, the project got unduly delayed as the data captured could not be migrated to ***Vahan*** and ***Sarathi***. The financial data captured through these Softwares is neither complete nor reliable as the cash books and issuance of receipts was still manual in the offices test checked. The Department has not been able to extract useful information from the ***Vahan*** system regarding tax defaulters in any of the RTAs test checked.
9	**Himachal Pradesh**	65 (10 RTOs+ 01 STA + 54 RLAs)	65	65	65	65	Computerisation was started in August 2002. The first phase of computerisation completed in October 2006 and second phase completed in July 2011. Delay due to late receipt of fund for preparation of sites, customisation of software etc.
10	**Jammu and Kashmir**	22	8	8	Not connected	Not connected	Eight RTOs/ARTOs computerised till August 2011 and 14 RTOs were in initial stages of computerisation. Delays ranging from six to 49 months were noticed in implementation.
11	**Jharkhand**	22	18+4	18	18	18	Computerisation started in August 2004. Four DTOs newly created and four RTAs were yet to be computerised.

12	**Karnataka**	55	55	55	55	55	All the activities were not routed through ***Vahan***. Smart card RCs for transport vehicles were issued only in five RTOs in Karnataka.
13	**Kerala**	18	18	18	18	18	All RTO and Sub RTO offices computerised. Check posts not connected to State data centre. There were variations in the formats of the SR and NR as a result of which verification of the same record was not possible at both places.
14	**Madhya Pradesh**	50	50	49	50	50	The State was using customised application software with facilities similar to VAHAN and SARATHI in all the 50 RTOs and 49 RTOs respectively. Till 31 March 2011, none of the RTOs in Madhya Pradesh had implemented ***Vahan*** and ***Sarathi*** was implemented only in one RTO on pilot basis.
15	**Maharashtra**	46	40	46	39	39	***Vahan*** was not implemented in six districts. SR for Driving licenses was not prepared due to data porting problems.
16	**Manipur**	8	8	8	8	8	Delay of 12 to 41 months in completion of computerisation which was initiated in 2003. Commercial vehicles were not registered in ***Vahan***. DLs continued to be issued manually through the ***Sarathi*** Software.
18	**Meghalaya**	7	7	7	7	7	Permit Module not implemented for tourist/local taxis/maxicabs and as such Inter and Intra State permits being issued manually. SR/NR prepared without legacy data.
21	**Odisha**	31	31	31	31	31	***Vahan*** and ***Sarathi*** implemented in all the RTOs, except Permit Module in ***Vahan***. SCR maintained at NIC Centre, Bhubaneshwar.
22	**Punjab**	20 DTOs + 52 SDMs	19 DTOs + 30 SDMs	13 DTOs + 26 SDMs	49* *Out of 72 locations including 52 SDM locations	39*	Pilot project started in November 2005 but permit module not implemented. All the RTOs not computerised with SARATHI for issue of DLs. Slow progress in transfer of legacy data. Data for SR was not being transferred from all locations where the project was implemented and hence SR/NR were incomplete.
23	**Rajasthan**	37	37	7	37	37	Delay of 52 to 57 months in implementation; Phase III of ***Vahan*** yet to be implemented in 33 sub offices. Permit module non-functional. Tax collection centres had not been connected with TC/RTOs. ***Sarathi*** was actually being used only in four offices due to acute manpower shortages in the Transport Dept. Due to poor connectivity and disturbances in the network lines and that even the four RTOs were not connected the SR and NR were incomplete and outdated.

24	**Tamil Nadu**	61	61	61	61	61	All RTO Offices connected between 2005-10 in a phased manner. Multiple updations done in software and multiple records for tax collection had affected reliability of the information available.
26	**Uttar Pradesh**	72	71	Nil	71	Nil	Till 31 March 2011, 40 months delay was noticed in implementation of ***Vahan*** whereas ***Sarathi*** was not implemented up to March 2011 in any of the RTOs.
27	**Uttarakhand**	15	15	15	14	14	20 percent of old data for vehicle registration and 72 percent data on DL is still to be digitized and uploaded to ***Vahan*** and ***Sarathi*** respectively as on date, thereby affecting the completeness of the SR/NR.
28	**West Bengal**	26	25	16	24	24	Extremely slow progress of computerisation in the State which has adversely affected the completeness of the State and National registers. Data uniformity between SR and NR not ensured (November 2011).

Some of the States which have achieved hundred percent computerisation for VAHAN and SARATHI were Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jharkhand, Kerala, Karnataka, Maharashtra, Meghalaya, Tamil Nadu and Uttarakhand, whereas the States of Punjab and Haryana were lagging behind in computerisation of both VAHAN and SARATHI. The States of UP and Rajasthan were lagging behind in SARATHI, for issue of driving licenses.

3.2 Delays noticed in implementation

Most States did not chalk out a well defined IT Strategy for computerisation of the RTO functions. Even after successful pilot operations in districts, the pace of computerisation was very slow despite all the technical support from NIC both for hardware and software, mainly due to absence of planning for computerisation. Monitoring of the project at higher levels in the State Governments had evidently not been done.

The findings in some States are mentioned below:

- In **Andhra Pradesh**, all the RTOs have been computerised and all the functional activities were being done with the software CFST since the State Government decided not to implement the NIC developed *Vahan* and *Sarathi*. The Government of Andhra Pradesh took a conscious decision to continue with their own locally developed package since they had already gone much ahead in computerisation by incurring huge expenditure on hardware and software. After protracted correspondence between the Department and MoRTH regarding status of computerisation, the Transport department of AP, in the year 2007, decided to re-engineer the CFST project to 3 Tier server oriented architecture. The re-

engineering was done for the purpose of standardisation of data structures. The 3-tier Architecture is now implemented in 14 out of 44 offices (November 2011). Pending the standardisation of the structure in all RTOs, there were serious backlogs in preparation of National and State Registers.

- **Assam** - The computerisation project in Assam started in 2005 with the District Transport Office (DTO), Kamrup (R&L) and was subsequently expanded to cover the other 25 DTOs, the latest being DTO, Baksa (February 2011) which according to the Government, was expected to be completed by March 2012.

- **Haryana**- During the period 2003 to 2006, it was seen that, at many locations, unauthorized software were implemented instead of '*Vahan* '. Frequent need based changes in database structure as well as field structures were made by local officials of NIC without adopting any proper procedures. Due to use of unauthorized software, the project got unduly delayed as the data captured through this software could not be migrated to *Vahan* and *Sarathi* Software.

- **Jammu & Kashmir** - We found that implementation of *Vahan* and *Sarathi* of the RTOs/ARTOs was taken up by the Department in 2005; however, the system was implemented only in eight districts out of 22 RTOs/ ARTOs. The delay in implementation of the system in these eight districts ranged from six months to 49 months.

- **Jharkhand -** Out of 22 district transport offices, four district transport offices, created (between January 2007 and April 2009) after implementation of VAHAN and SARATHI, along with four RTAs were yet to be computerised though the earmarked hardware and other peripherals had already been supplied to them. We further observed that computerisation was restricted to district transport offices, RTA and STA offices. Other transport offices of MVIs and check posts had not been planned for computerisation in both the phases.

- **Madhya Pradesh-**Though the State was not using the NIC developed software of VAHAN and SARATHI, all the 50 RTOs were using customised software with facilities similar to VAHAN and SARATHI. In case of SARATHI only one RTO was using SARATHI developed by NIC on pilot project basis.

  Audit findings revealed that in the customised software business rules were not correctly mapped in the system. Completeness, accuracy and integrity of data entered and processed, was not ensured due to deficient input, validation and supervisory controls.

- **Maharashtra** - *Vahan* was implemented for registration of non-transport vehicles since December 2006 and implemented in 40 of the 46 offices of RTOs/Dy.RTOs. State Register of Driving Licenses was not made due to porting problems.

- **Rajasthan** - VAHAN software was initially introduced in May 2005 on pilot basis in ALWAR. Even after successful implementation of the software, the computerisation of the remaining 36 offices was taken up in Phase II and was implemented only from October 2009 to March 2010. '*Vahan*' is yet to be implemented in 33 sub offices.
- **Uttar Pradesh** - The Department took about 10 years to partially complete the computerisation work. Upto 31 March 2011, Sarathi was not implemented in any of the RTOs and 40 months delay was noticed in implementation of VAHAN.

3.3 Non utilisation of Modules

The entire benefits of the computerisation project can be achieved on its implementation in entirety. We saw that most States had not implemented all modules of the project and to that extent the underutilisations of computerisation efforts had resulted in non-achievement of the expected benefits and objectives.

Finding from States are mentioned below:

- **Haryana** - Analysis of data revealed that all the modules of Vahan were not being put to use by the field offices with the result that Department failed to fully utilise the processing capabilities available in the system.

  In 12 out of 19 locations test checked, the Tax Module was not utilised and the financial data including maintenance of cashbooks and issue of receipts was done manually. The system at these locations was being used only for taking print-outs of RCs by capturing information relating to owners, vehicles etc

- **Karnataka** - Even though Computerisation was implemented in all the RTOs as of November 2009, the activities of the Department with respect to transport vehicles were not routed through VAHAN. Smart Card RCs for transport vehicles were being issued only in 5 RTOs in Bangalore from 1 May 2010. Modules of the software such as Surrender, Demand Collection and Balance and Departmental Statutory Cases were not being utilised by the Department.

- **Assam and Bihar –** These states were not utilising the permit module, temporary vehicle owner fee, whereas temporary vehicle insurance trailer module is not used or partially used in Bihar.

- **Chhattisgarh** - Though the system presently captures information relating to vehicle registration, owner and vehicle details, collection of tax/fee and fitness and issuance of driving licences, the following modules/reports were yet to be made operational:-

  - Permits including inter-State movement

- Temporary registration
- Demand, collection and balance statements
- Management Information System Report
- Conductor's Licence

Thus due to partial utilisation of the system, the Department has not reaped the benefits of *Vahan* and *Sarathi* as a Management Information System (MIS) tool.

- **Meghalaya** - The Transport Department was not utilising (August 2011) the 'Permit', 'Temporary Registration' modules and was manually processing and managing information relating to Inter and Intra-State Permits of Tourist/Local Taxi/Maxi Cabs, temporary registration of vehicles, collection of fee for temporary registration and fines collected by the Enforcement Wing.

- **West Bengal – A mention was made in para no. 2.2.1 regarding 'Partial utilisation of software' in the CAG's report no.5 of the West Bengal for the year ended 31 March 2010. After the same was pointed out the Government stated (September 2010) that the non-utilised provisions of VAHAN and SARATHI software would be utilised in the near future.**

  We noticed that even after lapse of ten months (July 2011) the Department was yet to utilise the provisions of *Vahan* relating to issue/renewal of permits to transport vehicles, temporary registration of vehicles, issue/renewal of trade certificates to dealers, surrender of vehicles, maintenance of daily collection register and sub-dealer's licence register and of *Sarathi* issue relating to renewal of conductor's licences and licences to the motor training schools where not utilised.

- **Gujarat**- Out of four modules (Registration, Taxes, Fitness and Enforcement) meant for vehicles, the Fitness module and Enforcement module were not implemented. The module relating to tax has been implemented only for the non-transport vehicles except for the tax module relating to the specially designed vehicle falling under non-transport category. This module was also not implemented for transport vehicles.

- **Uttar Pradesh** - Out of five modules of VAHAN, implementation of four modules viz. registration, fitness, tax and permit was started in October 2006 and was completed up to July 2010 in all the State Transport offices. The Progress of computerisation was extremely slow, when compared to other States.

3.3.1 Non-implementation of Enforcement Module

The Enforcement Module in VAHAN was meant for capturing the fitness of vehicles, laden weight and for offences relating to fitness/laden weight of vehicles while on roads. We saw that this Module was not implemented by any State. None

of the States gave us any convincing reasons for non-implementation of this Module.

During the Exit Conference (June 2012), the NIC informed us that there were issues relating to real time entry of the data relating to offences and lack of connectivity among RTOs. They also accepted that States had given low priority for implementation of this Module over other Modules relating to registration of vehicles and issue of licenses. They informed that some States have now approached them for implementation of this Module.

We are of the opinion that by non-implementation this Module since 2006, the complete benefits of VAHAN could not be reaped and the enforcement activities of the Department were not made transparent for all stakeholders. Neither the State Governments nor did the Ministry/NIC monitor and ensure its implementation, leaving it entirely to the option of the RTOs/States Governments.

3.4 Legacy Data

For any IT Project to be a success the completeness of data is of paramount importance and as a natural corollary, the digitisation of data prior to computerisation, is the biggest challenge for the Departments concerned. Legacy data requires well defined strategy in terms of timelines and arrangements for data entry.

As regards VAHAN and SARATHI, we found that during the period 2006-11, in absence of a well planned strategy with definite time guidelines for capturing the legacy data, all States had ported the data in a sketchy manner in bits and pieces. Further the data captured suffered with lot of inaccuracies, since data validation was not ensured by the RTOs before porting it. We have given the details in subsequent Chapter relating to DATA ACCURACY.

Following is the Status relating to legacy data of vehicles, in some of the States as on 31 March 2011

Sl. No	State	No of Vehicles as per State Data	No of Vehicles as per VAHAN
1	Gujarat	1.30 crore	14.25 lakh
2	Madhya Pradesh	73.55 lakh	44.11lakh
3	Rajasthan	68.37 lakh	Legacy Data
4	Uttar Pradesh	132.87 lakh	70.07 lakh
5	Odisha	21.59 lakh	15.60 lakh
6	Maharashtra	174.34 lakh	49.77 lakh (pre Dec. 2006)

Following is the Status relating to driving licenses data in some of the States as on 31 March 2011

Sl. No	State	No. of Licenses as per State Data	No of Licenses as per SARATHI
1	Gujarat	8.51 lakhs through SARATHI System till 31 March 2011	Old legacy data of 77.73 lakh licenses issued under old computerised system were also ported to SARATHI System.
2	Madhya Pradesh	44.26 lakh	29.44 lakh
3	Rajasthan	70.00 lakh	Legacy Data
4	Odisha	18.48 lakh	13.41 lakh
5	Maharashtra	213.12 lakh	86.29 lakh

3.4.1 Non porting of legacy data

We saw that the porting of legacy data was incomplete in all States, in absence of planning for its completion both at the National and State level. The Status of the same is given below:

- **Andhra Pradesh -** Out of 1.04 crore registered vehicles in AP, about 0.74 crore (73 per cent) records have been ported into the National Register as on 14 October 2011, as per data furnished by the NIC. Further, 0.30 crore registered vehicles i.e. legacy data (2 tier data) of 3 tier offices was yet to be taken up.

- **Karnataka**- Digitisation and porting of legacy data was not completed as of November 2011 and work outside Bangalore City was not given any priority; junk/redundant data had been ported into the present system as no clean up exercise was envisaged and done before porting the legacy data, thereby rendering the database incomplete and unreliable.

- **Maharashtra** - As per the Motor Transport Statistics of Maharashtra for the year 2009-10, the total number of vehicles on road was 1,57,68,421, whereas as per the information furnished by NIC from the State Register of Vehicles, the total number of vehicles recorded as on 3rd November 2011 was 53,77,080, the difference being due to non importing of legacy data to Vahan and the State Register. There was no planning at the State level for importing of legacy data.

- **Haryana** - The updation of legacy data at these locations was being done manually with the result that data available in VAHAN was incomplete and financial data was not comparable with the Manual cashbook.

- **Assam** - As many as 4,89,544 records pertaining to DTO, Kamrup were yet to be captured in 'VAHAN' and 'SARATHI' application. The other five DTOs did not make any assessment of backlog data. We observed that in practice, the backlog

entries were captured only when the vehicle owner approached the department for any further transaction including payment of tax. Consequently, the Department could not complete the SR thereby leading to non-alignment of the SR with the NR.

- **Bihar** - As per the order of the Transport Department issued on 8 December 2009, entry of legacy data for all the commercial vehicles was to be completed by 18 December 2009. After completing all the legacy data work, up-to-date data was to be migrated to the new VAHAN software. We test-checked nine DTOs and observed that in five DTOs, the legacy data from the previous computerised system, though stated to be complete, was not migrated to VAHAN while in the other four DTOs, legacy data entry work was still in progress (August 2011). Further, we observed that NICTRAN, a previous Application was in operation in four DTOs for the purpose of collection of taxes due to non-migration of data to the VAHAN system. In case of personal vehicles and driving licenses, legacy data entry work had not started.

- **Chattisgarh** - During test check of Data base of VAHAN Software, we found that the Department had been using local software for registration of vehicles prior to implementation of 'VAHAN' Software. Dissimilarity in field structure of these two softwares resulted in non-migration of data from previous software to VAHAN Software. The Department has to manually feed previous software data as backlog entries. The status of backlog entries in Vahan was not furnished

- **Jammu and Kashmir** - Computerisation of old records of the RTOs/ARTOS and its incorporation in the database is an important function of VAHAN and SARATHI. However, the Department had not fixed any time limit for digitisation of the records.

  We found that out of the eight computerised RTOs, legacy data (i.e. data that existed prior to implementation of VAHAN) had been digitised and incorporated in the software of RTO Kathua only. We further noticed that the data so digitised and incorporated, was incomplete in fields such as, date of Purchase of the vehicle, Father's Name, Laden Weight, Registration Date and Fitness fee validation period, had not been captured, thereby indicating that the incorporation of back log data had been done without proper checks.

- **Kerala** - We found that transmission of legacy data relating to the period before computerisation, to the database was not completed in most of the field offices (except RTO, Wayanad, SRTO, Kayamkulam, SRTO, Ponnani) and the verification of the data already entered had not been done.

- **Meghalaya** - We noticed that 12,150 backlog records of registered vehicles, in all seven DTOs had not yet been computerised. Thus the State is yet to achieve a completed status of SR of Motor Vehicles.

- **Tamil Nadu** - We noticed that approximately 7.8 lakh records in 11 offices were pending for migration from the legacy system. In practice, the data is updated as and when any subsequent transaction takes place. We observed that the Department has no defined plan for migration of the legacy system.

- **Rajasthan** - The planning for clubbing the legacy data of registered vehicles and driving licenses in the Department was under progress. The Department stated (October 2011) that there was difference in the structure of database of legacy data and 'VAHAN' and 'SARATHI' software data, so they were facing problems of uploading the old data in the new software.

- **Uttar Pradesh** - As per the demand of the Department (November 2006) an amount of ₹ 1.05 crore was released by the Government of UP in March 2007 for digitisation of manual (legacy) data of all the vehicles registered in the 38 computerised RTOs/ARTOs. The work was outsourced (March 2007) to the Uttar Pradesh Development Systems Corporations Ltd. (UPDESCO). The Department did not issue work order to UPDESCO for three and a half years till September 2010 for the work as the amount released by the Government was not sufficient for digitisation of legacy data of all RTOs/ARTOs.

  For digitisation of legacy data of all RTOs/ARTOs funds of ₹ 7.83 crore were provided through Budget Estimates 2010-11 in favour of the Department, of which the Department diverted ₹ 3.46 crore including an amount of ₹ 2.29 crore for pay and allowances of departmental staff and ₹ 1.40 lakh was utilised for printer and lamination machine. The balance amount of ₹ 4.35 crore was surrendered (March 2011) without doing any work.

  Thus, digitisation of the legacy data could not be done so far and out of a total 1,32,87,232 vehicles, legacy data of 61,50,568 non transport and 1,29,365 transport vehicles registered from 1989 onwards was pending at the end of March 2011.

- **Uttarakhand** – 20 *per cent* of old data for vehicle registration and 72 *per cent* data on DL is still to be digitized and uploaded to VAHAN and SARATHI respectively as on date.

In the absence of consolidated and accurate data in the VAHAN software, the State Register and National Register were not only incomplete but the database was not reliable for use.

On the huge backlog in porting of Legacy data in all States, the Ministry/NIC, admitted (July 2012) that the legacy data had not been completed and they were in the process of approving proposals for digitisation of legacy data for all States/UTs whereby GoI, would be giving financial assistance to the States.

Other Points of Interest

3.5 Plying of vehicles with lapsed registration

As per the MV Act, a certificate of registration in respect of a motor vehicle, other than a transport vehicle, shall be valid only for a period of 15 years from the date of issue of such certificate. No such vehicle shall be used in any public place until its certificate of registration is renewed.

In **Himachal Pradesh**, Scrutiny of the database maintained in 16 test checked RAs revealed that registration of 15,792 vehicles had expired. The enforcement staff of the Department, however, did not utilise the information available with the Department and detect these vehicles plying with expired registration certificate.

CHAPTER-IV

Data Accuracy

Data accuracy is the representational faithfulness of information to the true state of the object that the information represents, where representational faithfulness is composed of four essential qualities or core attributes: completeness, currency/ timeliness, accuracy/correctness and validity/authorisation.

Data accuracy and integrity is very much essential for Business Intelligence in general. Data Integrity ensures that data is of high quality, correct, consistent and accessible.

We found that data accuracy was compromised rendering the application softwares viz. VAHAN and SARATHI, databases unreliable. The findings of our field audits in Transport Department of various States, in this regard, are mentioned in succeeding paragraphs.

4.1 Assigning of same chassis number to more than one vehicle

Under Rule 47 of the Central Motor Vehicle Rules 1989, the owner of a vehicle shall apply in "Form-20" for the registration of his vehicle which shall contain vital information relating to the vehicle. We saw in all the State RTO Offices that though vehicle chassis number was supposed to be unique, there were several instances of duplicate chassis numbers in the *Vahan* Database. Data entry operators bypassed the validation check by inserting an extra symbol while feeding the chassis number and allowing the vehicle to be registered with another registration number having same chassis number. As regards legacy data same was transferred to the *Vahan* Database without checking for its accuracy. The tampered data was being replicated in State Registers and National Registers also.

As regards Engine Numbers which are also unique to each vehicle, we saw that the RTOs did not ensure that the field for engine number had unique data.

The NIC have stated that they have applied a validation check on Chassis numbers so that each vehicle has a unique one whereas duplicate chassis numbers were attributed by them to absence of supervisory checks at RTO levels.

The table gives instances from some States of the extent of duplicate and incomplete entries of the vehicles/ owner:

The observations in some of the States are detailed below-

Sl. No.	State	Test checked instances of same engine and chassis numbers in VAHAN database
1	**Haryana**	Analysis of data of test checked offices revealed that there were 36,900 vehicles with same Engine number. In 18 cases, vehicles having same chassis and engine number had been assigned to different registered vehicles. Further, 166 duplicate chassis numbers were also seen. Analysis of data further revealed that in 40 cases, vehicles bearing same Chassis number and Engine number had been registered by more than one Registering

		authority within the State.
2	**Delhi**	There was duplication in engine and chassis numbers of registrants in case of 128 Non-Transport vehicles (VAHAN issuing smart card based registration certificate).
3	**Maharashtra**	There were 176 vehicles with the same chassis numbers in four offices and 1,084 vehicles with duplicate engine numbers in nine offices of the Mumbai Region. In six offices of the Nagpur Region 3,131 records the chassis numbers were found duplicate. Similarly in 3,527 records in the database engine numbers were found duplicate.
4	**Punjab**	In 35,399 cases, chassis number was numeric and in 274 cases it was only alpha character. In 916 cases, engine number was blank and 500 cases engine number and chassis number started with special character. An analysis of data of five DTOs for the period of review revealed that in 1127 cases, vehicles were assigned identical chassis and engine numbers. Evidently, 556 same vehicles had the same chassis number. We requisitioned 712 relevant records, records in respect of 47 vehicles (Form 24, Screen Report of Vehicle, Invoice and Form 20) were supplied to audit, out of which duplicate chassis numbers were found to be allotted to 18 vehicles.
5	**Chattisgarh**	Test check of the registration database of the three RTOs, revealed that, out of 6,26,699 registration records of Vehicles, 7670 vehicles contained same chassis number and engine number; In all the test checked RTOs, only the last three to six characters of chassis number were fed; In RTO Raipur, 138 cases of duplicate chassis number were found; In RTO Bilaspur, zero digits was entered in chassis number column in one case.
6	**Karnataka**	Duplicate chassis numbers were recorded in 73 cases and duplicate engine numbers were recorded in 10,683 cases. We noticed that 795 cases of same engine numbers were found against two different vehicle numbers in the databases of Six RTOs[1]. In RTO, Koramangala, for 83 duplicate engine numbers, two or more RC smart cards have been generated and sanctified with different registration numbers. We noticed that in these cases, the only difference in data was a 'dot' suffixed for the chassis number.
7	**Assam**	Out of 2,72,311 vehicles registered in the six test checked DTOs, 99 vehicles were registered with duplicate chassis numbers and 584 vehicles were registered with duplicate engine numbers and such duplication occurred two to three times. In 27 instances, vehicles having same engine and chassis numbers were registered twice and allotted two different registration numbers.
8	**Bihar**	During test-check of the registration database in VAHAN in nine DTOs, we observed in seven DTOs that out of 3,77,696 registration records of vehicles, 2,015 vehicles contained duplicate engine numbers whereas 3,322 vehicles, had same engine number and chassis number.
9	**Himachal Pradesh**	Analysis of the data maintained by 11 test checked RAs revealed that in 222 records, the engine number was left blank and in 635 out of 1,199 and 122 out of 247 records, the engine number and chassis number, respectively, were found duplicate. On a comparison of the manual records with the electronic data, we observed that whereas the manual records showed the correct chassis/engine number, the computerised database contained backlog data which had obviously not been validated at the time of data entry.
10	**Jammu and Kashmir**	Our analysis of the data base of VAHAN revealed that there were 3,032 cases of duplicate engine numbers, 17 cases of duplicate chassis numbers and 53 cases of blank Engine numbers in seven test-checked RTO/ARTOs, thereby rendering the data unreliable.
11	**Meghalaya**	We found that even with the validation control for 'chassis number', six out of seven DTOs had 44 vehicles sharing 22 chassis numbers.
12	**Gujarat**	Our cross verification of data available in the Ownership table and Pvt.-MVI check Table (i.e. table in which verification report of inspection done by the inspector is entered) of non-transport vehicles (cars) with the registration records revealed that in

[1] RTOs Bangalore Central, Bangalore East, Bangalore North, Tumkur, Chamarajanagar and Darwad

		case of 4684 registered vehicles, the chassis numbers or engine numbers entered in Ownership table did not match with the chassis numbers or engine numbers entered in Pvt.-MVI check Table. The data inaccuracies were due to incorrect practice of entering data of only last few digits of crucial fields like chassis number engine number fields etc in the Pvt.-MVI check table.
13	**Rajasthan**	There were 994 duplicate entries in the database. Further there were 181 vehicles which had been registered with duplicate chassis number and 813 vehicles were registered with the duplicate engine numbers. During analysis of 4,52,751 records of owner table in respect of the test checked offices; we noticed that certain data fields were kept blank. In 17 cases, chassis number and in 6414 cases, engine numbers were not entered.

As mentioned above, existence of such duplicate entries of engine/chassis number for vehicles was due to absence of supervisory checks in RTO Offices, on both live data as well as legacy data being entered in the VAHAN database. Validation checks provided for "Chassis" numbers of Vehicle had been bypassed by the RTO staff and the same had not been checked by the supervisory officers.

4.2 Duplicate insurance cover note

Vehicle insurance is essential at the time of registration of the vehicle in terms of Rule 47 of the Central Motor Vehicles Rules, 1989. Due to lack of validation checks while capturing of insurance cover notes, it was observed that there were several instances of duplicate insurance cover notes in all States. The details are given below:

Sl. No.	State	Audit observation on insurance cover notes
1	**Bihar**	During analysis of the database of the DTOs Patna and Muzaffarpur, we observed that out of 1, 54,579 and 25,472 records of registration, 262 and 12 records respectively contained duplicate insurance cover note number in the database.
2	**Jammu and Kashmir**	We found that in 28,024 cases, multiple insurance cover note number was entered into the system. We found that under a single insurance cover note, two to 933 vehicles had been registered. Moreover, in 311 cases, the cover note number field had been left blank.
3	**Gujarat**	Due to lack of validation checks while capturing of insurance cover notes, in 1,766 cases, there were duplicate insurance cover notes. In 48 cases, the insurance cover note details were blank and in 132 cases, the insurance cover notes were invalid indicating figures like 00000000, 0, NEW, etc Besides entry of insurance cover-note number was not made mandatory in the system.
4	**Madhya Pradesh**	Analysis of the database in respect of 43 offices revealed that there were 1,66,987 vehicles with repeated insurance cover note number (same cover note for two or more vehicles). Further analysis and manual test check of records in respect of 64 vehicles made available in RTO, Gwalior and Morena confirmed that 12 insurance cover notes were used for 34 vehicles. In the remaining 30 vehicles, the insurance cover note number was incorrectly entered in the system. We found that these were because of incorrect data entry in the system as in the manual records the insurance cover notes were different.
5	**Jharkhand**	In five test checked RTOs out of 4,88,522 records test checked there were 2,98,515 blank records and 280 duplicate records.
6	**Punjab**	VAHAN database as maintained in the office of the five DTOs for the period of review revealed 9,876 duplicate cover note numbers in respect of prime insurance companies.

7	**Rajasthan**	During analysis of 4,41,744 records, we noticed that in 8,246 cases, same insurance cover note numbers were used for registration of more than one vehicle. Further in 4,869 cases, Cover note numbers were either kept blank or fake numbers were mentioned in the data field. The validity period of insurance was kept blank in 4,696 cases.

In the above cases, since records were old, we could not verify whether valid insurance existed for the vehicles stated to be insured. The fact that the database is unreliable for the insurance details is evident from the above cases.

The Ministry and NIC have stated in their response at the Exit Conference that they are quite concerned about this matter and they are in dialogue with Insurance Companies to resolve the matter. While we appreciate the efforts being done, the Ministry have not responded with the reasons for not cautioning the State Governments about registering vehicles without insurance cover, which is compulsory as per the law. Timely interventions would have prevented such large scale duplications, which have rendered the database unreliable, and a virtually impossible or herculean task to set right the database now. It also cannot be ruled out that vehicles were registered without insurance cover as required under the law.

Other findings relating to data inaccuracies and incomplete databases are detailed State wise as below -

4.3 Karnataka

4.3.1 Inaccurate/incomplete data on vehicle/owner details

In Karnataka, Porting of data from the database of earlier software to the VAHAN and SARATHI database was entrusted to NIC. Out of 13 RTOs which had database in earlier software, the legacy data has been ported into the database of VAHAN only in respect of five RTOs in Bangalore. In the offices where the porting has been completed, it has been done without proper planning and checks to ensure that only relevant, accurate, reliable data are imported. As a result, in three offices test checked (Bangalore Central, Bangalore East and Bangalore North), the legacy data that is processed by the application systems has several data inconsistencies as illustrated below:

- Name of vehicle owners were not captured in 2,756 cases and addresses were not captured in 5,928 cases.
- In 636 cases irrational dates of registration (like 01/01/1900) were shown. This was at variance with the manufacturing year mentioned in the database.
- Owner names were mentioned as "CC issued to such and such office" and were still retained in the registration database in 3,492 cases.
- Seating capacity of vehicles (having codes relevant to two wheelers) were recorded as ranging from 3 to 125 in 1,408 cases. We noticed that many of these vehicles are four wheelers for which the vehicle codes of two wheelers have been wrongly assigned.

- Irrational Manufacturing Years like 9585, 2200 etc were shown in 47 cases and invalid registration numbers like "00KA043313" were captured in five cases.
- In 18 cases of migrated vehicles where new registration marks were assigned, the reassignment database had the same number for old and new numbers.
- In 4,236 cases, though vehicles migrated from other States were already assigned new registration numbers in Karnataka, the database of registered vehicles still retained records with old registration number. Further, of these, there were 3,276 records with the respective newly assigned number also in the database of registered vehicles. This resulted in inflated number of registered vehicles in the database and vehicle records with incorrect registration number.
- There were gaps in tax collection data in respect of 1,732 vehicles in the RTOs test checked. This is possibly due to the failure of records relating to collection of quarterly taxes for transport vehicles accounted through earlier software to port into VAHAN database.

After we pointed these out, the Department stated that the matter has been referred to NIC for further information and replies would be furnished in due course after examination of details.

The State NIC opined that such inconsistency in the data was due to absence of a clean-up exercise which should have been undertaken by the Department prior to porting into the current database.

4.3.2 Incomplete/invalid data

Our analysis of the database of VAHAN has revealed the following invalid/ redundant data:

4.3.2.1 Duplication of Permit Numbers

The process of issue and renewal of permits is carried out through the RTA software and the VAHAN database captures the details of permits like date of issue, permit number, validity, renewal date etc.

In Karnataka, in three RTOs[2], in 80 cases, the permit number issued to two different vehicles owned by different persons were the same. These permits were owned and renewed simultaneously by the owners. However, verification of manual records revealed that these were due to data entry errors committed during renewal of permits.

The State NIC has agreed to look into specific cases of duplication.

4.3.2.2 Presence of unapproved cases of registration of vehicles in the database

At the time of new registration, a vehicle is initially assigned an inward number. This number is required to be replaced by the Registration number finally to be assigned to the vehicle.

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[2] Bangalore Central, Bangalore East and Bangalore North

We noticed in the database of the six RTOs test checked in Karnataka, that 8,639 inward numbers were not replaced by the Registration numbers finally allotted to the vehicles. The age-wise analysis of the cases apparently pending approval in the system database is given below:

RTO	Inward number		Total
	Up to 2009	in 2010	
Bangalore Central	222	256	478
Bangalore East	131	47	178
Bangalore North	208	74	282
Tumkur	25	79	104
Mangalore	16	4	20
Dharwad	7,516	61	7,577
Total	**8,118**	**521**	**8,639**

This indicates absence of the required policies and controls by which entries that have not been approved are deleted after a prescribed period. We test checked 10 cases of unapproved inward numbers on the National Portal and found that these records existed in the National Register.

The unapproved Inward numbers continue to be present in the National Register, so whether the vehicle is registered or not is not known. A certain delay in the completion of transaction being inevitable, the application system as well as the data mining procedure for updation of National Register, the system should have had sufficient controls to check such entries.

4.3.2.3 Invalid Sale Amount for Non-Transport Vehicles

We noticed from the database that in respect of 1,456 non-transport vehicles (cars/two wheelers), which were registered in **Karnataka**, after the introduction of VAHAN, the sale value had not been captured. In 1,342 other cases, the sale amount field has captured random values like '999', '9999'.

The sale value is relevant for working out the taxes payable and hence, in absence of a validation check, this important calculation through the computer was not available.

4.3.2.4 Invalid data in fields related to determination of quarterly tax

Under the KMVT Act, quarterly tax is levied based on the laden weight for goods vehicles. Passenger transport vehicles are liable to tax at the specified rate depending on floor area, seating capacity, etc. The nature of permit obtained by the owner of the transport vehicle is also a critical data in determining the tax liability. Capturing accurate data for these fields was critical for VAHAN as a reliable and effective information system.

Our analysis of the database revealed the following:

- In 21 cases of Private Service Vehicles/Omnibuses registered through VAHAN, floor area was not captured.

- The wheel base field accepts values in either centimetres or millimetres resulting in a range of wheelbase values from one to 17170 in RTO, Bangalore Central, one to 31500 in RTO, Bangalore East and one to 13250 in RTO, Bangalore North. This defeats the efficacy of the software in limiting the seating capacity in accordance with the provisions of the KMV Rules, as also in ensuring correct fixation of quarterly tax payable by the vehicle owner.

The Department stated that the matter has been referred to NIC for information. The NIC had agreed to examine the cases. Further report was awaited.

4.3.4 Mode of tax payment–Inadequate integration between Registration and Taxation Modules

In the VAHAN system, registration module assigns code for mode of tax payment for each vehicle based on class of the vehicle, eligibility of owner etc. to facilitate tax collection module to levy and collect the applicable tax or to allow eligible exemption. Our analysis of these fields in the RC database and testing of the front end with test data revealed the following:

- Under the KMVT Act, though tax exemption is admissible only to Government vehicles, it was also possible to assign exempted status to other owners at the time of data entry. We noticed that in the database in 389 records, exempted status was shown against individual owners liable for payment of lifetime taxes.

- We noticed from Tax Module "Taxation Table" that though the vehicle owners of 191 vehicles were paying tax either annually or quarterly but these were recorded as life time tax payers in the Registration Module in "Owners Table". Thus, correct position of tax due against the owners of vehicles was not ascertainable.

- In seven cases where vehicles were registered under annual tax option they had made LTT payment.

The Department stated that the matter has been referred to the NIC for further comments. The Department cannot absolve itself from the incorrect entries made in the system, whereby the RTOs and their staff have clearly erred in assigning exempted tax status to private individuals.

4.3.5 Tax Clearance

The VAHAN application system offers the facility to clear tax in respect of vehicles for specific periods. The tax clearance module is independent of tax payment modules in as much as it provides clearance for periods for which there is no evidence for payment of tax in either the tax module or the manual tax payment module.

The reasons for providing such a facility has not been documented and not made available to us. An effective information system would provide for processing of all legitimate transactions of the organisation through proper front end channel and any difficulty/error in processing of information shall have adequate trouble shooting techniques. Any arrangements/facilities provided to by-pass the workflow and complete the transaction would make the system vulnerable to misuse. **The databases of RTO Bangalore Central, Bangalore East and Bangalore North where transport operations were initiated in May 2010, there were 1,080 instances where tax has been cleared for periods after June 2010 for vehicles though payments for the same are not represented in either Tax module or Manual tax module.**

The Department stated that the matter has been referred to the NIC for further comments and that the latest VAHAN version (1.3.45 prime) has incorporated biometric control to prevent misuse of this provision.

4.3.6 Past arrears not cleared with current acceptance of taxes

Data analysis also revealed that in respect of 87 vehicles in two RTOs[3] though there were arrears of tax for earlier periods ranging from less than a month to more than a year, tax for subsequent periods were accepted, without clearance of past arrears.

The DCB module integrated with VAHAN does not capture such instances where intervening periods are in default. This points to imperfect design of the DCB, affecting the dependability of the demand position as presented by it.

Our test check of records at the field offices, however, failed to reveal any instance of actual escapement either since the missing payments was collected manually or records pertaining to payment were not ported into the database.

The Department stated that specific instances were referred to NIC for clarification. **The NIC explained that such gaps in tax payment data might be due to failure on the part of the Department to update payment records in the previous application system prior to porting into the present system in May 2010. The explanation does not, however, account for tax gaps that have occurred after May 2010.**

4.3.7 Issue of No Objection Certificate/Clearance Certificate

Under the CMVT Act and Rules made thereunder, vehicles migrating from one State to another shall obtain a No Objection Certificate (NOC) from the parent RTO and produce the same before the RTO of the migrated State for registration in that State. Similarly for a vehicle migrating from one RTO to another within the State due to change of address or ownership, a Clearance Certificate (CC) is required to be obtained. The NOC/CC certifies the vehicle with regard to tax paid, clearance of offences booked against the vehicle, if any, etc.

[3] Bangalore Central and Bangalore North

We noticed on comparison of data of NOC/CC module with tax collection module data of three RTOs[4] that in 147 instances NOC/CC were issued even though there were arrears of tax from those vehicles.

The Department stated that the matter was referred to the NIC for further information and that specific cases will be separately replied to by the RTO concerned. Reply of the concerned RTOs had not been received (November 2011).

4.4 Maharashtra

4.4.1 Invalid data in Vahan database

Scrutiny of database relating to Vahan system in nine test checked offices of the Mumbai Region revealed that invalid data such as zeroes, "-", "*" etc. were recorded in respect of the fields mentioned below:

Field	Number of records
Engine number	14
Seat capacity	1,82,610
Cubic capacity	282
Laden weight	11,00,539
Unladen weight	2,05,205
Purchase date	116
Insurance cover note/policy number	2,216

Out of the above fields only engine number, seat capacity, cubic capacity, purchase date and insurance cover note number were mandatory. In the six offices of the Nagpur Region we observed that the engine numbers are left blank in respect of 8,163 records and in respect of 1,62,956 vehicles the tax amount and sale amount are entered as zero.

In the exit conference the Department stated that the data records would be verified.

4.4.2 Incorrect receipt numbers pertaining to recovery of BMV Tax

Vahan system provides modules for recovery of BMV tax. However, in abnormal circumstances, such as power failure and software errors, BMV tax is being recovered manually and manual cash books are maintained for the same. The details of such recoveries are required to be entered in the system offline.

Analysis of data in respect of manual recovery of BMV tax at the office of Dy. RTO Kalyan, we noticed that the alphabets prefixing the receipt numbers were not entered and there is no procedure of cross verification of the data entered into the system and the manual cash book maintained in the office. Further, the details of 125 manual receipts were not entered through the manual receipt module and captured in the field provided for address.

[4] Bangalore Central, Bangalore East and Bangalore North

4.4.3 Registration of motor vehicles under two different Registering Authorities

According to the provisions of Section 40 of the CMV Tax Act,1988 every owner of a motor vehicle shall cause the vehicle registered by a registering authority (RA) in whose jurisdiction he has the residence or place of business where the vehicle is normally kept.

Analysis of registration records of RTO, Pune and Dy.RTO, Pimpri and Chinchwad revealed that 16 new vehicles bearing same Chassis number, Engine number, Maker model and vehicle class were registered under the RA. Dy. RTO, Pimpri and Chinchwad as well as under RTO, Pune. Out of the above, in respect of seven vehicles the name and address of the registered owner are same, in respect of 11 vehicles smart cards VRCs have been issued by both the RAs. Due to absence of inter Departmental connectivity the RAs failed to restrict registration of a single vehicle in different RAs.

In the exit conference the Department stated some of the cases were verified and found that vehicles were registered under different RTOs.

Government may ensure that necessary safeguards are in place to ensure that multiple registration of the same vehicle in any of the other offices is not possible.

4.5 Chhattisgarh

4.5.1 Non-entry of valid data in key fields

Data analysis of the registration database in respect of the test checked RTO offices revealed that certain key fields contained the value 'zero' in several records. The audit findings are summarised below:

- Sale amount was entered as zero in 79405 cases.
- Purchase date was null in 2413 cases.
- Manufacture year was wrongly entered in two /three digit in 75 cases.

Non-entry of valid data in the above key fields indicated deficiency in input controls and absence of supervision.

When we pointed out the cases in audit, the RTOs replied that instruction has been issued to the data entry operators to ensure correctness of data.

4.5.2 Incorrect entry of fitness validity period

During test check of the records of the three RTOs, we found that there were 140 transport vehicles whose fitness validity period was wrongly entered as 15 years in VAHAN Software. This is the violation of CMV Rules 1989.

When we pointed out the case in audit, the RTOs replied that due to wrong selection of class in vehicle, fitness validity was wrongly shown as 15 years.

4.6 Himachal Pradesh

4.6.1 Deficiencies noticed in database

Analytical review of data generated by 'VAHAN' package as implemented in the 16 test checked RAs revealed a number of deficiencies related to absence of processing controls.

4.6.1.2 Incomplete details of vehicles/licenses

As per the Central Motor Vehicles Rules, form 20 has been prescribed for registration of vehicles which contain information about the vehicles to be registered in 34 fields. The 'VAHAN' package provides for capture of all the information in the 'Owner' table. Similarly, the 'SARATHI' package provides for capturing data of licenses in 'llicense and 'ddlicense' tables.

Analysis of the database revealed that data in the 'VAHAN' package was partially captured even in crucial fields. Data entry in some of the important fields such as date of purchase of the vehicles, father's name of registered owner, address, vehicles maker's name, vehicle mode, engine number, seating capacity, horse power, unladen weight, month and year of manufacture etc. have not been captured in many cases.

In the **'SARATHI'** software we noticed that information in the crucial fields viz. identification marks, test result, designation of the test taking authority, date of test etc. were not/partially captured.

In both the softwares, these fields were not made mandatory for capturing crucial information.

After we pointed this out, the Government/NIC stated (December 2011) that incomplete entries might have been entered in the software during the backlog entries and that instructions will be issued to RAs to validate the data.

4.6.2 Duplication of Owner Data due to absence of Central Server system

The Transport Department had authorised (February 2008) RTOs at the district Headquarters level and RLAs at Sub Division level to issue fitness certificates for transport vehicles. The owner of the vehicle has to deposit fitness fee with the concerned RA authorised for issuing fitness certificates. For this purpose, the record of the vehicle is picked up from the 'owner' table. If the vehicle pertains to other RAs, it has first to be entered in the 'owner' table and only then can fitness fee be deposited. Once the vehicle is entered in the 'owner' table, it creates duplicate records as one vehicle appears in the record of two or more RAs. Moreover, the RA who is authorised to issue fitness certificate of the vehicles does not intimate the concerned RA where the vehicle is originally registered, due to which the record of the original RA cannot be updated. This also increases the number of records in the 'owner' table.

We found that no central server system was established in the Department linking all the RAs of the State. In the absence of a central server system, the RAs were unable to access

data of the other RAs. The deficiencies noticed in the database identified through a test check in three[5] RAs are discussed below:

- The Registration codes 'HP68', 'HP40', 'HP37' were allotted to RTO Dharamsala, RLA Kangra and RLA Palampur respectively. The database maintained by these RAs was cross checked. We found that the 'owner' table of RTO Dharamsala contains 1,310 vehicles of 'HP40' and 1,696 vehicles of 'HP37', which were also appearing in the 'owner' tables of RLA Kangra and Palampur, respectively.
- Similarly, the 'owner' tables of RLA Palampur and Kangra contains 142 and 92 vehicles of HP68 series which were also appearing in the RTO Dharamsala's database. This indicates that these vehicles were registered in RTO Dharamsala without getting no objection certificate (NOC) from the RLA, Kangra and Palampur and *vice versa*.
- In 396 cases[6] though the registration number was the same, yet the class of vehicle was different in the database of two RAs.

After we pointed this out, the Government stated (December 2011) that vehicle owners as per their convenience get the fitness certificates renewed from the authorised RAs. For this purpose the vehicle has to be entered in the owner table before the process of issuing fitness certificate is started. The NIC stated that suitable modification in the software is being carried out to avoid unnecessary increase of data in the 'owner' table.

The Government needs to establish a centralised server to facilitate data access to all the RAs in the State. Suitable controls need to be built in the application to avoid duplication of data.

4.7 Jammu and Kashmir

4.7.1 Partial capturing of Data in owner database, despite complete information available with the Department

Under Rule 47 of the Central Motor Vehicle Rules 1989, the owner of a vehicle shall apply in "Form-20" for the registration of his vehicle which shall contain vital information relating to the owner of the vehicle and the vehicle itself.

Our analysis of data available in the table 'owner' showed that though the data was available with the Department (in 'Form 20'), it was partially captured. A few fields like purchase date, address, PAN and parentage had been left blank or bogus numbers had not been entered in the database in the test-checked RTOs/ ARTOs as shown in the following table:

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5 RTO Dharamsala and RLAs Kangra and Palampur.

6 RTO Dharamsala : 15 cases, RLA Kangra : 270 cases and RLA Palampur : 111 cases.

Particulars	Srinagar	Budgam	Baramulla	Jammu	Kathua	Udhampur	Rajouri
Number of vehicles registered	52283	10100	6376	148127	29442*	11971	2933
Purchase date	45	1	1	330	45	27	-
Address	1	-	2	9	18	164	-
PAN	52283	10002	6376	148127	29430	11961	2933
Fathers name	1	-	2	7	126	164	-
Laden weight	-	-	-	7	1938	13	-
PV_Com	19	2	-	139	14	17	-

*(*Includes 13581 records pertaining to digitisation of old records)*

We noticed that since the above fields were not made mandatory, the database of the RTOs/ARTOs was incomplete.

The Department stated (September 2011) in the Exit Conference that instructions would be issued to the concerned to make necessary corrections in the database and avoid such mistakes in future

We recommend that Department take necessary steps in consultation with local NIC to build in appropriate input and validation controls to prevent capturing of incomplete data in the system to this extent.

4.7.2 Incorrect entry of 'category code' of buses registered with the Educational Institutions

There are 12 categories of vehicles in VAHAN. Each category has been codified in the master table[7] of VAHAN by allotting it a specific number. Of these, code '8' has to be allotted to the vehicles registered for Educational Institutions meant solely for transporting students or staff of the Educational Institutes.

We checked the database of six out of seven RTOs/ARTOs and found that 841 buses with a specified seating capacity were registered in the name of the Educational institutions. These buses should have been allotted Code '8' in master table of VAHAN. But we noticed that in cases of 636 school buses, different code other than Code '8' was allotted as mentioned in the following table:

[7] dbo_owcode

Name of the RTO	Code number in which school buses were registered				
	Code'1' meant for individual	Code'2' meant for a firm	Code'5' meant for State Government	Code'8' meant for a Education Institutions	Total
Srinagar	148	1	2	134	285
Budgam	46	1	0	10	57
Baramulla	26	0	0	1	27
Jammu	318	9	1	11	339
Kathua	62	2	0	45	109
Udhampur	19	1	0	4	24
Total	619	14	3	205	841

The above facts indicate that the data is not being entered correctly in the VAHAN defeating the very purpose for which the structure has been designed. Thus, the Department was not in a position to ascertain the correct number of vehicles registered under this category *viz* '8'. This may lead to non- monitoring of the collection of taxes and issue of fitness certificate.

The Department stated (September 2011) that instruction would be issued to the concerned RTOs/ARTOs to make necessary correction in the database to avoid such mistakes in future.

4.8 Meghalaya

4.8.1 Incorrect depiction of registration of a vehicle in more than one DTO

Under Section 49 of the MV Act, if the owner of a registered vehicle changes his place of residence or business, he has to apply for change of address in the Registration Certificate to the new Registering Authority in whose jurisdiction his new address falls and after effecting the change of address the new Registering Authority is to communicate the altered address to the original Registering Authority who then deletes the registered vehicle from his database.

The adequacy of validation controls in the 'Vahan' software to prevent duplicate entry of registration numbers was checked. Test-check revealed that the software had a validation check in the system to prevent entry of a duplicate registration number. However, since the seven DTO offices of the Transport Department have been computerised with a stand alone database and not linked to a common database, the validation put in place had not completely addressed the problem of having duplicate vehicle registration numbers amongst the different DTO offices of the State.

During analysis 'Vahan' data, we noticed that 546 vehicles[8] were registered with two to three DTOs with same registration number. While four vehicles with same registration

[8] Vehicles having same registration and chassis numbers.

number were registered with three DTOs, 542 vehicles with same registration number were registered with two DTOs. As a result of the multiple registrations, the combined database of the DTOs depicts existence of 1,096 vehicles sharing 546 registration numbers. Out of these 1,096 vehicles, 949 vehicles were registered before implementation of Vahan and 147 vehicles were registered after implementation of Vahan.

To ascertain the reason for same vehicle being registered with different DTOs, 19 original vehicles records from 3 DTOs were called for out of which records of 15 vehicles were produced to audit. We noticed from these records that in all 15 cases NOCs were issued from one DTO to other DTO, but the fact was not captured in the system of the NOC issuing office. As a result the same vehicle was being shown as an active registered vehicle in the databases of both the DTOs.

We recommend that details of NOCs issued be entered into the system and all cases of duplicate registration numbers be investigated and rectified. We also recommend that TD explore the feasibility of linking the data of all DTOs to a common database to avoid issue of duplicate registration number.

After this being pointed out, the Department accepted (October 2011) the audit recommendation and stated that details of NOCs issued would be entered into the system and all cases of duplicate registration numbers would be investigated and rectified.

4.9 Tamil Nadu

4.9.1.2 Life time tax not collected

Life time tax for non-transport vehicles at the time of registration was to be calculated automatically, by the system (percentage) based on the cost of the vehicle. Change registration data menu allows for editing the vehicle information including cost of the vehicle. We noticed that in 17 offices[9], for the period from April 2007 to March 2011, in respect of 647 vehicles, there was difference of tax collected with reference to the cost of the vehicle resulting in short collection of life time tax. We further observed from the database that for the period from March 2009 to March 2011, in respect of non transport vehicles, while the value of the vehicle was uploaded by the dealers, the same was not taken into account for the purpose of calculation of tax. Instead, the RTOs adopted the value stated in the invoices, which was less than the value already uploaded in the system by the dealers.

The Department needs to investigate the short collection of tax.

[9] Ayanavaram, Chidambaram, Coimbatore (North & South), Cuddalore, Gudiyatham, KK Nagar, Manaparai, Meenambakkam, Neyveli, Poonamallee, Tambaram, Tiruvallur, Tiruvanmiyur, Trichy, Vaniyambadi and Vridhachalam.

4.9.1.3 Road Safety tax not collected

The collection of taxes and fees module at the cash counter has a provision to list down all the taxes/fees to be collected for all the categories of vehicles. The user at the cash counter has to select the fees and taxes applicable for each transaction through manual intervention instead of the system generating them automatically. In 17 offices[10], road safety tax was not collected in respect of 408 vehicles, amounting to ₹ 3.62 lakh as verified from Form 20 (application form for registration of vehicles) and the receipt annexed thereto.

After we pointed this out, the Department stated (October 2011) during the Exit conference that necessary modification would be made in the software in consultation with NIC.

The Department (October 2011) replied during exit conference that the issue would be taken up with the dealers to adopt a single value and also agreed to collect the difference of tax from the dealers.

4.9.2 Absence of Validation controls

Validation controls in the system render the database complete and reliable. Lack of validation controls in the key fields affected the reliability on the information generated by the system as detailed below:

4.9.2.1 Key fields

The database contained information of 'date from' and 'date upto' for which the tax had been collected for the purpose of indication of the period for which the tax payment was made. In 2,821 cases dates such as 1 January 1900, 1 April 2011 to 31 March 2011, etc. were accepted which were obviously not correct. Further in 74,158 cases the sale amount against the vehicle was shown as zero. This indicated deficient validation control in the software in addition to the risk of omission of tax collection details and generation of wrong MIS.

4.9.2.2 Continuity in assigning registration number

As per Section 41(6) of MV Act, a registering authority shall assign a unique mark in a series to every vehicle at the time of registration. As per the Government Order No.1195 dated 1 July 1989, before a current series gets exhausted, registration number in the next series should not be allotted. In six offices[11], though 6,130 registration numbers remained unallotted in the previous series, registration numbers were issued in the subsequent series.

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10 Ayanavaram, Chidambaram, Coimbatore (North & South), Cuddalore, KK Nagar, Manaparai, Meenambakkam, Neyveli, Poonamallee, Tambaram, Tiruvallur, Tiruvanmiyur, Tiruverumbur, Trichy, Vellore and Vridhachalam.

11 Coimbatore (North & South), Poonamallee, Tiruvallur, Tiruvanmiyur and Vridhachalam.

4.9.2.3 Qualification for issue of conductor/driver licenses

As per Rule 55 of the Tamil Nadu Motor Vehicles Taxation Rules, no person shall be granted a conductor license unless he has passed SSLC public examination or equivalent thereof and is able to read and write freely and easily in Tamil. Under Rule 8 of the Central Motor Vehicle Rules, 1989, minimum educational qualification for obtaining a license to drive a transport vehicle shall be a pass in the eighth standard. This provision has also been incorporated in the "Vahan" and "Sarathi" softwares.

In 17 offices[12], in 29,365 cases the information regarding educational qualification was not filled. Nevertheless, the system had generated the license.

4.9.2.4 Collection of driving license fees

In 16 offices[13] in respect of 7,592 cases relating to the period from April 2007 to March 2011, the details of collection of driving fees for issue of licenses were not available in the system. We verified from cash records and receipts that the driving license fees had been actually collected, but the deficiency in the software resulted in non reflection of the same.

We recommend that the Government may put in place a mechanism to ensure that the data entered in the system is correct and the validation checks are sufficient.

After we pointed this out, the Department replied (October 2011) during the exit conference that such validation would be built in the software by NIC.

4.9.2.5 Transport vehicles due for renewal of permit

We noticed that the report of the list of transport vehicles which were due for renewal of permit was not generated and as such the Department did not have any mechanism for automated monitoring of the vehicles which were due for renewal of permit. In 10 offices, the permits of 1,032 tourist taxis have not been renewed so far (December 2011) though renewal was due as early as in April 2007 as verified from the manual permit register. This resulted in non-collection of permit fees/tax to the tune of ₹ 67.03 lakh.

4.10 GUJARAT

4.10.1 Inaccuracies due to non-updation of the system

Change of a vehicle from one fuel type of to another fuel type can be done subject to the payment of fees of ₹ 150 per vehicle. A module for this purpose exists in VAHAN. The

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[12] Ayanavaram, Coimbatore (North & South), Gudiyatham, KK Nagar, Manaparai, Meenambakkam, Neyveli, Poonamallee, Tambaram, Tiruvallur, Tiruvanmiyur, Tiruverumbur, Trichy, Vaniyambadi, Vellore and Vridhachalam.

[13] Ayanavaram, Coimbatore (North & South), Meenambakkam, Tiruvallur, Tiruvanmiyur, Trichy, Vellore, KK Nagar, Vridhachalam, Neyveli, Poonamallee, Tiruverumbur, Manaparai, Gudiyatham and Vaniyambadi.

system is required to be updated at the time of approval of change of type of fuel to reveal correct information to stake holders.

Test check of records of 1100 non-transport vehicles (cars) registered at RTO, Ahmedabad revealed that fuel of 145 cars was changed from Petrol to CNG/LPG. The same was required to be updated in VAHAN system at the time of approval of change of type of fuel. However, neither the fee collected nor the changes made in vehicles were incorporated in the system. Due to non-updation of the system with respect to changes made as mentioned above, the VAHAN database also did not reveal correct information about these vehicles to the stake holder's viz. public, insurance agencies, banks and financing institutions and enforcement agencies. It was also found that Tax module for transport vehicles had not been implemented by the Department.

4.11 Madhya Pradesh

4.11.1 Input, process and validation control deficiencies

Input control is extremely important as the most important source of error or fraud in computerised systems is incorrect or fraudulent input. Controls over input are vital to the integrity of the system. The accuracy of data input to a system can be controlled by imposing a number of computerised validity checks on the data presented to the system. Automated validation checks should be sufficient to ensure that all data accepted into the system is capable of acceptance by all subsequent process, including acceptance into other systems where there is an automatic transfer of data.

We, however, noticed that these controls were deficient or absent in the customised software used by the State as discussed in the succeeding paragraphs.

4.11.1.1 Absence of Data Validation in key fields

According to the MV Act, tax is levied based on parameters like sale amount and unladen weight in respect of private motor cars, motorcycles etc., seating capacity in case of passenger vehicles like stage carriages and contract carriages and laden weight in the case of goods vehicles. The laden weight of goods carriages should not exceed 49000 kg, seating capacity of two wheelers should not exceed three and insurance cover note validity should not exceed one year

Analysis of the registration database revealed that certain key fields contained the value as zero/invalid values in several records, since data validation was not done.

The audit findings are summarised below:

Vehicle Registration data

- Unladen weight was not entered in 47,842 cases
- Cubic capacity of transport vehicles was not entered in 1,03,364 cases and Laden weight (RLW) exceeded 49,000 kg in 23 cases.

- In 58 cases, two-wheelers were shown as having seating capacity of more than three.
- Seating capacity was not entered in 21,828 cases out of which 11 were passenger vehicles.
- Sale amount was not entered in 19,629 cases; entered as more than ₹ 1 crore in 1,587 cases and less than or equal to ₹ 1,000 in 3, 81,541 cases.
- Commencement date of insurance cover was of a date subsequent to registration date in 1,004 cases.
- In 193 cases, expiry date of insurance was the same as the date of commencement of insurance
- Validity of insurance cover note exceeded one year in 26,370 cases.
- Date of manufacture and date of registration was the same in 10,975 cases.
- Agency code was entered in place of insurance cover note number in eight cases.
- Duplicate PAN number was entered in 56 cases with different names.

Driving Licences data

- The date of expiry of the license was before the date of renewal/issue of driving licence in five cases.
- The date of expiry was same as date of issue of driving licence in one case.
- The validity of the driving licence was entered as 31-December-9999 in one case. The validity of renewal licence was for a period of 16 to 1,504 days in 14,299 cases.

Non/invalid entry of data in the above key fields indicated deficiency in input controls and absence of supervision. The Department responded (December 2011) as follows:

- **Sale amount cases**- The cases reported by audit are related to vehicles where the master data did not exist prior to year 2008. However, registration of vehicle is not possible now without pre-determined vehicle price.
- **Missing cases**- The cases pointed out by audit relate to old data digitised on the basis of manual records. However, the updated software ensures non-recurrence of such cases.
- In respect of cases relating to date of expiry prior to date of renewal/issue of driving licence, it was stated that the problem has now been rectified.
- In the case where validity was shown as 31-December-9999, it was stated that the data entry error was overlooked during authorisation process. The system has been updated to prevent such recurrence.
- The Department in respect of two wheelers having seating capacity of more than three accepted the audit observation and stated (December 2011) that the software has been updated to check such cases.
- In respect of validity of renewal licences for a period of 16 to 1504 days, the Department accepted the audit observation and assured to take remedial action.

- In cases relating to laden weight greater than 49,000 Kgs, it was stated that the cases pointed out by audit relate to old data digitised on the basis of manual records. However, the updated software ensures non-recurrence of such cases.

The reply of the Department with respect to sale amount cases , missing cases and cases relating to laden weight is not tenable as the sale amount cases pointed out by us include cases subsequent to the year 2008 also. Similarly, the missing cases relate to vehicles registered during the period April 2007 to June 2011 and in cases relating to laden weights the vehicles were registered during the period April 2007 to June 2011. Further, as the sale amount is the amount on which tax liability depends, the system may provide for such checks that wherever value in this field is missing or is 'zero' it should validate such entries with a suitable field in the system.

4.11.2 Blank fields in the database

Scrutiny of the database revealed that many crucial fields were left blank. Further, in many records, a number of fields were having 'negative' or 'zero' or 'junk' values or were left blank. The details of the records are as mentioned in the following table:

Field	Field details	Number of records
Insurance cover note	blank/junk	9,81,818
Insurance company name	Blank	40,821
PAN number	blank/junk	26,16,186
Owner income	Zero	26,19,062
Father's name	blank/junk	1,05,011
Chassis number	blank/junk	19,939
Engine number	blank/junk	30,855
Insurance cover note number	alfa/0/ one digit	1,89,461
Driving licence testing authority	Blank	14,208

The Department in respect of driving licence testing authority accepted the audit observation and stated (December 2011) that the software has been updated to check such cases. With respect to missing owner name, it was stated that the case pointed by audit relate to old data digitised on the basis of manual records and that the updated software ensures non-recurrence of such cases.

The reply of the Department with respect to missing owner name is not tenable as the case relates to vehicles registered in the month of March 2010.

4.12 JHARKHAND

4.12.1 Presence of Blank fields

We analysed the database of *VAHAN* of the selected district transport offices, which indicated that the fields for capturing address of the vehicle owner, wheelbase, registered

laden weight, unladen weight and purchase date of the vehicle in the database were **found blank**. Details of such cases are shown below:

Sl. No.	District transport office	Total number of records	Address of the owner	Wheel base of the vehicle	Registered Laden Weight of the vehicle	Unladen Weight of the vehicle	Purchase date of the vehicle
1	Bokaro	1,27,375	934	795	21	9,513	21,683
2	Hazaribagh	1,69,964	848	779	129	6,169	8,533
3	Jamshedpur	2,80,948	112	1,746	121	13,410	27,673
4	Koderma	27,386	0	28	9	3	1,638
5	Ranchi	3,04,029	111	4,087	77	24,874	47,144
	Total	**9,09,702**	**2,005**	**7,435**	**357**	**53,969**	**1,06,671**

Acceptance of identical cover note/insurance policy number, improper PAN and blank fields was indicative of inadequate input controls in the application. The application also did not have input controls on the vital field of engine number as unique. Consistency/ reliability of data could not be ascertained as manipulation of data was possible. These inadequacies could lead to fake registration, incomplete information of vehicle owners, vehicle details etc. serving no purpose for information seeking agencies.

Mention was made in the Audit Report (Revenue Receipts) for the year ending 2003, Government of Jharkhand (Paragraph 4.2.7 and 4.2.8) regarding issuance of registration certificates with identical engine and chassis number and issuance of duplicate insurance certificate/cover note. The irregularity persisted even after introduction of the new software.

After we pointed out the matter (September 2011), the Government instructed (November 2011) the DTOs to rectify the irregularities and to ensure realisation of short fees, if any, from the concerned vehicle owners. Further reply has not been received.

4.12.2 Issuance of more than one licence/identical driving licence number

Under the provisions of the MV Act and rules made thereunder, no person shall, while he holds any driving licence for the time being in force, hold any other driving licence except a learner's licence. Further, every driving licence (Smart Card) issued or renewed by the licensing authority shall be in Form 7. The application '*SARATHI*' has provisions for auto generation of a unique driving licence number.

We analysed the database of SARATHI of the selected district transport offices which indicated that more than one licence was issued to a person. Further analysis also indicated that in a few cases identical driving licence numbers were issued to different persons as shown below:

Sl. No.	Name of the district transport office	Total no. of records	More than one licence to a person	Identical licence number
1	Bokaro	27,546	20	1
2	Hazaribagh	29,611	8	0
3	Jamshedpur	70,708	75	2
4	Koderma	5,294	114	0
5	Ranchi	83,802	80	1
	Total	2,16,961	297	4

Generation of identical licence number and acceptance of names with same date of birth and father's name indicated faulty/weak inputs as well as validation controls in the application software. Apart from above, misuse of the DLs could not be ruled out in case of offence committed by the licence holders.

After we pointed out the matter (September 2011), the Government instructed (November 2011) NIC to study the software in detail and take corrective measures either locally or with the help of NIC (Headquarter), New Delhi. The DTOs were also instructed to verify the data entry and rectify the error.

4.13 Rajasthan

4.13.1 Inadequate application controls

In data processing systems, adequate input, processing and output controls need to be designed to ensure data integrity and reliability. On analysis of the database of 4,52,751 registered vehicles of ten test checked offices, we noticed that:

(a) Input and validation Controls in Vahan:

- 10,037 cases of registration numbers were without the code of the State/ Registering Authority. This numbers could not be authenticated without these details.
- Though the operation dates (date of data entry) were from 17 May 2005 (Alwar) to 11 August 2011 (Barmer) but the year of manufacturing ranged from the year 2014 (Barmer) to 3200 (Alwar) in 27 cases, which was incorrect as the manufacturing date should not have been accepted on or after the date of registration of the vehicle. This indicates that the input validation control on these date fields had not been enforced.

We also noticed that there were no checks in value of certain fields resulting in absurd entries, for example:

- In 100 cases, the laden weight of various types of vehicles exceeded 49000 kg. Further, the unladen weight of vehicle was shown as either more or equal to laden weight in various types of 31 vehicles, which was obviously incorrect.

- The seating capacity of vehicles was indicated as 81 to 999 in 28 cases, which is not correct.

- The seating capacity was not entered in 8,335 cases. Cubic capacity was not entered in 3,279 cases and unladen weight was not entered in 8,612 cases. Further, laden weight was not entered in 1,09,384 cases and shown less than 151 Kg. in 55,474 cases. Certain fields such as Father's name, Address, city, Maker, Model, Manufacturing year, purchase date, receipt number and vehicle category and date of Operation were also left blank.

The above status of the implementation of VAHAN and SARATHI shows that due to absence of validation controls/defective validation controls, data validation not done at the RTOs, there were serious inaccuracies in the database, thereby making it unreliable for reference, to all the stakeholders.

CHAPTER-V

Data security

In a computerised environment, the control components found in manuals systems must still exist. However, the use of computers affects the implementation of these components in several ways. Information Technology controls are used to mitigate the risks associated with application systems and the IT environment and broadly classified into two categories. These controls are part of the overall internal control process within any auditee organisation:

1- General controls
2- Application controls

We noticed during the audit of the RTOs, that in all the States data security was compromised as evident from the following common deviations observed, due to absence of controls in both VAHAN and SARATHI Applications: -

5.1 Physical access controls

Physical access controls include the installation of physical barriers to restrict access to the organisation's site, buildings, computer rooms and each piece of IT hardware.

Physical controls prevent unauthorised access and interference to the IT systems. The system should also be protected from environmental damage caused by fire, water, earthquake, electrical power surges or power shortages.

We saw that in most of the States, physical access controls were non existent. As such, the system was exposed to the risk of unauthorised access. The unauthorised entry of persons put the system and data at risk of unauthorised intentional, accidental, manipulation, destruction etc.

Some findings from the States are given below:

5.1.1 We observed in **Punjab**, that in the office of the DTO, Mohali and Ropar, the server was placed in the same room where operators were working instead of keeping it in isolation, thereby posing a serious threat to the safety of data. We observed that the hardware (including the server, network and switches etc.) were freely accessible making these vulnerable to physical threats from unauthorised persons.

5.1.2 We saw for instance, in **Assam** at DTO office, Nagaon, that the servers of both the Department as well as AMTRON[1] were placed in a small congested room in the ground floor, near the windows, along with UPS, batteries, camera and printers installed for taking photographs for smart cards. We further noticed that there was no fire detection/fighting equipment or fire extinguishers to fight any contingency in any of the selected DTOs.

[1] M/s AMTRON has been outsourced for issue of smart cards of registration certificates.

A view of the server room of the office of the DTO, Nagaon is depicted below:

Pictures of server room of DTO, Nagaon depicting congestion, unrestricted entry and stocking of papers on the servers, UPS and batteries.

5.1.3 We observed in the test-checked DTOs in **Bihar**, that the physical and environmental controls were weak. Fire alarms and automatic fire extinguishers were not installed in the IT centres. The IT centers in DTOs Gaya and Vaishali were established in dilapidated buildings and there was seepage in the ceilings of the buildings.

The fire fighting equipments were not placed is server rooms.

5.2 IT Security policy

To create the environment in which the application systems and application controls operate, the Department needs to formulate a security policy that should be circulated to all levels for protection of hardware and software of the system. Preventive and detective measures like installation and updating antivirus software, user ID and passwords should be adopted. The IT system must have in-built controls to ensure that all the key information have been entered before the transaction is recorded in the database. The system should be complete by incorporating all the main processes mentioned in the business rules.

We observed that neither any security policy was formulated by most of the Motor Vehicles Departments nor was it circulated to RTOs for protection of the hardware and software of the IT system.

We found absence of password policy in RTO offices; weak password systems, absence of audit trails etc.

Findings from some States are mentioned below:

5.2.1 During our scrutiny in **Uttar Pradesh**, we saw that password policy has not been framed and enforced, to restrict only authorised users to have access to the system.

All the corrections are being done by Data Base Administrators (DBAs) hired on casual/contract basis through NIC, using passwords allotted to concerning ARTOs on written order of the ARTOs/ Administration.

The Department may consider preparing an IT security policy with a credible threat assessment mechanism for harnessing optimum output from the system.

The Department stated (December 2011) that a security policy would be framed.

5.2.2 Absence of secure password policy in Transport Departments/ RTOs

We observed in the test-checked DTOs /RTOs that the user IDs and passwords for accessing the computer system were being shared by users. The access levels were not well defined for the computer systems. The practice of sharing passwords was fraught with the risk of unauthorised use of the system and lack of accountability. The passwords were readable at the backend and were not encrypted posing a security risk. The Department had not put in place any password policy, thereby rendering the system vulnerable to misuse/manipulation or unauthorised addition/ deletion of data. No awareness had been created among the users regarding periodical changes in Passwords. There was also no restriction on 'logon' attempts to prevent access by unauthorised users. As such, the system was exposed to the risk of unauthorised access and consequent loss/transferring of data.

5.3 Non Segregation of duties

Analysis of data of VAHAN and SARATHI Software revealed that logical controls in these Applications Software to protect data from unauthorised persons were not effective. No documented procedure to the user privileges for authorising access to the system was being followed in test checked offices. The RTO is the designated system administrator at the unit level. However, the Department has not formulated a comprehensive Security Policy Document outlining the procedural issues and other details relatable to logical access controls, approved at the highest level and distributed at the level of all users. Privileges of 'Administrator' were being exercised by clerks, which carried a potential risk to the integrity of data and system as a whole. The designation based assignment of roles prevailing in the Department had not been built into the system as a result of which it is possible to assign even supervisory roles to non-supervisory staff.

5.4 User restriction to modify database not provided

During scrutiny of The software we observed that the system did not restrict users from modifying/changing the database. For instance, a Motor Vehicle Inspector (MVI) could enter into the system with his own user ID and modify the status of fitness of a vehicle which has been declared fit/unfit by another MVI.

5.5 Logical Access Controls

Information system security involves the protection of computerised data from unauthorised modification. **Logical access controls** are restrictions imposed by the computer software. These are tools used for identification authorisation and accountability in computer information systems. They are components that enforce access control measures for systems, programs, processes, and information. Logical access controls can be embedded within operating system, applications, add-on security packages, or database.

5.5.1 Password Setting Weak

As per International guidelines for adoption of information technologies like COBIT (Control Objectives for Information and related Technologies), the computerised entity has to formulate controls for password setting, password change etc.

We noticed that the VAHAN and SARATHI application system does not incorporate controls in relation to password setting, change of password etc. Front end analysis revealed that the system does not require passwords to adhere to a minimum length of at least eight characters with a combination of alphanumeric and special characters. The system does not prompt for change of password after a specified period of time. There is also no provision to affect lockout after a specified number of failed login attempts. The system also permits the assignment of username itself as password.

The Department stated that the matter has been referred to NIC for further details/reply. The NIC agreed that the matter of strengthening of pass words will be addressed in consultation with the Department.

5.6 Audit Trails

A standard audit trail provides for recording and monitoring of database activity. The NIC team during discussion has affirmed the existence of audit trails at the level of the RDBMS (Relational Database Management System), application system and database table level triggers for audit purpose.

5.6.1 Loss of Trail due to deletion of user name

The backlog data entry module of the VAHAN application system requires the entry of the vehicle number. There is no input restriction in the module to disallow a RC number that is yet to be assigned by the RTO or to disallow entry of record with transaction date which is subsequent to date of computerisation. Thus it is possible to enter a registration number ahead of its assignment by the same RTO and create a RC, which is obviously inherent with the risk of misuse of privileges.

Our analysis of the database of RTO, **Jammu** revealed that in respect of 526 registered vehicles, the user name of the data entry operator was not available in dbo_Owner database, the main database of "VAHAN" software.

Absence of this trail indicates that the database had been tampered with by using backend facilities as a result of which the system was exposed to the risk of unauthorised access and resultant damage could not be ruled out. There was also no restriction on login attempts to prevent unauthorised access.

After we pointed this out, the Department and the representative of NIC present in the Exit Conference stated that VAHAN and SARATHI database have been locked with password and the password given to database administrator.

Though the Department contested the audit observation and stated that tampering of the data was not possible, we, however, demonstrated the problem to all the officers present in the Exit Conference.

5.7 Absence of Business Continuity and disaster recovery plan

A Business continuity plan (BCP) is a roadmap for continuing operations under adverse conditions.
It is necessary for recovery of the business processes with minimum loss to the business and restores the system within minimal possible time, in the event of a disaster.

It was observed that the Departments did not have a formal business continuity and disaster recovery plan for continuation of the Departmental activities in the event of a disaster.

Considering the criticality of the system, the Transport Departments (TD) were required to formulate, document and test disaster recovery plans and ensure that staff were made aware of their responsibilities to ensure business continuity.

5.7.1 Non formulation of BCP had following impacts:

- Backups were not being taken at irregular intervals.
- No backup register was prepared.
- Non-testing of stored backups.
- Non-storing of backup data off site in fire proof cabinets.
- Non-formulation of antivirus policy due to which different freeware were installed on the server posing a threat to the data.
- No Insurance cover for the computer hardware/IT Assets against robbery etc. were taken.

In most of the States the Department did not have a formal disaster recovery and business continuity plan to provide reasonable assurance that the data processing operations could be restored timely and effectively in case a disaster rendered the automated systems non-operational. The key configuration items (hardware, software, personnel and data assets), which were indispensable for continuity of the IT activities had not been identified through a proper risk analysis and counter measures were not outlined. Backup of database was stored at the central system (State level) but there was no system in place to rule out possibility of alteration in the database stored at the district level.

The Department stated that the matter has been referred to NIC for further details/reply.

5.8 Documentation and Change Management Control

Once a system is implemented change control should be put in place to ensure that the changes to the system are authorised, tested, documented and to see that there is adequate audit trail. The request for changes should be signed by the higher level functionaries of the Department and all the changes should be tested before they are put to use in the live environment.

5.8.1 Our scrutiny in **Uttar Pradesh** revealed the following deficiencies in monitoring:

The Department did not have proper written and authenticated documentation of the modules developed by NIC. The documents (Users Requirement Specifications, System Requirements Specifications etc.) prepared by the system developer (NIC Delhi) were not handed over to the Transport Department. In the absence of such records, we could not verify the adequacy of documentation and system support as updation of this data would not be possible in-house or through any other agency.

The modifications made in the database relating to assessment of tax, fee, penalty etc. maintained at the district level were not subjected to any supervisory review by the Department's staff/officers periodically to ensure the accuracy of issued certificates before committing them to the database.

The Department may consider having proper documentation and change management control system.

The Department stated (December 2011) that monitoring policy would be prepared and adhered to with the help of NIC.

5.8.2 Our scrutiny in **Punjab** revealed that modifications suggested by DTOs were sent to State coordinator, who in turn takes it up with NIC, Hqrs. The updated releases are provided to the DTOs but the procedure for change management was neither documented nor there was any procedure for authorisation of the changes in the system at an appropriate level, there was also no system of documenting the changes carried out which was fraught with the risk of unauthorised changes not being detected.

When we pointed out (January 2011), the DCF&A in its reply stated (January 2011) that no change management policy was formulated by the TD.

5.9 Backlog data entry module

Digitisation of legacy data is provided with separate backlog data entry module by which data finds its way to the database of the system. In the interest of data security, entry of legacy data should be done, completed and closed under close supervision. After the completion of the task, the backlog data entry module should be disabled permanently. Otherwise, the back log channel is a vulnerability that can be used to create manipulated records that do not exist in manual form.

The backlog data entry module of the VAHAN application system requires the entry of the vehicle number. There is no input restriction in the module

to disallow a RC number that is yet to be assigned by the RTO or to disallow entry of record with transaction date which is subsequent to date of computerisation. Thus it is possible to enter a registration number ahead of its assignment by the same RTO and create an RC.

The Department stated that the matter has been referred to NIC for further details/reply. Further, the Department also stated that data entered is validated by the case workers, which is a continuous process of updation when ever transactions occur.

5.9.1 Modification of data through back-end database of *Vahan* system

In order to secure the data and the system, it is essential that modifications made through backend are required to be recorded in the database system in order to ascertain whether changes carried out were authorised.

As informed by NIC during the meeting held in November 2011, the audit log in the DB2 system for Vahan application has not been activated and the back-end database modifications are not being recorded in the system. It was further informed that it may slowdown the system process.

Analysis of data in **Haryana** revealed that in many cases, there was a mismatch between amount due and amount calculated by Software. Further analysis revealed that details of owners had been interchanged in favour of certain applicants for allotment of Registration numbers of their choice.

Analysis of data in **Haryana** revealed that in 2043 cases, data entry operators surpassed the validation check by putting an extra symbol while feeding the chassis number and allowing the vehicle to be registered with another registration number having same engine number. The tampered data was being replicated in State Registers and National Registers also.

Analysis of data further revealed that in 40 cases, vehicles bearing same Chassis number and Engine number had been registered by more than one Registering authority within the State. Duplicate registration of the same vehicle was not only illegal but was obviously fraught with the risk of plying invalid/stolen vehicles as well as insurance irregularities by declaring non-existent vehicles as stolen.

Further, in the exit conference the FC&PS agreed that staff needs to be sensitised regarding complete capture of chassis codes. The FC&PS expressed his concern regarding registration of 40 vehicles bearing same chassis and Engine number by more than one Registration authority within the State and wanted to know how it was happening.

5.10 Non Development of Technical Expertise within the Department

Any IT system though developed/implemented through outsourcing has to be invariably taken over by the Department, eventually by developing expertise within the Department.

In most of the States, we saw that there was heavy reliance either on the NIC or the outsourced agency for Vahan and Sarathi Applications, for implementation of the computerised functions.

It was observed in **Haryana**, that *VAHAN* and *SARATHI* software system's front desk operations were being directly handled by the staff of multiple agencies at different locations viz; Balbhawan, DITS and District Red Cross (DRC) Societies with the support of the National Informatics Centre. In RA, Faridabad, DRC had further awarded the work to a vendor. No training has been provided to the office staff of RAs/RTAs, in operation of these systems with the result, the Department is still dependent on the third party outsourcing agencies. These kinds of arrangements have some adverse implications for data safety and security.

5.11 The issue of fraudulent vehicle registration certificates issued through VAHAN, in **Maharashtra** is given below:

5.11.1 Issue of Unauthenticated smart card based vehicle registration certificates-Maharastra

As per the Government Resolution no:MVD-1205/CR 134/TRA-4 dated July 2005, the authentication procedure *viz* 'Key Management System (KMS)' has to be used for securing the electronic data stored in the smart card. This is in accordance with the technical procedure prescribed by GoI for which the RTOs/Dy. RTOs were to be nominated as Regional Key Management Authority.

The KMS procedure is to be carried out by the Department after the smart cards are printed by the private agency subsequent to which the Department has to issue the smart card to the vehicle owner. Such smart cards, digitally signed by the RTO using the KMS procedure are the valid smart cards as stated by NIC, Pune.

During scrutiny of the database in nine offices of Mumbai Region, we noticed that 65,171 optical smart card based VRCs printed by the agency (data approved by the Department between December 2006 and March 2011) were not authenticated through the prescribed KMS procedure before their issue to vehicle owners. As such these VRCs were 'bogus'. Out of this 42,422 pertained to RTO, Pune and 16,945 to Dy. RTO, Pimpri-Chichwad. The RTOs could not explain how these VRCs were issued without valid authentication. Besides, VAHAN system did not provide for generation of MIS reports regarding application received and smart cards issued.

Absence of supervision over the working of the private agency and non use of VAHAN's MIS features by the Transport Department defeated the objectives of computerization for more secured registration certificates.

In the exit conference Department stated that the reasons for unauthenticated cards would be verified.

The Government may ensure that smart card security procedures are completed before issue of the smart cards and the system provides for generating of MIS reports regarding application received and smart cards issued, in consultation with NIC.

5.11.2 Unauthenticated driving licenses issued - Maharashtra

As per the Maharashtra Government Resolution no: MVD- 1205/CR 134/TRA-4 dated July 2005, the authentication procedure *viz.* 'Key Management System (KMS)' has to be done for the security of electronic data stored in the smart card in accordance with the technical procedure prescribed by GoI and the RTOs/Dy.RTOs were nominated to work as Regional Key Management Authority to ensure implementation of the system.

Audit scrutiny of the database at all the nine test checked offices of the Mumbai Region revealed that 3,34,806 smart card based DLs were issued without authentication, out of that 3,00,298 and 28,138 were issued by RTO, Andheri and RTO, Pune respectively. Further, NIC has informed that smart cards issued without digital signatures using the KMS procedure were invalid smart cards. Issue of such unauthenticated smart card based DL not only defeat the objective of computerization for issue of more secured driving licences but may also cause hardship to licensee at the time of verification by the enforcement agencies.

In the exit conference Department stated that the reasons for unauthenticated cards would be verified.

The Government may consider reviewing of the system to ensure that all business rules are incorporated in the system properly and updated regularly.

5.11.3 Unauthorised printing of Smart Card based VRCs - Maharashtra

As per Rule 53 of CMV Rules, 1989, an application for the issue of duplicate certificate should be made to the registering authority accompanied by a copy of the police complaint from the vehicle owner regarding loss or destruction of the VRC. For this, fees ranging from ₹ 30 to ₹ 400 is chargeable under Rule 81.

We compared the new registration *Vahan* data with the agency's data pertaining to printing of Smart Cards. This revealed that in 3,694 cases pertaining to the nine test-checked offices of the Mumbai Region, duplicate Smart card VRCs were printed by the agency, using the available data, without the authorisation of the registering authority and payment of required fees. It was observed in RTO, Thane that 28 of such new registration VRCs were detected and confiscated. This also indicates that the agency misused the data supplied to them. Further, RTO, Thane had sought the permission (December 2009) of the Dy.TC, (Comp) to file a police complaint against the agency for printing the unauthorised Smart Cards. However, the Dy.TC, (Computer) denied permission (December 2009) to the RTO for lodging a police complaint on the plea that the unauthorised printing was unintentional and system problem and referred (December 2009) the matter to NIC, Pune. The NIC, Pune in response (January 2010) stated that the Vahan system was not responsible for printing of Smart Cards and in fact the printing of dual cards was due to **absence of checks in the agency's application software to prevent printing of more than one card for the same transaction.** The total loss of

revenue in 3,694 cases worked out to ₹ 1.76 lakh. It is also observed that though 18 months had passed since the incident was reported by RTO, Thane, the Department had not initiated any action against the agency and the unauthorised printing of Smart Cards was still continuing in the various RTO offices audited. The TC's office had not investigated the case and tightened the working of the RTO offices.
Absence of requisite controls resulted not only in utilisation of data for unauthorised printing of VRCs but also led to loss of revenue to the Government.

In the exit conference the Department stated that the issue would be taken up on priority.

The Government may ensure that necessary deterrent measures are put in place so that data is not misutilised for printing of duplicate smart cards and that the RTOs monitor the working of the private agencies to whom work of issue of Smart Cards has been entrusted.

5.12 Smart Card Registration Certificates mismatches- Karnataka

Our audit scrutiny in Karnataka revealed that, after the introduction of VAHAN application system during July 2009, the Department was issuing RC in the form of Smart Cards. On payment of the registration fee and tax and on completion of the procedures involved in approval of registration in accordance with MV Act and CMV Rules, the registration is approved through VAHAN software. The details of registration are then recorded in a table in the VAHAN Software. Data to be printed on the RC smart cards is transferred to the card printing system as flat files. After printing and recording, the cards are 'sanctified' through digital encryption. The data in the sanctified table is recaptured in VAHAN database.

Our analysis of the data captured on approval of the registration and data captured after sanctification of cards in the VAHAN application system revealed the following mismatches:

- In 83 records in four RTOs[2], the names of owners were spelt differently in both the tables.
- In 24 records in four RTOs[3], the chassis numbers were different in the two tables.
- In 14 records in four RTOs[4], the engine numbers were different in the two tables.
- In 25 cases, in RTO, Bangalore East, records from the database of sanctified cards could not be traced in the database of approved cases.

These variations indicate the possibility of insertion/modification after approval and prior to smart card printing, probably during the flat file stage.

The Department stated that the matter has been referred to the NIC for further information. The State NIC stated that a mechanism of 'personalisation' where the data on the smart card is verified with respect to that of the approved entry prior to

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2 Bangalore (East), Bangalore (North), Tumkur, and Chamarajanagar
3 Bangalore (East), Bangalore (North), Tumkur, and Chamarajanagar
4 Bangalore (East), Bangalore (North), Tumkur, and Chamarajanagar

'sanctification' existed in the application system and where such mismatches are there, the cards would be rejected.

However, as stated above, Smart cards with the mismatches have been issued despite existence of validation checks and NIC needs to have a relook at the entire process in the interest of data security and authenticity.

Conclusion

Data Security was compromised in the implementation of VAHAN and SARATHI, in the States mainly due to non implementation of a strong IT Security Policy to prevent unauthorized access to the hardware as well as the application systems. Documentation of change management control was not done. There were instances of manipulation of VAHAN data through backend mode. States were heavily reliant on NIC for implementation of the work and Departments had not built their own technical expertise. Those States which had outsourced computerization work had not ensured that their RTOs effectively supervised the work, resulting in manipulations and fraudulent cases of issue of driving licenses and mismatches in the databases and the Smart Cards issued.

Chapter-VI
MAPPING OF BUSINESS RULES

The Transport Department is mainly concerned with regulation of the use of motor vehicles in the State and collection of tax on motor vehicles in accordance with the provisions of the Acts and Rules. The various provisions of the Acts and Rules and other relevant regulations prescribe procedures for activities like registration, issue of permits/driving licenses, tax collection and tax refunds. Business Rules describe the operations, definitions and constraints that apply to an organization. All the business Rules are to be suitably translated into application software code to meet regulatory compliance and if they are not done, this limits its usefulness, there could be serious mistakes of tax calculations and recoveries as well as dependency on parallel manual procedures.

We noticed non-mapping of Rules in the following areas:

6.1 Maharashtra

6.1.1 Allotment of registration numbers in a non-serial order without recovering required fees

As per Rule 54-A of MMV Rules, 1989, the registering authority shall assign the registration number which falls in serial order after the last registration mark and in case of reservation of Jumping Number a minimum fee of ₹ 2,000 and ₹ 3,000 (₹ 4,000 upto 11.12.2007) for two/three wheeler and other than two/three wheeler vehicles respectively is leviable. ***Vahan*** system allots the registration numbers serially excluding the numbers reserved by applicants.

We observed that registration numbers were made to skip and later allotted in respect of 1,348 cases in six offices[1] of the Mumbai Region. Out of these 600 and 531 cases pertained to Pimpri-Chinchwad and Baramati offices respectively. This indicates that the system of allotment of registration numbers was manually intervened and registration numbers were allotted non-serially without recovering applicable fees for Jumping Number. The possible revenue loss worked out to ₹ 30.97 lakh. All these cases need to be examined.

Further, it is observed that in 4 offices[2] of the Mumbai Region, involving 16 cases the numbers were allotted before commencement of the alphabetical series and in three offices[3] in the Mumbai Region, involving 164 cases the numbers were allotted to vehicles after the expiry of the alphabetical series to which they belonged.

Our scrutiny of database in six offices of Nagpur region revealed that in 854 vehicles the fees for allotment of Choice Numbers were paid beyond the registration dates.

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1 RTOs:Mumbai West and Pune; Dy.RTOs:Baramati,Kalyan,Navi Mumbai and Pimpri-Chinchwad.
2 RTOs: Mumbai West, Pune and Thane; Dy.RTO : Pimpri-Chinchwad.
3 RTOs: Mumbai West and Pune; Dy.RTO: Pimpri-Chinchwad.

In respect of Nagpur region, the Department replied that the fault lies with the vehicle owners since they did not approach the Department in time and hence the delay etc.

In the exit conference the Department stated that the matter would be investigated.

6.1.2 Short levy of onetime tax due to misclassification of vehicles and application of incorrect rates

As per the BMV Tax Act, 1958, the levy of one time tax (OTT) on motor vehicles depends on the category of the vehicle owner and also whether the vehicle is indigenous or imported. The rates are regulated by the notifications issued by the Government from time to time. Section 3 of the BMV Tax Act prescribes that tax shall be levied on imported vehicles and firms at twice the rates on indigenous vehicles or for individuals as the case may be. Further, the office of the TC periodically issues circular for approving the model for registering the vehicles as imported under non-transport category or under the transport category.

During scrutiny of database in nine test checked offices of the Mumbai Region, for various periods between December 2006 and April 2011, we noticed that 43 vehicles which were declared as imported vehicles as per the circular instructions issued by the TC were taxed at the rates applicable to indigenous vehicles. Thus, as against an aggregate tax of ₹1.39 crore recoverable as worked out by us, ***Vahan*** data reflected recovery of ₹ 69.67 lakh indicating short levy of tax amounting to ₹ 69.33 lakh. Three of these vehicles, though classified in the system as imported, the corresponding tax shown by the system pertained to indigenous vehicles which indicated that system had been manually intervened.

Further, during scrutiny of data base in five offices[4], for various periods between February 2007 and May 2011, we noticed that in respect of 32 vehicles registered in the name of firms, tax was shown by the system as pertaining to vehicles owned by individuals. Thus, as against an aggregate tax of ₹ 34.74 lakh recoverable as worked out by us, Vahan data reflected recovery of ₹ 17.36 lakh indicating short levy of tax amounting to ₹ 17.38 lakh. Six of these vehicles, though classified in the system as owned by firms, the corresponding tax shown by the system pertained to vehicles owned by individuals which indicated that the system had been manually intervened.

In the Exit Conference the Principal Secretary stated that the cases would be verified and recovery would be effected.

[4] RTOs-Mumbai (West), Pune and Thane,Dy. RTOs : Baramati and Pimpri-Chinchwad

6.1.3 Non-levy and collection of Environment Tax

The Government ordered in October 2010 levy of an additional tax called green tax on transport vehicles and non-transport vehicles that have completed seven years of age and 15 years of age respectively from the date of registration. The rate of tax is 10 *per cent* of the tax amount for transport vehicles. In respect of non-transport vehicles such as motorcycles, petrol driven cars and diesel driven cars, the tax is ₹ 2,000, ₹ 3,000 and ₹ 3,500, respectively for every five years.

We observed during test check of nine offices of the Mumbai Region that the module for recovery of environment tax is not available in ***Vahan*** system but is in the planning stage. Had the facility been available, the Department could have effectively monitored the recovery. In respect of six offices of Nagpur Region for 11,373 vehicles as per the database environment tax of ₹ 3.82 crore was outstanding for recovery.

The Department accepted that there was no Module to check the payment of environment tax. However, the vehicles which came to the office for any transaction, the green tax/environment tax was levied and collected manually.

In the exit conference the Department stated that the module for recovery of environment tax was under planning.

6.1.4 Unexplained mismatch in sale value and OTT recoverable as per database

Under the provisions of the BMV Tax Act, 1958, OTT on non-transport motor cycles and motor cars is leviable at the rates prescribed in the second and third schedule of the said Act, as regulated by the notifications issued by the Government from time to time.

During scrutiny of database in four offices[5] of the Mumbai Region, we noticed that for various periods between December 2006 and May 2011, taxes recovered on account of OTT in respect of 173 non-transport vehicles was shown in the system as ₹ 1.38 crore, whereas the basis of the applicable rates and the taxes recoverable worked out to ₹ 2 crore based on the value of the vehicles. Due to the absence of audit query module in the system to generate exceptions reports such as mismatch in sale value, we could not establish the reasons for the above mismatch. The Department may investigate these cases relating to mismatch in sale value and OTT recoverable considering the huge revenue of ₹ 62.44 lakh involved.

In six offices of the Nagpur Region, the sale value and tax recovered was posted wrongly in 266 records in the database resulting in an unfair picture of the tax paid, for instance, the tax collected on particular receipt numbers were cross posted against each other showing short OTT in one vehicle and excess OTT in another vehicle.

In the exit conference the Principal Secretary stated that the cases would be verified.

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[5] RTO : Mumbai (Central), Mumbai (West), Nanded and Pune.

6.1.5 Registration numbers allotted through "Backlog" mode of registration

There is a provision in "***Vahan***" to enter details of vehicles registered prior to "***Vahan***" as well as of vehicles registered at other RTO offices and thereafter brought within the jurisdiction of an RTO. This is carried out through the "Backlog" mode of registration. As the "Backlog" mode permits allotment of any registration number, numbers favourable to applicants can be allotted without payment of choice fees.

Analysis of data revealed that "Backlog" mode was used for recording registration details of new vehicles in 842 cases in seven offices[6] of the Mumbai Region out of which 522 cases pertained to Pimpri-Chinchwad office. This indicates the possibility of allotting registration number of the applicant's choice without collecting jumping number fees.

In the exit conference the Principal Secretary stated that the necessary changes in the application software would be made.

6.1.6 Delay in allotment of Vehicle Registration Numbers

As per Rule 54-A of MMV Rules, 1989, a non-serial number namely Jumping Number could be reserved on payment of minimum fee of ₹ 2,000 and ₹ 3,000 (₹ 4,000 upto 11 December 2007) for two/three wheeler and other than two/three wheeler vehicles respectively. In Vahan system, after the applicant acknowledges the correctness of data, the same is recorded in the system and thereafter the system allots registration number to the vehicle.

Scrutiny of database in nine offices of the Mumbai Region we observed that in respect of 39,611 vehicles, the allotment was carried out even after five days since the completion of all procedures. The undue delay in allotment of numbers indicates the possibility of allotment of vehicle number of the applicant's choice without payment of applicable fees for reservation of Jumping Number involving possible revenue loss. All these cases need to be examined.

In the exit conference the Principal Secretary stated that the matter would be investigated.

6.1.7 Reserved numbers lying in blocked status

As per provision under Rule 54A of CMV Rules 1989 the reservation of choice numbers shall be cancelled if the vehicle is not produced within 30 days. Audit observed that the Vahan application system blocks the reserved numbers and continued the block status even after expiry of 30 days and no MIS report was available to monitor the reserved number that remained to be allotted.

We observed that in nine offices of the Mumbai Region, 3,523 Jumping Numbers and 764 Choice Numbers that were reserved but not allotted, remained in the blocked status and were not available for re-

[6] RTOs: Mumbai Central, Nanded, Pune and Thane; Dy.RTOs: Kalyan, Navi Mumbai and Pimpri-Chinchwad.

booking as their alphabetical series had expired. The Vahan Application system allowed the blocking of number beyond 30 days.

In the exit conference the Department stated that necessary MIS reports would be developed.

6.1.8 Gaps in issue of registration numbers

On completion of the requisite formalities, the vehicles are allotted registration number by the Vahan system serially.

Scrutiny of database pertaining to various periods between January 2008 and August 2011, revealed that in eight offices[7] of the Mumbai Region, 1,565 registration numbers were found to have been skipped and had not been allotted to vehicles. It is pertinent to mention that the system does not allow skipping of registration numbers. Thus not only these numbers wasted temporarily, besides the possibility of these registration numbers being misused subsequently cannot be ruled out.

After we pointed out these cases, RTO, Thane, stated that such skipping of numbers were on account of problems in the Vahan software and that the matter had already been referred to NIC, Pune in December 2009. However, in a meeting held by us with NIC, Pune in November 2011, the Technical Director, NIC stated reiterated that Vahan system does not allow for such gaps and the same was possible only through manual intervention.

The fact remains that though the matter had come to the notice of the Department in December 2009, the irregularity continued to exist and remedial action to prevent manual intervention by RTO staff was not taken, since out of 1565 registration numbers skipped, 222 numbers belonged to the registration series operated between January 2010 and August 2011. This mandates immediate attention so as to plug the irregularity.

In the exit conference the Principal Secretary stated that the matter would be investigated.

6.2 Karnataka

6.2.1 Jurisdictional organisation of RTOs

As per Section 40 of the MV Act, every owner of a motor vehicle shall cause the vehicle to be registered by a registering authority in whose jurisdiction he has the residence or place of business where the vehicle is normally kept. Accordingly the RTOs have been assigned jurisdiction over specific areas.

We observed that the VAHAN has not been supported with the master data of jurisdiction of each RTO based on Postal Index Number code to enable the system to process the application for registration of the vehicles

[7] RTOs-Mumbai (Central), Mumbai (West), Nanded, Pune and Thane,Dy. RTOs : Kalyan, Navi Mumbai and Pimpri-Chinchwad.

whose owners are residing in the jurisdiction of the concerned RTO and disallow and redirect other applications to the concerned RTOs.

For instance, we verified the details of address from the registration databases of two RTOs[8] and noticed 17 cases of registration which belonged to the jurisdictional area of other RTOs.

After we pointed out, the Department stated (December 2011) that this requires accurate identification and notification of areas and that the suggestion will be considered in consultation with the Government and NIC.

6.2.2 Transfer of ownership of Government vehicles

Under Rule 57 of the CMV Rules, the person who has acquired or purchased a motor vehicle at a public auction, conducted by or on behalf of the Central/State Government, shall make an application within 30 days of taking possession of the vehicle, to the registering authority who shall record the entries of transfer of ownership of the vehicle. When the ownership of the vehicle changes to a new owner other than a Government Department, it shall be assigned a new registration number of any other series. The new owner is required to pay the tax based on the category and the class of the vehicle.

We noticed that on recording transfer of ownership of a Government vehicle to an owner other than a Government Department, VAHAN does not prompt for assigning a new registration number to the vehicle and for levy and collection of the tax due. Even after the changes are effected in the owner status and change in registration number, the system fails to prompt for demand and collection of tax.

We noticed from the databases analysed, that there were 15 instances of such re-assignments in three Karnataka RTOs[9] where no further information on payment of tax was available. On field verification of these cases, we found one instance of a vehicle transferred from State Government to individual owner which had escaped payment of tax in RTO, Tumkur.

The Department reported that provision has been made to demand tax when a Government vehicle is transferred to an individual owner and referred the matter to NIC for further information. The State NIC stated that the transfer of ownership of Government vehicle is to be adopted through reassignment option of VAHAN software for changing the vehicle registration number and then apply for transfer of ownership.

The Department may therefore in coordination with NIC take necessary action for existing and future cases accordingly.

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8 Bangalore (East), Bangalore (North)

9 Bangalore Central, Bangalore North and Tumkur

6.2.3 Advance reservation of registration number

Under Rule 46-A of the KMV Rules, any person who desires to reserve any registration mark may apply in advance to the concerned registering authority, who shall, on receipt of the application and the prescribed fee, reserve registration mark applied for in favour of the applicant. There were prescribed fees for reservation of advance registration mark

Under the KMV Rules, registration mark is assigned to motor vehicles by registering authorities in a serial order on payment of registration fee, after inspection of the vehicle, approval for registration and entry of data into system. The front end trial with test data and analysis of data of the registration module revealed the following:

- The date of approval of the registration is not captured in the database. Comparison of the registration number and the date of registration vis-à-vis the series in operation on those dates revealed 168 instances in five RTOs[10] where registration numbers assigned were not in seriatim. Since the date of approval was not being recorded in the database/system, the chances of manipulation by delaying the approval for registration till such time as the number of the vehicle owner's choice comes up in natural order cannot be ruled out. The Department therefore stands to loose out on revenue of fees for 'choice' numbers.

After this was pointed out by us to the Department the project co-coordinator (NIC) stated that the VAHAN system has a provision of generating the registration number automatically based on the order of the applications received on a particular day. However, FIFO (First-In-First-Out) method of clearing transaction is not enabled, but can be enabled based on the need of the Department.

6.2.5 Refund of tax

As per Section 7 of the KMVT Act, the registered owner who has paid lifetime tax on a vehicle shall be entitled to a refund of tax at the rate specified in Part C, Part CC, Part C1 to C5 in the case of removal of the vehicle to any other State on transfer of ownership or change in address or cancellation of registration mark on account of scrapping of such due to accidents or other causes.

We observed that the refund activity has not been incorporated in the application system and refunds are processed manually.

After we pointed out, the Department stated that request was made to the NIC in respect of facility for computation of refund of tax. The NIC also agreed that the refund provision is not currently available in VAHAN. However, the same can be incorporated based on the functional requirement of the Department.

[10] Bangalore Central, Bangalore East, Bangalore North, Tumkur and Ramanagara

6.2.6 Transfer of records to newly created RTO on change of jurisdiction of RTO

We noticed that the system does not have specific mechanisms incorporating all the modalities involved in the transfer of entire information pertaining to vehicles that are transferred to the jurisdiction of other RTOs as a result of formation of new RTOs or reorganization of jurisdiction of RTOs. In the absence of a specific, documented and standardised procedure for the same, this task is addressed in an adhoc manner.

We observed, for instance, that in RTO Indiranagar, a list of cases which were transferred to the jurisdiction of RTO, K.R.Puram based on jurisdiction was uploaded to the NOC module of VAHAN application system. This resulted in transfer of control of the vehicles to the new RTO without transfer of history data of the vehicle to the concerned new RTO.

The State NIC accepted the possibility of incorporating a mechanism of transfer of records on change of jurisdiction provided such jurisdiction is defined on standard parameters like Postal Index Number (PIN) Code or Ward Number.

6.2.7 Deficiencies of Tax Module of Vahan

6.2.7.1 Levy of lifetime tax

At the time of payment of fee for registration of non-transport vehicles, the tax collection module of VAHAN accepts entry of data into the sale value field and calculates lifetime tax which would be collected and a receipt is issued. However, the sale value entered through tax collection module is not updated in the registration record of that vehicle, but it requires the case worker to re-enter the same.

This design weakness along with absence of supervisory controls facilitates possible entry of lower sale value at the time of tax collection and subsequently to enter a different figure for purposes of the RC.

During Data analysis in 3,632 cases in six RTOs we came across variation of ₹ 16.59 crore, in amount of tax calculated on sale value recorded in the database and the amount of tax actually paid[11]. On examination of physical records in 279 cases at these RTOs to verify the correctness of the tax calculated on the sale value, we noticed actual short levy of tax of ₹ 64,417 in 20 cases. The Department did not respond on recovery of taxes on these vehicles which have been registered with incorrect sale value.

After we pointed out this, the NIC has reported that the issue was discussed with the Department and the option of changing the sale amount in the registration record by the case worker during data entry after tax payment has been disabled. It was also agreed to provide a facility to approving authority for automatic checking of tax collected in comparison with sales invoice entered by the treasury/registration clerk.

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[11] Bangalore Central, Bangalore East, Bangalore North, Ramanagara, Mangalore and Dharwad

6.2.7.2 Fees paid under Manual Mode not captured in Tax Module

Under the KMVT Act and Rules made thereunder, transport vehicles were liable to pay tax for each quarter in advance. Accordingly, demand for tax due is to be created in each RTO in respect of all the transport vehicles registered in that Office (home RTO). The tax paid by the vehicles owners are collected through "Tax Collection" module of VAHAN and accounted for receipts of the RTO.

Vehicle owners are also permitted/given facility to pay tax in any other RTO other than home RTO in the State. The application system also provides a "manual tax or fee collection" module to enter details of tax paid at other RTOs such as challan number, date, period for which tax is paid, RTO at which payment has been made etc. to enable the home RTO to collect tax for subsequent periods.

Our cross verification in Karnataka, of "Tax Module" table "and "Manual tax or fee collection module" revealed that the details of tax paid recorded in the "Manual tax or fee collection" module are not found in the "Tax Module" table". Thus in absence of the complete details, in the "Tax Module" table" the amount of tax and fees due from a vehicle cannot be ascertained.

We further noticed that though the Manual Tax module was designed to record the details of the taxes paid by a vehicle owner at the RTOs other than the RTO in which he was registered, it was incorrectly being used by the parent RTO itself. We noticed 317 such instances in three RTOs.

The system that permits settlement of arrears based on details of tax paid at other RTOs should have adequate controls by which the veracity of such payments can be ensured. We observed that the system does not incorporate any control by which these transactions may be supervised, verified or reconciled as below:

- As the RTOs have not been networked, the payment of tax in other RTOs in the State could not be accounted against the tax demand in the home RTO on real time basis. As a result demand position would remain overstated/ un-reconciled when taxes were paid in other than home RTOs.
- The Tax Collection Module at the time of payment of Quarterly tax of a vehicle in the home RTO alerts the case worker regarding the arrears position of tax from that vehicle. However, if the owner of the vehicle pays tax for any quarter/year in a RTO other than the home RTO, the system accepts the payment and issues receipt. This facilitates non- collection of arrears.
- There were no system controls to ensure the authenticity of the entries made through "manual tax or fee collection" module. As there is no method of cross verification with the other RTOs where the payment is actually made and the home RTO where the vehicle is registered. We noticed 13 instances where "manual tax or fee collection" was recorded at RTO, Indiranagar but the same were not traceable to the tax collection database of the RTO, Indiranagar.

- The Department has standardised the format for receipt number having two characters followed by seven digits. This format was not adopted in the database structure to validate entries to this field of this module. As a result a record can be generated with any random entry to the field.

These weaknesses in design is a potential risk which permits transactions to be carried out without collection of revenue due to Government and compromises the effectiveness of VAHAN as an accounting system in preventing leakage of revenue.

After we pointed these out, the Department stated that the matter has been referred to the NIC for further comments.

We recommend that the Department may consider sharing the tax payment database backup with the concerned RTOs periodically. Also, since the databases of all RTOs are being uploaded into the SCR on a daily basis, possibility of establishing reconciliation among the RTOs and disseminating of arrears position to concerned RTOs may be considered.

6.2.7.3Mode of tax payment–Non integration between Registration and Taxation Modules

In the VAHAN system, registration module assigns code for mode of tax payment for each vehicle based on class of the vehicle, eligibility of owner etc to facilitate tax collection module to levy and collect the applicable tax or to allow eligible exemption. Our analysis of these fields in the RC database and testing of the front end with test data revealed the following:

- Under the KMVT Act, though tax exemption is admissible only to Government vehicles, it was also possible to assign exempted status to other owners at the time of data entry. We noticed that in the database in 389 records, exempted status was shown against individual owners liable for payment of lifetime taxes.
- We noticed from Tax Module "Taxation Table" that though the vehicle owners of 191 vehicles were paying tax either annually or quarterly but these were recorded as life time tax payers in the Registration Module in "Owners Table". Thus correct position of tax due against the owners of vehicles was not ascertainable.
- In seven cases where vehicles were registered under annual tax option they had made LTT payment.

The Department stated that the matter has been referred to the NIC for further comments. The Department cannot absolve itself from the incorrect entries made in the system, whereby the RTOs and their staff have clearly erred in assigning exempted tax status to private individuals.

6.2.8 Tax Clearance

The VAHAN application system offers the facility to clear tax in respect of vehicles for specific periods. The tax clearance module is independent of tax payment

modules in as much as it provides clearance for periods for which there is no evidence for payment of tax in either the tax module or the manual tax payment module.
The reasons for providing such a facility has not been documented and not made available to us. An effective information system would provide for processing of all legitimate transactions of the organisation through proper front end channel and any difficulty/error in processing of information shall have adequate trouble shooting techniques. Any arrangements/facilities provided to by-pass the workflow and complete the transaction would make the system vulnerable to misuse.

The databases of RTO Bangalore Central, Bangalore East and Bangalore North where transport operations were initiated in May 2010, there were 1,080 instances where tax has been cleared for periods after June 2010 for vehicles though payments for the same are not represented in either Tax module or Manual tax module.

The Department stated that the matter has been referred to the NIC for further comments and that the latest VAHAN version (1.3.45 prime) has incorporated biometric control to prevent misuse of this provision.

6.2.9 Past Arrears not cleared with current acceptance of taxes

Data analysis also revealed that in respect of 87 vehicles in two RTOs[12] though there were arrears of tax for earlier periods ranging from less than a month to more than a year, tax for subsequent periods were accepted, without clearance of past arrears.

The DCB module integrated with VAHAN does not capture such instances where intervening periods are in default. This points to imperfect design of the DCB, affecting the dependability of the demand position as presented by it.

Our test check of records at the field offices, however, failed to reveal any instance of actual escapement either since the missing payments was collected manually or records pertaining to payment were not ported into the database.

The Department stated that specific instances were referred to NIC for clarification. **The NIC explained that such gaps in tax payment data might be due to failure on the part of the Department to update payment records in the previous application system prior to porting into the present system in May 2010. The explanation does not, however, account for tax gaps that have occurred after May 2010.**

6.2.10 Issue of No Objection Certificate/Clearance Certificate

Under the CMVT Act and Rules made thereunder vehicles migrating from one State to another shall obtain a No Objection Certificate (NOC) from the parent RTO and produce the same before the RTO of the migrated State for registration in that State. Similarly for a vehicle migrating from one RTO to another within the State due to change of address or ownership, a Clearance Certificate (CC) is required to be

[12] Bangalore Central and Bangalore North

obtained. The NOC/CC certifies the vehicle with regard to tax paid, clearance of offences booked against the vehicle, if any, etc.

We noticed on comparison of data of NOC/CC module with tax collection module data of three RTOs[13] that in 147 instances NOC/CC were issued even though there were arrears of tax from those vehicles.

The Department stated that the matter was referred to the NIC for further information and that specific cases will be separately replied to by the RTO concerned. Reply of the concerned RTOs had not been received (November 2011).

6.3 Haryana

6.3.1 Generation of Daily Collection Registers (DCRs)/cashbook by designing unauthorised print reports facilitating short deposit of revenue to the Government account .

Rule 2.2 of Punjab Financial Rules, as adopted by the Haryana Government, requires a Drawing and Disbursing Officer (DDO) to satisfy himself that all the monetary transactions are entered in the cash book as soon as they occur and are attested by him. The official who receives the money on behalf of the Government is required to deposit the amount into the treasury/bank on the same day or in the morning of the next day. The head of the office is also required to verify all the entries including totals of all the entries in the cash book or have this done by some responsible official other than the writer of the cash book and initial all entries as correct.

In RA, Rohtak, manual DCRs/ cashbook was dispensed with and generation of receipts and cashbook were started electronically w.e.f 16 March 2011. Instead of using standard Software VAHAN for generating DCRs/ cashbooks, in-house crystal reports were designed which were neither tested nor documented before implementation. We observed that while designing these crystal reports, some of the fields were not mapped properly with the result totals of cashbook generated through these reports did not reflect total money collected from general public on account of fee, taxes, road tax and other incidental charges for getting vehicles registered. Further, tables of VAHAN designed to capture financial details were not joined properly with the result that some of the receipts entered in the database were missing in electronic DCRs/cashbook.

In contravention to the codal provisions referred ibid, the monetary transactions entered in the DCRs/cash book were not attested and tallied by the head of office with the receipts actually issued to public. Alterations in totals of DCRs/cashbooks were done by dealing hand manually in some cases and these totals were not checked independently by any other official.

[13] Bangalore Central, Bangalore East and Bangalore North

Analysis of data for the period 16 March 2011 to 6th September 2011 revealed that due to incorrect design of customised crystal reports, collection of fees, fines and Government taxes was less reflected to the extent of ₹ 8.20 lakh in the DCRs/cash books. Based on the totals of cash books/DCRs, corresponding amount was also less deposited in the treasury.

During the process of analyzing the details of amount short deposited, files and other records pertaining to Registration of vehicles were checked which revealed that:

- Due to improper joining of tables in crystal reports, 38 receipts involving extra fee of ₹ 4.92 lakh collected from public for allotment of choice /out of turn numbers (Annexure-1) were not appearing in electronic cashbook and deposited in treasury thereby resulting in short deposit of Government receipts to that extent.

- Due to improper mapping of fields, total collection was reflected less in the electronic cashbook and based on these totals, ₹ 0.89 lakh (Annexure-II) were less deposited in the treasury.

We could not examine the records pertaining to balance shortage of ₹ 2.39 lakh as vital details like Registration numbers, name of owners of vehicles had not been indicated against these cases in DCRs/cashbook. Examination of one such case, however, indicated that these records pertained to cases where the applicants while registration of new vehicles, had chosen to retain their old numbers but in the Software, details of taxes and vehicles were not swapped.

Regarding non swapping of details of vehicles where the applicant chooses to retain his old registration number, the technical advisor, NIC in the Exit Conference admitted that this facility was not available in the Software.

The Additional Transport Commissioner in December 2011 stated that unaccounted government revenue of ₹ 8.03 lakh had been recovered from the delinquent official.

6.3.2 Usage of local software with no linkage with Vahan

In RA, Faridabad, the work relating to issue of Driving Licenses and Registration Certificates had been outsourced to an external agency. Analysis of data revealed that outsourced agency was not implementing complete workflow of VAHAN and SARATHI Software. The outsourced agency was using these Software only for taking print outs of Registration Certificates and licenses by capturing information relating to owners, vehicles etc. The financial data was entered in unauthorized Software developed in Foxpro by the vendor to generate cashbook and issue receipts which was editable and did not facilitate automatic calculation of Tax. The Software had no linkage with VAHAN Software and vital details like sale price of vehicles, chassis number and engine number of vehicles were not being captured. The source code was available with the data entry operator deputed by outsource agency who was given exclusive rights in this Software.

Generation of cashbook and issue of receipts through an unauthorised Software which is neither documented nor tested was fraught with the risk of financial irregularities.

The ATC stated (December 2011) that instructions had been issued to all the field offices to stop usage of unauthorised Software.

6.3.3 Dual database

In RA, Gurgaon, VAHAN had been installed at two nodes which had been linked to two different databases. In one database, details relating to collection of fee and taxes were being stored and in the other database, details of vehicles and owners were being stored. In the database pertaining to collection of fee and taxes, only last four digits of chassis number and first name were captured to generate receipt for cash received from a person. In the database pertaining to capture vehicle details, dummy entry of zero or one was being reflected in the field designed to capture sale price of vehicle with the result zero tax was being reflected in the field designed to automatically calculate tax. These two databases were not linkable as temporary Registration number starting with "ZZ" was being generated in the database pertaining to fee and taxes whereas Registration number starting with "HR" was being generated in the other database. Similarly, other fields like chassis number and name were also non linkable as part information was being captured in the database pertaining to fee and taxes and none of the databases was complete and showed reliable information stored in the fields designed to capture financial transactions and vital details of vehicles.

RA, Gurgaon in his reply (September, 2011) stated that the matter will be taken up with NIC officials and single database would be maintained hereafter.

6.3.4 Non-Utilisation of MIS reports facility in VAHAN to identify vehicles with lapsed fitness

Sec 41(7) of Central Motor Vehicles Act, 1988 provides that a certificate of registration in respect of a motor vehicle, other than a transport vehicle, shall be valid only for a period of 15 years from the date of issue of such certificate and shall be renewable. Further as per provisions of Rule 52(3) of Central Motor Vehicle Rules 1989, a motor vehicle shall not be deemed to be fit for plying after the expiry of the period of validity entered in the certificate of registration and no such vehicle shall be used in any public places until its certificate of registration is renewed.

An analysis of owner table of VAHAN database revealed that since legacy data of vehicles registered earlier through unauthorized software had not been migrated to VAHAN Software, necessary monitoring was not being done to check plying of vehicles with lapsed registrations. Analysis of available data at test checked locations revealed that 18340 vehicles registrations had expired. The owners of the vehicles have not re-registered their vehicles in contravention to the provisions stated, ibid. Apparently, the vehicles were plying on the road without fitness unless their non use was intimated to the RTOs.

In almost all the States it was seen that this provision of CMV Act regarding fitness was not being monitored at all on the ground of Staff shortages. Until the vehicle owner came to the RTOs for any service, they were not in a position to verify the fitness of the vehicles. Though the VAHAN Application had features to generate MIS Reports of various use, including on Fitness of Vehicles, the feature was not being utilized by the RTOs.

6.4 Chhatisgarh

6.4.1 Short-levy of Life time tax

The Government of Chhattisgarh vide its notification dated 10 November 2010 enhanced the rate of life time tax by one *per cent* in each class.

During the test check of the data base of the VAHAN Software we found that though there is a system in the VAHAN software to update the tax rate, the Department did not use the same to update the tax rates. Further scrutiny revealed that in respect of 1443 vehicles, life time tax amounting to ₹ 49,07,222 was leviable. However, the RTO levied and realised only ₹ 40,93,548 which resulted in short realisation of ₹ 81,3,404.

When we pointed out the case in audit, the RTO Raipur accepted the objection and replied that the notices have been issued to the vehicle owners for collection of the balance amount.

6.4.2 Absence of validity checks to prevent short realisation of fee

According to Rule 55-A (a), (b) and (c) of Chhattisgarh Motor Vehicles Rules 1994, the Government had fixed specific fee for some special registration numbers (Choice numbers).

During the test check of the data base of the VAHAN Software we found in two RTOs[14] that in respect of 25 vehicles, choice fee amounting to ₹ 2.69 lakh was leviable. However, the RTOs levied and realised only ₹ 82,000 in these cases. This resulted in short realisation of ₹ 1.87 lakh.

The VAHAN software also failed to detect these cases as no master data was created for choice number despite presence of such facility in the software.

When we pointed out the case, the RTO Bilaspur recovered the whole amount, while RTO Raipur stated that the notices have been issued to recover the balance amount.

6.5 Jammu &Kashmir

6.5.1 List of Defaulters not generated and non provision for calculating additional tax

J&K Motor Vehicle Taxation Act 1957 and Rules made there-under stipulates that tax shall be paid by the owner of a vehicle in advance either quarterly, half yearly or

[14] Bilaspur and Raipur.

annually and in case of default in payment of tax, additional tax at the rate of two *per cent* of such tax for each month shall be leviable.

Our test-check of database of seven RTOs/ARTOs revealed that the system was not designed for auto generation of information in respect of the vehicles that had defaulted in payment of tax. Thus, the system could not be utilised for monitoring realisation of arrears of tax from defaulters. The Department was not aware of the total number of owners that had defaulted in payment of tax.

Though this exercise could have been generated with the help of the software by performing some additional exercises, the Department had not done any such exercise so as to review the database to ascertain the actual number of vehicles that were on road and liable to pay tax.

We found that 13,349 Goods and Passenger Vehicles had defaulted in payment of tax of ₹12.36 crore in the eight computerised RTOs/ ARTOs as mentioned in the following table:

(₹ in lakh)

Sl.No.	Name of the RTO/ARTO	Defaulted Goods Vehicles			Defaulted Passenger Vehicles			Total (1+4)	Total (2+3+5+6)
		No	Tax	Additional amount	No	Tax	Additional amount		
						(₹ in lakh)			
		1	2	3	4	5	6		
1	RTO Srinagar	2616	69.64	17.34	758	9.80	2.25	3374	9.03
2	ARTO Budgam	1178	59.59	20.00	260	8.73	2.83	1438	91.15
3	ARTO Baramulla	278	3.90	0.36	75	0.74	0.08	353	5.08
4	RTO Jammu	3405	152.00	51.55	953	22.12	6.54	4358	232.21
5	RTO Kathua	717	35.19	13.52	255	578	2.02	972	628.73
6	ARTO Udhampur	978	70.60	24.05	1646	58.52	20.24	2624	173.41
7	ARO Rajouri	86	2.26	0.29	164	3.85	0.27	250	6.67
	Total	**9258**	**393.18**	**127.11**	**4111**	**681.76**	**34.23**	**13369**	**1236.28**

The Department stated (September 2011) that matter would be taken up with the NIC for modification/change in the VAHAN software for calculating additional amount in the shape of fine at the rate of two *per cent* on the token tax not paid on the due date and for generating the list of defaulter vehicles.

The Department while accepting the audit observation in the Exit Conference stated that the defaulters would be intimated through public notices to avoid cancellation of registration of their vehicles.

6.5.2 Incorrect feeding of rates of goods tax in Master Table

VAHAN was implemented in RTO Rajouri in April 2010. The rates in respect of goods tax mentioned in the notification dated April 2005 issued by the Government were required to be fed into the System. However, we found that incorrect rates of goods tax were entered into the tax module as mentioned in the following table:

	Rates as per notification dated April 2005		Rates mentioned in the Master table	
Sl. No	Laden weight	Tax rate (₹ Per Quarter)	Laden weight	Tax rate (₹ Per Quarter)
1	Upto 1000 kg	400	Upto 1000 kg	400
2	Laden weight 1001 to 3600	900	Laden weight 1001 to 2600	900
3	Laden weight to 3601 to 8100	1000	Laden weight to 2600 to 4500	1000
4	Above 8100	1100	Above 4500	1100

Thus a vehicle with laden weight in the range of more than 2600 but less than 3600 will be charged by system tax of ₹ 1000 per quarter instead ₹ 900 per quarter i.e. more by ₹ 100 per quarter. We found in the data base that in 146 goods vehicles, system had charged goods tax in excess by ₹ 0.28 lakh. As such the mistake needs rectification and the correctness of the tax paid need to be ascertained by the Department.

After being pointed by us, the Department stated in the Exit Conference that Transport Commissioner would look into the variation of rates between those approved and the rates actually charged and will take up matter with NIC and rectify the error in the system.

6.6 Madhya Pradesh

Audit findings revealed that the customised application software used by the State had undermentioned deficiencies with respect to mapping of business rules.

6.6.1 Registration certificate validity beyond permissible period

According to Section 41(7) of the MV Act, a certificate of registration issued under sub-section (3) in respect of a motor vehicle, other than a transport vehicle, shall be valid only for a period of fifteen years from the date of issue of such certificate and shall be renewable for a period of five years at a time thereafter.

Analysis of the data in respect of 48 offices[15] revealed that 11,991 registration certificates issued by the Department between April 2007 and June 2011 were for validity periods beyond the permissible period of 15 years. The results of the data analysis in respect of 23 registration certificates were confirmed through manual test check of records made available in

[15] Except DTO- Alirajpur and Burhanpur.

RTO, Bhopal and Morena.

The Department accepted the audit observation and stated (December 2011) that all the 11,991 registration certificates were issued in conversion and transfer of ownership cases and no such problem has been noticed in the case of new registrations. The reply of the Department is not tenable as the cases pointed out by audit include cases of new registration also.

6.6.2 Fitness issued beyond permissible period

According to Section 56 of the MV Act, 1988 and Rule 62 of the Central Motor Vehicles Rules, 1989 (CMVR), a certificate of fitness granted in respect of the transport vehicles shall be in Form 38 and such certificate when renewed shall be valid for a period of one year.

It was noticed in 886 cases pertaining to the period April 2007 to September 2010 in respect of 44 offices[16] that fitness certificates were renewed for more than one year contrary to the provisions which has serious implications on road safety. Further, in 127 cases of non-transport vehicles fitness certificates were issued/renewed beyond the permissible period. To verify the accuracy of the data, we checked the manual records in 90 cases made available to us and found that in 17 cases (14, two and one case respectively in Bhopal, Gwalior and Morena) the fitness certificates were issued beyond the permissible period. In the remaining 73 cases the starting date of fitness was incorrectly entered in the database though fitness certificate was found to have been correctly issued for the permissible period.

The Department accepted the audit observation relating to fitness certificates for transport vehicles and non-transport vehicles and for transport vehicles stated (December 2011) that the first version of the application was not designed to control the fitness validity as per MV Act. It was further stated that the application in use at present was controlling the fitness period correctly. With respect to non-transport vehicles it was stated that the validity of fitness was being stored with other data only till 2008. Expiry of registration now automatically applies on fitness certificates. It was stated that with the updated software (October 2010) the repetition of instances pointed out by audit is ruled out.

[16] Except DTO- Alirajpur, Ashok nagar, Burhanpur, Damoh, Dindori and Sheopur.

6.6.3 Registration numbers not issued in continuity

The MV Act provides that a registering authority shall assign a unique mark (Registration number) in a series to every vehicle at the time of registration. Allotment of advance registration number (except reserve numbers which are notified by the Department/ Government) for a vehicle is made at the request of a vehicle owner for a specific number chosen by him as per rule 55(a) of *Madhya Pradesh Motoryan Niyam*. In a single series, 9999 number can be allotted to vehicles, in a sequential manner, unless certain numbers are reserved or blocked at the request of the vehicle owner.

Analysis of sample data relating to buses revealed that in 95 cases of 'P' series of DTO, Shivpuri the registration numbers were not allotted in a sequential manner. In addition to this, the registration number of the subsequent series (e.g. PB) was allotted prior to the immediately preceding series (e.g. PA). This shows improper management of registration of vehicles. Besides, possibility of misuse of unalloted numbers cannot be ruled out.

6.6.4 Non levy of penalty on delayed payment of vehicle tax

According to Section 13 of the *Madhya Pradesh Motoryan Karadhan Adhiniyam, 1991*, if the tax due has not been paid by the owner of the vehicle within the prescribed period i.e. up to 15th of each quarter in respect of goods vehicle, the owner would be liable to pay a penalty at the rate of four *per cent* per month on the unpaid amount of tax subject to a maximum of twice the amount of tax due.

Analysis of the data of goods vehicle in respect of 47 offices[17] revealed that in case of 891 cases {vehicles having Registered Laden Weight (RLW) 16200 Kgs} and 971 cases (vehicle having RLW 25000 Kgs) vehicle tax was paid between April 2010 and March 2011 with a delay of one to 12 months. Penalty was, however, not imposed. This resulted in non-levy and recovery of penalty amounting to ₹ 8.25 lakh. Results of the data analysis were confirmed by manual test check of records in respect of 33 cases out of 53 cases which were made available in RTO, Gwalior.

This reflects that there is no provision in the software to work out penalty for delayed payment of tax.

[17] Except DTO- Alirajpur, Burhanpur and Neemuch.

6.6.5 Driving licence for transport/other than transport vehicles issued beyond permissible period

According to Section 14 of MV Act, a driving licence issued or renewed to drive a transport vehicle/other than transport vehicle be effective for limited period of three years/20 years or the age of 50 years, whichever is earlier, and after the age of 50 years, licence is renewed for a period of five years at a time.

Analysis of the data in respect of 41 offices[18] revealed that in the case of 72 driving licences issued to drive transport vehicles and 1,051 driving licences issued to drive other than transport vehicles, the validity of these driving licences was beyond the permissible period. The results of the data analysis were confirmed by manual test check in eight records out of 18 records made available in RTOs, Gwalior and Morena.

The Department accepted the audit observation and stated (December 2011) in respect of driving licences issued for transport vehicles that reasons for such lacunae are being analysed to enable incorporation of appropriate checks to prevent such recurrence in future. In respect of driving licences issued for non-transport vehicles, it was stated that the facility of manual feeding of data has been withdrawn now and therefore such instances would not recur in future.

6.6.6 Driving licence issued to minor applicants

According to Section 4(1) of the MV Act, no person under the age of eighteen years shall drive a motor vehicle in any public place, provided that a motor cycle with engine capacity not exceeding 50CC may be driven in a public place by a person after attaining the age of sixteen years.

Analysis of the data in respect of five offices[19] revealed that six driving licences were issued to minors to drive a vehicle with gear or non-transport light motor vehicle.

The Department accepted the audit observation and stated (December 2011) that necessary updation in the software is in progress to rule out any such recurrence in future.

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18 Except ARTO- Dhar, Katni, DTO- Alirajpur, Ashoknagar, Burhanpur, Dewas, Dindori, Jhabua and Sheopur.

19 RTO- Bhopal, Indore, Jabalpur and DTO- Barwani and sehore.

6.6.7 Driving license issued to persons having more than one driving license

According to Section 6(1) of the MV Act, no person shall, while he holds any driving licence for the time being in force, hold any other driving licence except a learner's licence or a driving licence issued in accordance with the provisions of Section 18 or a document authorising, in accordance with the rules made under Section 139, the person specified therein to drive a motor vehicle.

Analysis of the data in respect of 42 offices[20] revealed that 1,165 persons were holding two driving licences. Manual test check of records in RTO, Gwalior revealed that three persons were holding two driving licences.

The system should be designed to check whether any licence in any category has been previously allotted to the applicant at the time of processing of application for a driving licence and accordingly alert the staff and not permit issue of duplicate license.

The Government stated during the exit conference that the possibility of inbuilt biometric verification in the system of the person applying for issue of driving licence would be explored and implemented, if found feasible.

6.7 Meghalaya

6.7.1 Partial mapping of business rule relating to collection of surcharge

As per Section 4A of the Meghalaya Motor Vehicle Taxation (Amendment) Act 1973, a Motor Vehicles surcharge (SC) at the rate of 10 *per cent* of the tax payable shall be charged on all private vehicles.

Although the 'Vahan' software automatically calculates registration fee, road tax and surcharge based on the key parameters, there also is a provision to change the amount of surcharge through manual intervention. We noticed that surcharge was not realised from 399 vehicles out of 26,747 private vehicles registered in four DTOs. The reasons for not collecting the SC were not found on record. Thus manual intervention cannot be ruled out due to this design deficiency. The position of 'non realisation of SC' of these four DTOs was as under:

[20] Except DTO- Alirajpur, Anuppur, Ashoknagar, Burhanpur, Dindori, Sheopur, singrauli ar l Umaria.

DTO	Number of private vehicle from whom SC realisable	Number of private vehicle from whom surcharge realised	Number of private vehicle from whom surcharge not realised
Jaintia Hills	2,132	2,129	3
East Khasi Hills	19,719	19,326	393
West Garo Hills	4,536	4,534	2
South Garo Hills	360	359	1
Total	**26,747**	**26,348**	**399**

This omission to collect SC was not noticed in the other three DTOs[21].

We recommend that the SC be realised from the vehicles owners and NIC asked to disable the existing provision that enables manually entering the SC amount.

After this being pointed out, the department accepted the audit observation and stated (October 2011) that necessary instructions would be issued to all concerned DTOs for realisation of the surcharge.

6.7.2 Non-mapping of provision for calculating penalty for delayed registration

Section 43 of the MV Act stipulates that the owner of a motor vehicle may apply to the registering authority to have the vehicle temporarily registered with a validity period of one month only and shall not be renewable. Contravening the provision of the Act attracts a minimum penalty of ₹ 100 under section 177 of the MV Act.

In Meghalaya, the dealers register the vehicles temporarily for a period of 30 days prior to delivery of vehicles to the purchaser. During test of 'Vahan' software, we noticed that the system registers vehicles even after a period of 30 days from the date of purchase without red flagging a data entry wherever a vehicle is being registered late. The system also does not auto-calculate the penalty applicable for delayed registration as per the provision of the MV Act. The system only provides for manual entry of the penalty amount thus making the application of penalty discretionary.

After implementation of 'Vahan' software, out of 23,659 vehicles registered late in seven DTOs, 16,337 vehicles were registered by charging penalty and the remaining 7,322 vehicles were registered without charging penalty for delayed registration. The DTO wise position is as under:

Sl. No.	DTO	No of vehicles registered after 30 days	No of vehicles from whom penalty realised for delayed registration	No of vehicles registered without charging penalty for delayed registration
1	Jaintia Hills	1,696	364	1,332
2	East Khasi Hills	8,802	4,046	4,756

[21] DTO West Khasi Hills, DTO East Garo Hills and DTO Ri Bhoi

3	West Khasi Hills	830	767	63
4	East Garo Hills	5	5	0
5	West Garo Hills	5,333	4,937	396
6	South Garo Hills	4,995	4,943	52
7	Ri Bhoi	1,998	1275	723
	Total	**23,659**	**16,337**	**7,322**

We recommend that TD ask NIC to build in an alert mechanism in case where vehicle is being registered late.

After this being pointed out, the Department accepted (October 2011) the audit observation and stated that the issue of building an alert mechanism in case where vehicle is being registered late would be looked into.

6.7.3 Inadequate validation resulting in same registration number being assigned to vehicles registered in different DTOs

Under sub-section 6 of Section 41 of MV Act, a registered vehicle is assigned a unique registration number which serves as a distinguishing mark for the vehicle.

During analysis of data of 'Vahan' we noticed that 1,311 vehicles[22] of different make were assigned 655 registered numbers. While 3 vehicles shared a same registration number, 1,308 vehicles shared 654 registration numbers. Out of these 1311 vehicles, 488 vehicles sharing 244 registration numbers were of different vehicle make. E.g. while one vehicle having registration number say 'ML0NX NNN1' is a 'Two wheeler', another is a 'Truck'. Similarly while another vehicle having registration number say 'ML0NX NNN2' is a 'Jeep', another is a 'Maruti 800'. Out of these 1,311 vehicles, 1199 vehicles were registered before implementation of Vahan and 112 vehicles were registered after implementation of Vahan.

Issue of same registration number to another vehicle is a violation of the provision of the Act.

We recommend that all cases of duplicate registration numbers be investigated and rectified.

After this being pointed out, the Department accepted (October 2011) the audit observation and stated that necessary action would be taken to prevent recurrence of similar error and duplicate registration numbers would be rectified.

6.7.4 Non-mapping of jurisdiction of the registering authority into '*Vahan*' software

Section 40 of the MV Act requires every owner of a motor vehicle to register his vehicle in the jurisdiction of the registering authority where he has the residence or place of business where the vehicle is normally kept. Thus as per the provision of the

[22] Vehicles with same Registration number but different Chassis.

Act the DTOs are responsible to process only those applications for registering the vehicles whose owner's residence or place of business fall under their jurisdiction.

We noticed that even though the 'Vahan' software captures the temporary and permanent address including pincode number of the vehicle owner, it does not have an in-built mechanism to ensure that the temporary or permanent address of the vehicle owner falls under the jurisdiction of the registering authority. The system permits vehicle owners residing anywhere to register their vehicle in any of the DTOs.

We noticed from analysis of the data that out of 1,47,988 vehicles registered within the State, the temporary and permanent address of 5,736 vehicle owners were from places outside the jurisdiction of the registering DTO and 9,002 vehicles were from outside the State of Meghalaya.

DTO	Number of registered vehicle	Number of vehicle from different district of the State	Number of vehicle from outside the State
Jaintia Hills	16,075	453	289
East Khasi Hills	79,330	1,315	6,979
West Khasi Hills	4,884	368	8
East Garo Hills	2,313	703	464
West Garo Hills	22,805	812	1,101
South Garo Hills	8,958	371	40
Ri Bhoi	13,623	1,714	121
Total	**1,47,988**	**5,736**	**9,002**

Thus a total of 14,738[23] vehicles were registered in violation of the provision of the Act i.e. the DTO.

We recommend that TD ask NIC to build a validation check to restrict registration of vehicles whose address does not fall in the jurisdiction of respective DTO.
After this being pointed out, the department accepted (October 2011) the recommendation made by audit.

6.7.5 Non-generation of the letters 'ML' by the system while registering the vehicles in the State.

As per sub-section 6 of Section 41 of the MV Act, a registration number consists of a group of letters followed by such letters and figures as are allotted to the State by the Central Government. The Central Government has allotted to the State of Meghalaya the letters 'ML' for use as registration number.

We noticed during test of the 'Vahan' software that, the software does not automatically generate the letters 'ML' assigned to the State and requires the user to input the same. Analysis of data, revealed that between 10 October 1983 to 29 January 2010, 215 vehicles were assigned incorrect registration numbers such as

[23] 5,736 + 9,002 = 14,738

M09', 'M10', 'JML', "KML', 'AP09V', 'MNL', 'MP', etc. These have not yet been corrected. The DTO-wise position was as under:

Sl. No.	DTO	Number of registered vehicle	Number of vehicles with wrong registration mark
1	Jaintia Hills	16,075	30
2	East Khasi Hills	79,330	18
3	West Khasi Hills	4,884	13
4	East Garo Hills	2,313	10
5	West Garo Hills	22,805	52
6	South Garo Hills	8,958	57
7	Ri Bhoi	13,623	35
	Total	**1,47,988**	**215**

Thus the numbers were wrongly lying in the database thereby affecting the correctness of the State Register of registered vehicles

We recommend that the wrong registration numbers be rectified and NIC asked to update the 'Vahan' software so as to generate the letters 'ML' automatically while assigning registration numbers.

After this being pointed out, the department accepted (October 2011) the audit observation and stated that rectification of the incorrect data would also be carried out.

6.7.6 Non-capturing of fitness certificate at the time of registration of new vehicles by the system.

Under the provision of the Section 56 of the MV Act, a transport vehicle shall not be deemed to be validly registered for the purpose of Section 39 of the Act, unless it carries a certificate of fitness issued by the prescribed authority.

We noticed that although the vehicle owner submits the certificate of fitness along with the application for registering the vehicle, the 'Vahan' system, however, registers a vehicle even without capturing the mandatory information of fitness. As a result, out of 77,761 vehicles registered in the State after implementation of 'Vahan', the fitness information was not captured in 6,881 cases. The DTO-wise position was as under:

S. No.	DTO	No. of vehicles registered after implementation of 'Vahan'	No. of vehicles where fitness has not been captured
1	Jaintia Hills	6,962	349
2	East Khasi Hills	44,786	92
3	West Khasi Hills	1,868	3
4	East Garo Hills	12	0
5	West Garo Hills	11,958	13
6	South Garo Hills	6,873	6,279
7	Ri Bhoi	5,302	145
	Total	**77,761**	**6,881**

We recommend that TD ask NIC to update the system to make input of data of fitness mandatory while registering vehicles in the State.

After this being pointed out, NIC stated that private vehicles does not require fitness certificate. The reply of the NIC was not correct as fitness certificate are necessary for private vehicles also at the time of registration. The Department, however, accepted (October 2011) the audit observation and stated that a NIC would be asked to modify the system to as to make input of data of fitness mandatory.

6.7.7 Non-capturing of essential information of vehicles by the system

As per the MV Act, tax is levied based on parameters like laden and unladen weight in respect of private motor cars, motorcycles etc., seating capacity in case of passenger vehicles like stage carriages and contract carriages and laden weight in the case of goods vehicles. Correct and complete personal information of the vehicle owner will enable the DTOs to issue demand notices to defaulting vehicle owners for realisation of outstanding dues expeditiously.

Our data analysis of 'Vahan' of the seven DTOs revealed that data entries of certain key fields were not done at the time of registration as these were not mandatory fields. The incomplete key fields noticed during analysis are summarised below:

Patriculars	Vehicles registered prior to implementation of 'Vahan' and data entered in backlog mode	Vehicles registered after implementation of 'Vahan'
Seating capacity left blank	558	511
Unladen weight left blank	6055	753
Owner's name in abbreviation	444	318
Owner's name left blank	727	4
Chasis number not mentioned	4	14
Engine number not mentioned	682	599

Registration of vehicles without complete data entry of key fields indicated deficiency in input controls and lack of monitoring.

We recommend that NIC update the software to make data entry mandatory of all fields at the time of registration. TD should also ensure that data entry is regularly monitored.

After this being pointed out, NIC stated that the Vahan application would be re-visited to prevent such cases. Further the department accepted (October 2011) the audit recommendation to make data entry mandatory for all fields at the time of registration.

6.8 Tamil Nadu

6.8.1 Mapping of Business Rules

All the relevant business rules and procedures are required to be identified and suitably incorporated in the system. Our analysis revealed that the following rules were not mapped.

6.8.1.1 Non - collection of penalty

Quarterly tax has to be paid within 45 days of commencement of the quarter. For delayed payment penalty is leviable at 25, 50 and 100 *per cent* for delay beyond 45, 60 and 90 days respectively. For automatic calculation of penalty for belated payment of tax, the penalty rates and parameters have to be mapped in the system. We observed from an analysis of the database for the period from April 2007 to March 2011 that for 81,995 vehicles, though tax was paid after the stipulated period, penalty was not collected due to non-mapping of the penalty rates in the software. We checked the DCB register and found that in the RTO Chennai Central, around ₹ 0.98 lakh was due as penalty in respect of 44 cases out of 61 cases test checked.

6.8.1.2 Collection of quarterly tax in respect of transport vehicles whose permits were renewed but not updated in the system

The road tax for the transport vehicle has to be calculated after fixing parameters like seating capacity and laden weight through the issue of permit. The above business rule of ensuring validity of the permit was not made mandatory in the system while collecting the road tax.

We noticed that quarterly tax in respect of 509 vehicles continued to be collected though the validity of the permit of the vehicles was shown as 'expired' in the system. The above cases were cross verified with the manual records and we found that the Department had manually verified the permit validity. In view of this the data available in the system could not be relied upon.

We recommend that the software needs to be modified making it mandatory to enter permit details while calculating the quarterly tax.

6.8.1.3 Collection of idle tax in respect of goods carriages

If any vehicle is kept idle, the refund of tax already received for the period in which the vehicle was kept idle was required to be supported by a stoppage report by the Motor Vehicle Inspector that the vehicle was actually idle. We noticed that the provision has not been mapped in the software. Further, the Department was also collecting an amount of ₹ 105 per month for the period the vehicle was kept idle. In the absence of any provision in the Act, collection of any amount as 'idle tax' was not in order.

6.8.1.4 Grant of driving license for persons below 18 years:

As per Section 4 of the Motor Vehicles Act, 1988, no person under the age of 18 years should drive a motor vehicle in any public place provided that a motor cycle with engine capacity not exceeding 50 cubic capacity may be driven in a public place by a person after attaining the age of 16 years.

We noticed that while granting driving license for applicants who were under 18 years of age, the class of vehicle was indicated as "motor cycle without gear" instead of "motor vehicle with less than 50 cubic capacity". Non-mapping of this business rule led to incorrect grant of license to persons below 18 years in 78 cases in eight offices[24].

We recommend that the Government may take necessary steps to incorporate all the business rules and procedures in the system.

6.9 GUJARAT

6.9.1 Non-mapping of business rules

Out of 34 fields prescribed for registration of motor vehicles in 'Form 20' under Central Motor Vehicles Rules, 1989, five fields were not mapped in the system which are as under:-

Sl. No.	Column No. of Form 20	Name of the fields
1	2	Age of the person to be registered as registered owner
2	5	Duration in State at the present address
3	7	Place of birth
4	8	If place of birth is outside India, when migrated to India
5	9	Declaration of citizenship by status

Since the data are meant to be utilised at the State and Central level in future for cross verification at various ends, its non-mapping renders the data incomplete to that extent.

The CoT stated (November 2011) that information in these five fields are not vital and therefore not mapped in the system. The reply is not tenable as the above requirements were statutory and hence were required to be captured as per the prescribed form.

6.9.2 Non-mapping of provision for calculation of differential amount of tax

The rate of road tax for individual owner is 6 *per cent* of sale amount and in case of Company/Firms; it is 12 *per cent* of sale amount of the vehicle. Thus, whenever there is change in ownership from individual to Company/Firm, the differential tax is required to be calculated and recovered from the new owner of the vehicle

We found that the VAHAN system did not have a provision to calculate and record the receipt of differential tax at the time of change in the name of the owner in the system. The calculation and receipt of the differential tax is thus being done manually.

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[24] Ayanavaram, KK Nagar, Meenambakkam, Tambaram, Tiruvallur, Tiruvanmiyur, Vaniyambadi and Vellore.

6.9.3 Deficiency in the system for differential tax collected manually

In case of temporary breakdown of the system or for any other reasons hand written receipts are issued in token of tax received. These receipts were later required to be entered in the system to update the records and rule out misappropriation of receipts due to loose controls etc. Further, any alteration made in the vehicles was also required to be incorporated in the ***VAHAN*** system.

Data analysis of non-transport vehicles (cars) registered at RTO, Ahmedabad during the period from 1 April 2009 to 31 March 2011, revealed that 22 vehicles were transferred in the name of company/firms from individuals and the tax was collected manually. On cross verification from receipt books, it was found that though the name of owner was changed in the ***VAHAN*** software, the differential tax collected manually was not incorporated in the ***VAHAN*** system.

The CoT accepted the deficiency and stated (November 2011) that in the new version of the module, provision of collection of differential tax/changes made in vehicles has been incorporated.

6.10 Himachal Pradesh

6.10.1 Plying of vehicles without fitness certificate

The CMV Act provides that a transport vehicle shall not be deemed to be validly registered unless it carries a certificate of fitness issued by the competent authority.

Scrutiny of the commercial vehicle database revealed that certificate of fitness of 18,854 transport vehicles of different categories[25] (MGV, LMV, LGV, HMV) expired as on 31 March 2011 which were not got renewed by the owners of the vehicles for which fitness fee involving ₹ 47.71 lakh was to be recovered. It was also found that there is no practice of issuing notices to the owners for getting the fitness certificate renewed.

During the exit conference, the NIC stated (December 2011) that this problem could only be resolved once the software is made web enabled for which steps are being taken.

6.10.2 Absence of validation checks

The 'VAHAN' software has a module for token tax collection for a specific period at the receipt counter and a receipt is issued to the owner of the vehicle.

We noticed that after issue of receipt, the concerned dealing assistant has to clear the tax details in the sub-menu 'Tax clearance' under 'Tax module' by entering the date upto which the tax has

[25] MGV: Medium Goods Vehicle, LMV: Light Motor Vehicle, LGV: Light Goods Vehicle, HMV: Heavy Motor Vehicle.

been deposited instead of its clearance at the time of issue of receipt. In the absence of validation check on the field while entering dates for clearance of tax, reliability of data could not be ensured and chances of suspected fraud cannot be ruled out. Further, it was noticed that if tax clearance is not done after issue of receipt, the defaulter report generated through the 'VAHAN' will give wrong results.

After we pointed this out, the Government stated (December 2011) that changes in the software would be carried out after considering the proposal of the NIC.

The Government may consider providing suitable control to clear the tax payment automatically at the time of issue of receipt.

6.10.3 Non-levy of fine by the system

Rule 4-A of the HPMV Rules, as amended from time to time provides for levy of penalty at the rate of 25 *per cent* per annum of the tax due from the owner of the vehicle if the owner fails to pay the tax due under Section 3 of the HPMV Act. Evasion of revenue can be checked by incorporating adequate application checks in the software.

We noticed that necessary controls to levy penalty/fine at the prescribed rates had not been built into the software and the matter was left to the discretion of the RAs leaving scope for non/short levy of fine/penalty.

After we pointed this out, the Government stated (December 2011) that changes in the software would be carried out.

The Government may consider suitable control to calculate the penalty/fine automatically.

6.11 Jharkhand

6.11.1 Delay in mapping of Business rules

Under the provisions of the BMV Rules, choice fee of ₹ 5,000 was to be realised, if a preferred registration number was sought for, from the vehicle owner at the time of registration of the vehicle. The amount of choice fee was enhanced (November 2007) ranging between ₹ 11,000 and ₹ 51,000 depending upon the registration number opted for.

Scrutiny of database of VAHAN of the selected district transport offices which indicated that in case of 34 vehicles registered with choice numbers, the software accepted fees of ₹ 5,000 or less instead of leviable fee ranging between ₹ 11,000 and ₹ 51,000 which was in contravention to the provisions of the latest revision. We further analysed that the mapping of business rules in the application was delayed upto three years. This resulted in short realisation of choice fee of ₹ 5.20 lakh.

We test checked (November 2011) the manual records in all the three cases pertaining to the Jamshedpur district transport office. We found that choice fee of ₹ 66,000 was

short levied involved in all these three cases. After we pointed out the matter, the DTO raised the demand of ₹ 66,000. This confirms the fact that the business rules were not mapped in the system leading to short realisation of revenue.

6.11.2 Non-adherence of central law in granting validity of driving licence

Under the provisions of the MV Act, validity of a driving licence, either original or on renewal, shall be till the age of attaining 50 years of the applicant. The Act, further stipulates that the driving licence shall be effective for a period of 20 years or the age of 50 years, whichever is earlier. Any further renewal of licence after 50 years shall be for a period of five years. Such amendment came into force from November 1994.

We analysed the database of *SARATHI* of the selected district transport offices which indicated that the provisions of the Act *ibid* had not been enforced on renewal of driving licence as detailed in the following table:

Sl. No.	Particulars	Number of cases					
		Bokaro	Hazaribag	Jamshedpur	Koderma	Ranchi	Total
1	Excess validity to licence holders in the age group of below 50 years	2	0	0	102	969	1,073
2	Less validity to licence holders in the age group of below 50 years	8	0	6	172	2,422	2,608
3	Excess validity to licence holders in the age group of above 50 years	0	0	0	2	62	64
4	Less validity to licence holders in the age group of above 50 years	72	10	0	5	149	236
Total		**82**	**10**	**6**	**281**	**3,602**	**3,981**

Excess validity ranged from two to 167 days whereas less validity ranged from two to 209 days. Further, we also noticed that the validity date was not automatically generated by the application, instead they were fed manually. Thus, deficient system design may result in incorrect assignment of validity date of licence.

After we pointed out the matter (September 2011), the Government replied (November 2011) that all provisions of the Acts and Rules must be strictly adhered to and instructed NIC to make provisions for auto generation of validity period of driving licence in the system. Further reply has not been received.

6.12 Rajasthan

6.12.1 Non Mapping of Business Rules

Any system developed has to take into account all the rules and the applicable rates thereof. We noticed following deficiencies in the VAHAN.

- We noticed that in 23 cases, the registration period of non-transport vehicles were shown more than the permissible period of 15 years.
- We noticed that the system charged the penalty on one time tax from the date of purchase instead of allowing grace period of thirty days.

6.12.2 Short recovery on allotment of fancy number

As per notification dated 18-8-2007 in reference to rule 4.3 of RMVR 1990, for allotting a specific choice/fancy registration number in advance for two wheelers and other than two wheelers, an amount of ₹ 1,000 and ₹ 5,000 respectively were to be charged by the Registering Authority.

During the analysis of data of fancy number table, we noticed that due to non-mapping of the rates of fancy numbers for vehicle registrations, the Department had charged ₹ 500 to ₹ 1,000 against the prescribed fee of ₹ 1,000 and ₹ 5,000 in seven cases. This non-mapping of rates resulted in short recovery of fee of ₹ 19,200.

CONCLUSIONS:

The above instances show that though VAHAN and SARATHI Applications had mapped most of the Business Rules for the States, there were instances where due to non–communication of requirements by the States, there were some gaps in implementation, resulting in incorrect issue of driving licenses, taxes being collected manually and not being updated in the system, non-capturing of essential information relating to vehicles and driving licenses, irregularities associated with issue of choice numbers to applicants etc. Non Mapping of tax provisions and their changes have implications of revenue loss to the States.

Chapter-VII

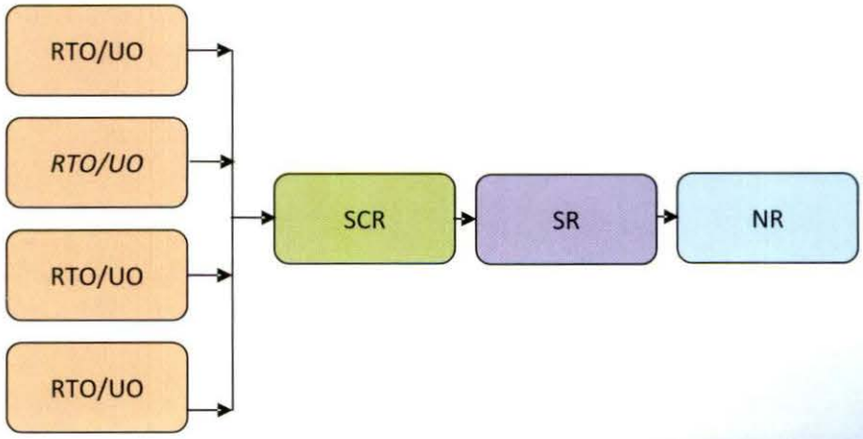
State/National Register

The objective of the ***VAHAN*** and ***SARATHI*** was to develop a National Register (NR) from State Register (SR) by developing and providing uniform software to ensure that documents are readable across the country through interconnectivity amongst District Transport Offices (DTOs) and National Registers for motor vehicles and driving licenses.

State Register/National Register

The information captured at the RTO level is transferred to the State Consolidation Register (SCR) to act as back up data for disaster recovery. The data transmission through VPN connection occurs on a daily basis at scheduled times. Selected data from the SCR is to be replicated to the State Register (SR) which will act as a repository at the State level to provide information to the State Transport Department, RTOs, automobile dealers and Police Department. Selected data from the State registers will flow to the National Register (NR). This will also enable the users to avail the service on "anywhere service" basis.

DATA FLOW



The State and National Register with NIC providing all the technical and infrastructure support was taken up in the Second Phase and the work began in the States since 2009. The work of the compilation of the Registers was incomplete in all the States mainly due to absence of planning for completion of importing of legacy data in the VAHAN and SARATHI applications, for further importing into the State/National Registers. The Legacy data has not been transferred in all the States and there were no definite time lines for completing the work, till the time we reviewed these applications (December 2011). It was unclear when the Registers would be completed, until NIC takes proactive action to get the task completed.

In the Exit Conference, we were informed by the Ministry and NIC that there is a proposal under active consideration of GOI for providing financial assistance to

States for digitising of legacy data and the Ministry/NIC would be monitoring the completion of the porting of the legacy data to SR/NR.

In all the States reviewed we saw that the State and National Registers had many inaccuracies, due to non validation of the data, lack of supervisory checks on the data and mismatch between the data structures of the two registers.

The reports from the States regarding status of the State and National Registers of Vehicles and Driving licenses, are given below:

7.1 Assam

7.1.1 Pending backlog entry led to incomplete State Register and National Register

Successful application of software would largely depend on the completeness, authenticity and reliability of data entered into these. Details of backlog (pre-computerisation) data of vehicles registered and driving licences issued manually were required to be entered into the system, on priority.

We noticed that as many as 4,89,544 records pertaining to DTO, Kamrup were yet to be captured in '*VAHAN*' and '*SARATHI*' application. The other five DTOs did not make any assessment of backlog data. We observed that in practice, the backlog entries were captured only when the vehicle owner approached the department for any further transaction including payment of tax. We feel that the basic objective of creation of State/National register (SR/NR) would be achieved only when the database is complete with details of all vehicles and licence holders including those pertaining to pre-computerisation period. Consequently, the Department could not complete the SR thereby leading to non-alignment of the SR with the NR.

After we pointed this out, the Government during the exit conference admitted that there was huge backlog data and stated that backlog data entry will be started with DTO, Kamrup (R&L).

We recommend that the Department formulate a specific target date for entering backlog data into the software and the work be monitored properly to ensure timely completion.

7.2 Andhra Pradesh

In Andhra Pradesh out of 1.04 crore registered vehicles about 0.74 crore (73 percent) records had been ported in the NR as on 14 October 2011.

However, out of 86 lakh driving licences issued, no record was ported into National Register for Sarathi and thus NR for the State was incomplete.

Driving Licences in SCOSTA format had not been issued in the 2-tier architecture offices due to non-provisioning of these features.

7.3 Bihar

7.3.1 Connectivity amongst the District Transport Offices

Under the e-governance plan of the State Government, inter-connectivity between the DTOs had been planned through modem on internet under the State Wide Area Network (SWAN) project.

The District Transport Offices are required to be connected with the Data Centre situated at NIC Patna for the flow of data from the DTO to the State register. For this a suitable and secure network infrastructure is required to be in place having adequate bandwidth to support data transfer between the individual DTOs and the State Register/National Register.

The existence of the same registration in two DTOs clearly indicates that there is no connectivity amongst the DTOs.

After we pointed this out, the Department accepted the fact and stated during the exit conference that there was no inter-connectivity amongst the DTOs. However, all the DTOs are individually connected with the State Data Centre.

7.4 Delhi

7.4.1 Delhi State Register for VAHAN and SARATHI

The State Transport Department implemented 'VAHAN' application in September 2004 for Non-transport vehicles only. The VAHAN (version 2.0) application was implemented in 2008 for limited commercial vehicles (auto rickshaw, school cab, and maxi cab). However, it continued to use the legacy software for registration of commercial vehicles which was kept separately for auto rickshaws, vehicle inspection & taxies, and heavy transport vehicles and thus these databases could not be integrated.

The SARATHI application meant for issuing driving licences was replaced by customised software developed by a third party.

NIC has customized SARATHI to the requirement of the Central Motor Vehicle Act and Rules as well as particular requirements of States. The Department did not get the SARATHI customized according to their requirements and instead decided to issue driving licences through third party developed software in a public-private party venture. **We saw that after February 2011, since implementation of the web based customized application, the NIC has stopped importing the driving licenses issued, in the State Register, due to technical problems of non integration of the customized software with SARATHI. The licenses issued between 2008 to February 2011, had also not been featured in the State Register. Thus the issue of driving licenses in the State presents a fragmented picture besides an incomplete State Register due to portability issues.**

The Delhi State Register could only be populated with the data of non-transport vehicles and thus the State Register for vehicle registration and driving licences could not be prepared in entirety.

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[1] DTO Patna and DTO Muzaffarnagar

The Department may give due priority for formulation of IT strategy, for implementation of VAHAN for registration of all categories of vehicles, and SARATHI for issuance of driving licences.

7.5 Himachal Pradesh

7.5.1 Creation of State Register and National Register

Sections 63 and 26 of the MV Act and Rules 75 and 23 of the CMV Rules prescribe the maintenance of a State Register of motor vehicles in Form 41 and a State Register of driving licenses in Form 10 respectively for supplying the information to the Central Government. The main objective of the 'VAHAN' and 'SARATHI' softwares is to create a National Register of vehicles to serve as a national database for registered vehicles.

We found that the State register as prescribed by the Central Government in respect of data relating to Vehicle Registration and Driving Licenses is being maintained by the NIC. The NIC captures the data from the server of the RAs across the State for preparation of the State Register. However, the data of RAs at Dodra Kawar, Kaza and Pangi is being ported manually using secondary media as these RAs have not been connected through the Himachal State Wide Area Network (HIMSWAN).

The data from the State Register, thus, accumulated is replicated to the NIC data centre at Hyderabad to generate the National Register. However, the data structure of the State Register and National Register was not made available to audit.

The Government stated (December 2011) that matter regarding connectivity of RAs at Dodra Kawar, Kaza and Pangi is being taken up with the BSNL authorities to provide network connectivity.

7.6 Gujarat

7.6.1 Non-maintenance of State/National Register of Driving Licenses

The VAHAN and SARATHI database server is a decentralized system. All the servers at the RTOs/ARTOs installed were connected to the State Data Centre through VPN connection. The data pertaining to VAHAN of all the RTOs/ ARTOs are copied to the State Consolidated Register on a daily basis. Further, the data from State Consolidated Register are uploaded to the State Register and then to the National Register.

However, due to insufficient bandwidth between the RTOs/ARTOs and the NIC State Data Centre at Gandhinagar, the data pertaining to Driving Licenses issued through *Sarathi* could not be transferred to State Register for Driving License and in turn to the National Register for Driving Licences. **Due to this, the State Register/National Register for Driving Licences issued in Gujarat could not be created till date.**

The CoT agreed (November 2011) stated that connectivity of RTOs is being updated to prepare the State Register.

7.7 Jammu and Kashmir

7.7.1 Absence of a centralised data-base and connectivity linking

We observed that all the eight computerised RTOs/ ARTOs were not linked to a common database even after a lapse of six years from the start of the project in 2005. In the absence of a centralised data-base and connectivity linking all the sites, the intended objectives of computerisation in the Motor Vehicle Department were not fulfilled and consequently, one of the main objectives of automatic flow of data into the State Register and National had remained unachieved. As regards National Register, we were informed the NIC collected data from the computerised eight RTO/ARTO offices and feed them directly to the National Register.

After we pointed this out, the NIC representative present in the Exit Conference stated that intra linkages between the RTO was yet to be provided. **Though the NIC informed us that the State Register and National Register are being maintained, NIC neither showed us any State or National Register nor did we find maintenance of a consolidated data for the entire State even for the RTOs that were computerised.**

7.7.2 Non-maintenance of State Register and absence of connectivity

Sections 63 and 26 of the MV Act and Rules 75 and 23 of the CMV Rules prescribe the maintenance of a State Register of motor vehicles in Form 41 and a State Register of driving licences in Form 10 respectively. The aim of computerisation was to allow flow of data of vehicles and driving licenses from the RTOs/ARTOs to a Central State Server for a State Level register and further transfer thereof to the Central Server maintained at the National level for 'National Register'.

We observed that all the eight computerised RTOs/ ARTOs were not linked to a common database even after a lapse of six years from the start of the project in 2005. In the absence of a centralised data-base and connectivity linking all the sites, the intended objectives of computerisation in the Motor Vehicle Department were not fulfilled and consequently, one of the main objectives of automatic flow of data into the State Register and National had remained unachieved. As regards National Register, we were informed the NIC collected data from the computerised eight RTO/ARTO offices and feed them directly to the National Register.

After we pointed this out, the NIC representative present in the Exit Conference stated that intra linkages between the RTO was yet to be provided. He further stated that State Register and National Register are being maintained. However, NIC neither showed us any State or National Register nor we found maintenance of a consolidated data for the entire State even for the RTOs that were computerised.

7.8 Jharkhand

7.8.1 State Register and National Register

Creation of the State Register (SR) and National Register (NR) for registration and licences was the ultimate objective of computerisation in the Transport Department. The information captured at the district transport offices level was required to flow to the

State Consolidated Register (SCR) to act as back up data for disaster recovery. Selected data from the SCR was to be replicated in the SR and flow to the NR. The NR was expected to act as a central repository of all crucial data/information. This would also enable users to avail the service on "Anywhere Service" basis. Apart from selective back up of the State level repository, the NR would also provide information to the Department of Road Transport, district transport offices, inter-State check post, security agencies and other services. Information[1] regarding SR and NR though called for (July 2011) was not furnished either by the Department or by the NIC. As such, the status of SR and NR could not be ascertained by audit. Non-creation/non-updation of SR and NR would not only defeat the objectives of computerisation in the Department but also fail in checking/correcting errors, mistakes and lacunae in the system. Monitoring of the system as a whole could also not be achieved unless SR and NR have been created/updated.

7.9 Karnataka

7.9.1 Database Architecture/State-National Registers

The database has been created at the RTO level in a distributed pattern with each RTO having two servers, one active and one back up in the same premises. There is no lateral connectivity across the RTOs and one RTO cannot access information from the database of other RTOs. However, for the purpose of maintaining a State Register and National Register of licences and registration certificates, limited upward connectivity has been provided to a central server in NIC, State HQ in Bangalore. The central server captures data from each RTO through Virtual Private Network (VPN) on broadband by using Oracle Database Integrator (ODI) and replicates them in the server as separate and distinct databases for each RTO. This constituted the State Consolidated Register (SCR), where each RTO database remains independent and separate at NIC State HQ. The data from SCR is converted/ aggregated and transferred to the State Register which is maintained in a separate server with the NIC state HQ at Bangalore. The National Register database has been established in Hyderabad which will capture and store the aggregated data from all the State servers. Data transfer to different registers is an automatic and scheduled activity.

7.10 Kerala

7.10.1 Deficiency in interconnectivity

All the offices except the check posts were connected to the State Data Centre (SDC) either through the Kerala State Wide Area Network (KSWAN) or through BSNL leased line. Due to lack of connectivity the check post staff could not access the State Consolidated Register (SCR) or National Register (NR) to check the authenticity of the records produced by the vehicle owners in case of a doubt on the genuineness of the records. The Department may consider interconnecting the check posts to strengthen their effectiveness.

[1] Logs of transfer of data from SR to NR and database of SR & NR.

7.10.2 Discrepancies in the National Register

The ultimate objective of computerisation was to create State and National Registers for vehicles and licences. The objectives of creation of such registers were to provide online services to customers, to provide information to the State Transport Department, Department of Road Transport and Highways, RTOs, border checkposts, Police Department etc and to act as backup data in the event of a disaster, as a repository at the State and National level. We found the following discrepancies in the information available in the NR.

- Vehicles were wrongly classified in the NR even though the classification was correctly captured in the SCR. For example a vehicle correctly classified as 'Motorcycle above 95 cc' in the SCR was wrongly shown as 'Goods Carriage National Permit' in the NR.
- Details of vehicles with registration numbers starting from 1 to 999 (all series) were not captured in the NR.
- Even though provision was made in the NR to capture 'class of vehicle' in respect of driving license, such data was not updated from the SR.

7.10.3 Variations between the National register and State consolidated register

- The format of License Number in the SCR (like '01/5583/1988' consisting of three fields viz. RTO code, License No., License Year) is different from the format used in the NR (for the above licence is KL01 19880005583). Thus the public would be unable to input the licence number in the national website to get online service due to the difference in the format of licence number in the State and National register.
- There was no provision in the NR to capture information on permit, validity of certificate of fitness in respect of transport vehicles, validity of registration in respect of non-transport vehicles and tax remittance particulars.
- Provision to capture the serial number of the present owner of a vehicle was made in the NR, but data in respect of Kerala vehicles were blank due to non-inclusion of this information in the SCR. This information would be helpful in knowing the number of ownership changes for a particular vehicle.
- Provision for incorporating insurance policy particulars such as Policy Number, Name of Insurance Company and date of expiry of policy were made in the NR whereas provision for the same was not available in SCR. Even if the provision was made in the software, the vehicle owners have to approach the field offices to update the validity each year on renewal of insurance policy as there is no connectivity between field offices and Insurance Companies for online updating.
- License for establishing vehicle pollution testing centre are issued by the Department. No provision for issue/renewal of such license electronically was made in SMART MOVE. Provision for updating the information on Pollution Under Control

Certificate (PUCC) issued by such institutions in respect of vehicles in the vehicle registration table was also not made.

- In VAHAN, details of recovery of tax, fees or fine pointed out in audit can be entered, but no such facility exists in SMART MOVE.

7.10.4 Non-operation of online services

- The Department provided e-application for 20 services through their website *www.keralamvd.gov.in* hosted in 2008. Even though it was termed as e-application, the facility provided through the web site was only for filling up and taking print out of the application forms. The applicant has still to approach the concerned RTO office along with the application printed from the site and submit supporting documents for availing the service. As the e-payment facility was also not made operational, the applicant still has to visit the concerned RTO for remitting fees even for the services for which presence of the applicant or production of the vehicle was not required and hence the concept of 'Any where any service' could not be fulfilled.

7.10.5 Creation of Multiple records for vehicles and licences resulted in redundancy of data which affected the reliability of information

Data related to vehicles and licences at each RTO/SRTO in the State are stored in independent servers kept at respective locations. This data is transmitted and updated at the database in the servers at SDC, Thiruvananthapuram maintained by the Kerala IT Mission every 10 minutes. From the SDC the data is again transmitted to the database of the State Register (SR) maintained by NIC at Poonkulam, Thiruvananthapuram. Data from SR is transmitted to the National register maintained in the servers at Hyderabad.

Data in respect of some vehicles or licences were stored in more than one RTO office due to change of address of the vehicle owner/ license holder, transfer of ownership of vehicles, issue of permits from a different office other than the one where the vehicle was registered, remittance of tax in different offices etc. Therefore multiple records in respect of one vehicle or one license were created in the database of the servers in the SDC. The website of the Kerala Motor Vehicles Department was relying on the data available with the SDC. When the information about a vehicle or driving licence is enquired through the department website, more than one record could be retrieved in several cases and it would not be possible to ascertain which data was current and valid. The Ministry of Road Transport and Highways started a website *parivahan.nic.in* on 20 July 2011. Details of vehicles and licences are also available in this site. Even though multiple records in respect of the same vehicle was noticed in the SCR, only the latest changed record is being transmitted to the NR. Further even though the NIC maintained a server at Poonkulam for SR, data from SR was not made available to the website. Department could not explain the process of data transmission from the SCR to SR and from SR to NR.

7.11 Madhya Pradesh

7.11.1 Data capturing for State Register and transmission of data for National Register to NIC

The customised module developed by M/s SCL captures the data required for the State Register as per the requirement of the MV Act. The data for the National Register for registration of vehicles and data relating to driving licences for the State Register is transmitted on a daily basis through the server installed by NIC at the Data Centre situated in the office of the Transport Commissioner at Gwalior.

The Department endorsed (November 2011) the reply of SCL stating that data for National and State Register is maintained by NIC and data from Transport Department is made available to NIC which is ported by NIC automatically for the purpose of maintaining National and State Registers as per the guidelines of Ministry of Road Transport and Highways, Government of India.

The data analysis of the tables used for capturing and transmitting data for State/National Register had shown input, process and validation control deficiencies as discussed in subsequent paragraphs. These deficiencies affect the quality of data being captured for the State/National Register.

7.12 Maharashtra

7.12.1 State Register and National Register of Vehicles

According to the provisions of section 63 of MV Act, 1988, each State Government should maintain the State Register (SR) of Motor Vehicles, in respect of the motor vehicles in that State, containing the particulars, such as (a) registration numbers; (b) year of manufacture; (c) classes and types; (d) names and address of registered owners; and (e) such other particulars as may be prescribed by the Central Government.

The State Register (SR) of motor vehicles has been created and maintained by NIC and data pertaining to 39 offices out of 40 offices where VAHAN system was implemented was available in the SR.

RTO, Panvel where the Vahan system was implemented in January 2011 was yet to be connected to the Server of the SR.

Our scrutiny of data base in nine offices by us revealed that 7,174 vehicle records in respect of which registration numbers had not been assigned were also available in the system and such records were also included in the SR. Further scrutiny of database revealed that out of 7,174 records six vehicles bearing same chassis number were registered in the same RTO/Dy. RTOs and 580 vehicles bearing same chassis number were registered in other test checked offices. The SR was thus incorrect to that extent.

In the exit conference, the Department accepted the observation.

7.12.2 State Register and National Register of Driving Licences

According to provision 26 of MV Act, 1988, each State Government should maintain the SR of DL, in respect of the driving licences issued and renewed by the licensing authorities of the State Government, containing the particulars, such as (a) names and addresses of holders of DLs, (b) licence numbers, (c) dates of issue or renewal of licences, (d) dates of expiry of licences, (e) classes and types of vehicles authorised to be driven and (f) such other particulars as the Central Government may prescribe.

The NIC has created and maintained State Consolidation Register (SCR) by connecting Server of SR to RTO/DY.RTO offices. 39 out of 46 offices were connected to Server of SR and in respect of seven offices[2] **connectivity is yet to be established. However, State Register of Driving Licenses of Maharashtra State has not been created due to problems in migrating data from DB2 database system of State Consolidation Register to the PostgreSQL database system of the State Register (November 2011). Due to non-creation of SR for DL the ultimate objective of creation of a national database of DL had not been achieved.**

In the Exit Conference the State Department accepted the observation. The NIC Hqrs. stated that the porting problems have been sorted out and the SR is being constructed for driving licenses.

7.13 Meghalaya

7.13.1 Incomplete State Register of Motor Vehicles

- Sections 63(1) of the Motor Vehicles Act, 1988 (MV Act) stipulates that each State Government, shall maintain a register to be known as State Register (SR) of Motor Vehicles in respect of Motor Vehicles of the State.
- On 07 July 2008, GOI, MoRTH directed the State Government to maintain the SR of Motor Vehicles in the electronic form utilising the 'Vahan' software. During the period from July 2008 to June 2011, the TD established connectivity between the database of all seven DTOs and the State server placed at NIC, Shillong. Data from the database of the DTOs is extracted and stored in the State server thereby establishing the State Consolidated Register (SCR). Information such as name and address of the vehicle owner, fitness and tax paid details, vehicle descriptions, etc. is extracted from the SCR and stored in the SR. Data from the SR is then replicated into the Central server at NIC New Delhi, storing the data for National Registers of Motor Vehicles.

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[2] RTO: Nagpur (Urban), Panvel and Pune; Dy.RTOs: Akluj, Buldhana, Sangli and Shrirampur.

- We noticed that 12,150 backlog records of registered vehicles, involving all seven DTOs had not yet been computerised. Thus the State is yet to achieve a completed status of SR of Motor Vehicles.
- After this being pointed out, the department accepted the audit observation and stated (October 2011) that the department is outsourcing the data entry to a private agency with a time frame to complete the work in three months.

7.13.2 Incomplete State Register of Driving Licences

- Sections 26 of the Motor Vehicles Act, 1988 (MV Act) stipulates that each State Government, shall maintain a register to be known as the State Register (SR) of Driving Licences in respect of driving licences issued and renewed by the licensing authorities of the State.
- On 07 July 2008, GOI, MoRTH directed the State Government to maintain the SR of Driving Licences in the electronic form utilising the 'Sarathi' software. During the period from July 2008 to June 2011, the TD established connectivity between the database of all seven DTOs and the State server placed at NIC, Shillong. Data from the database of the DTOs is extracted and stored in the State server thereby establishing the State Consolidated Register (SCR). Information such as license holder's name, address, license number, date of issue/renewal of license, date of expiry of licence, class or type of vehicle authorised to drive, etc. is extracted from the SCR and stored in the SR. Data from the SR is then replicated into the Central server at NIC New Delhi, storing the data for National Registers of Driving Licences.
- We noticed that 2,07,573 backlog records of DLs, involving all seven DTOs had not yet been computerised. Thus, the State is yet to achieve a completed status of SR of Driving Licences.

After this being pointed out, the Department accepted the audit observation and stated (October 2011) that the department is outsourcing the data entry to a private agency with a time frame to complete the work in three months.

7.14 Rajasthan

7.14.1 Network infrastructure absent

For the system to be fully operational, network inter-connectivity among RTOs/DTOs is required. It was observed that the connectivity had not been established in Banswara, Dungarpur and Kota districts of the State. There were constant disturbance in the network lines at RTO Pali, which resulted in problems related with backup and updation of the software. Further, tax collection centres have not been connected with the TC/RTOs.

Due to non connectivity and disturbance in network lines, the National Register and State Register were not showing correct and updated information.

7.15 Tamil Nadu

We analysed the website relating to State Register and National Register for correctness and completeness of the information. The analysis revealed the following:

- In the **State Register** for VAHAN certain important information, viz., permit details, financier details, and for SARATHI convicted license details and suspended/ cancelled driving license details were not available.
- The macro level details such as revenue collection, total number of vehicles registered, permits and driving licenses issued in a year were generated from the MIS report of the SR.
- In the **National Register** there is no provision to capture information on permit, validity of certificate of fitness in respect of transport vehicles. Further, the vehicle details available in the SR were not available in the NR.

7.16 West Bengal

7.16.1 Non-completion of State Register

- We found that backlog data entries in respect of both the vehicle count and driving licence had not been completed in all the RTOs throughout the State till March 2011. We observed from a test check of eight RTOs[3] that backlog data entries in 4,84,129 number of cases were pending as on August 2011. Further, installation of SARATHI had not been done in 17 out of 26 RTOs (**March 2011**). This has adversely affected the creation of National and State Register of DL and RC. MoRTH had adversely commented in September 2009 on the slow progress of the project in the State.
- We noticed that the State Register maintained by the State NIC was not handed over to the Transport Department. Further, a replica of the SR had not been installed in the Transport Department, Writers' Building. Thus, the Transport Department had to depend on NIC for this purpose.
- We noticed that the structure of NR had not been prescribed in the Central as well as in the State MV Acts and Rules. Thus, there was no uniform prescribed format and information which was to be supplied by the States for creation of NR.

After we pointed this out (July 2011), the Technical Director, NIC informed (November 2011) in the exit conference that the State Register for VAHAN had been prepared. SARATHI had not been introduced in 10 RTOs and hence the State Register for SARATHI had not been prepared.

7.17 Uttar Pradesh

7.17.1 State Register and National Register

We observed that:

- The State Register is a central repository of all the data/information captured at the user level i.e. at RTOs/ARTOs level. The State Register for VAHAN only is being

[3] Balurghat, Bankura, Contai, Paschim Medinipur, Malda, Murshidabad, Nadia and Tamluk.

prepared by the Transport Department which is unable to provide all crucial data/information due to shortcomings in the data captured e.g. incomplete, incorrect and unreliable data.

- The work of driving licenses not having been computerised, State Register for Driving licenses was not prepared.
- Out of the total 1,32,87,232 vehicles plying on road, data of 61,50,568 (46.29 *per cent*) non-transport vehicles and 1,29,365 (0.97 *per cent*) transport vehicles is yet to be digitised as on 31 March 2011. This has adversely affected the completeness of State and National Register.
- At present the National Register related services are not available on 'Anywhere Service basis' at the State or Central level.
- While the details of the vehicles registered in RTO offices are available at the State level in the form of the State Register, this information is not being provided to the Department of Road Transport (DoRTH), other RTOs/ARTOs of the State, interstate check posts, Police Department and other services due to non existence of online connectivity.

The Department agreed (December 2011) that the digitisation of legacy data was incomplete and stated that request for grants is being made from the Central Government for digitisation of non transport vehicles, while the digitisation of transport vehicles is being done using departmental resources.

7.17.2 Data Transfer and Connectivity

The Government of India, Ministry of Road Transport and Highways had embarked upon a Scheme for creation of a National Database network by introduction of Information Technology in the Road Transport Sector as the Mission Mode Project which apart from aiming at computerisation of all RTOS across the country also aims at inter connectivity amongst RTOs in the State and a National Register of Motor Vehicles.

We observed (July 2011) that the data is being transferred regularly to the Central Server at the State level through VPN connectivity. The data is updated automatically through scheduling, using Oracle ELT package - ODI (Oracle Data Integrator). But the data stored at the Central Server is not available for use at RTO/ARTO level vice versa.

RTO/ARTO offices are connected to the central server for only transferring data from their local server to the central server. For use of State Register/National Register services, the details of vehicles registered in one ARTO/RTO can not be viewed in another RTO/ARTO at present. Inter connectivity amongst the State RTOs/ARTOs is not fully functional.

The Department stated (December 2011) that VPN over Broadband connectivity has been given to all RTOs. Deputy Transport Commissioners and RTOs have been provided with user ID and passwords. There is a plan to provide user ID and password to ARTOs for establishing inter connectivity.

7.18 Uttarakhand

7.18.1 Maintenance of State/National Register

The State Consolidation Register (SCR) and the State Register (SR) is being maintained by the NIC unit, Dehradun. The data is also sent to the National Register from the State Register. The formats have been designed in consultation with the State Government as well as Ministry of Road Transport & Highways (MoRTH). The backup of the data is taken up in a standby server and a portable hard disk and the same is sent to NIC unit, Dehradun through broadband VPN by the field offices for consolidation and preparation of SCR and SR.

Twenty percent of old data for vehicle registration and 72 *per cent* data on DL is still to be digitized and uploaded to VAHAN and SARATHI respectively as on date. This indicated that the State Register and National Register were incomplete.

During Exit Conference the Department stated in reply that the backlog data entry of the old driving licence is done when the licence is received for renewal or any other process. As the old driving licences were in large number, a policy was needed to be framed in this regard. As regards the backlog data entry of registration of old vehicles, the data entry in respect of transport vehicles had nearly been completed. However, the RTO/ARTO had been directed again to complete the backlog data entry.

We recommend that the State Government may take necessary steps for completing the digitisation of backlog of data of registrations/licenses.

7.19 Conclusion

It can be seen that the State and National Registers of Vehicles registered and driving licenses issued were incomplete in all States both for current data and legacy data. There was junk data of the SR which had been ported to the NR also. This not only defeated the objectives of computerisation to have an up-to-date correct database which could be viewed on an anywhere basis but rendered verification of fake registrations/driving licenses a difficult job for all enforcement authorities.

The Ministry and NIC have recently taken initiatives for assisting States financially for digitisation of legacy data towards completing the State/National Registers. For validation of data being ported into the SR/NR, the NIC will have to be in constant touch with the States and monitor this function with definite time lines and goals, so as to have reliable data in the NR/SR.

Chapter-VIII

Conclusions

We reviewed the computerization in 24 States and saw that the States which have achieved hundred percent computerisation for VAHAN and SARATHI were Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Jharkhand, Kerala, Karnataka, Maharashtra, Meghalaya, Tamil Nadu and Uttarakhand. Whereas the States of Punjab and Haryana, Jammu & Kashmir and Madhya Pradesh were lagging behind in computerisation of both VAHAN and SARATHI, the States of Rajasthan, UP and West Bengal were lagging behind in SARATHI, for issue of driving licenses. Most States did not chalk out a well defined IT Strategy for computerisation of the RTO functions. Even after successful pilot operations in districts, the pace of computerisation was very slow despite all the technical support from NIC both for hardware and software, mainly due to absence of planning for computerisation. Monitoring of the project at higher levels in the State Governments had evidently not been done.

The entire benefits of the computerisation project can be achieved on its implementation in entirety. We saw that none of the States had implemented the Enforcement Modules I VAHAN and SARATHI whereas most States had not implemented the modules relating to "tax" , "fitness of vehicles" etc. and to that extent the underutilisation of computerisation efforts had resulted in non-achievement of the expected benefits and objectives.

The status of the implementation of VAHAN and SARATHI shows that due to absence of validation controls/defective validation controls, data validation not done at the RTOs, there were serious inaccuracies in the database, thereby making it unreliable for reference, to all the stakeholders.

Data Security was compromised in the implementation of VAHAN and SARATHI, in the States mainly due to non implementation of a strong IT Security Policy to prevent unauthorized access to the hardware as well as the application systems. Documentation of change management control was not done. There were instances of manipulation of VAHAN data through backend mode. States were heavily reliant on NIC for implementation of the work and Departments had not built their own technical expertise. Those States which had outsourced computerization work had not ensured that their RTOs effectively supervised the work, resulting in manipulations and fraudulent cases of issue of driving licenses and mismatches in the databases and the Smart Cards issued.

Though VAHAN and SARATHI Applications had mapped most of the Business Rules for the States, there were instances where due to non –communication of requirements by the States, there were some gaps in implementation, resulting in incorrect issue of driving licenses, taxes being collected manually and not being updated in the system, non-capturing of essential information relating to vehicles

and driving licenses, irregularities associated with issue of choice numbers to applicants etc. Non Mapping of tax provisions and their changes have implications of revenue loss to the States.

The work of porting of the State and National Registers of Vehicles (SR/NR) registered and Driving licenses issued which began in 2009, was incomplete in all States both for current data and legacy data, in absence of any milestones for its completion. During the Exit Conference we were informed that the GOI is now considering proposals to give financial incentives to States to complete the work. States like Andhra Pradesh and Delhi which have developed their own application systems and have not adopted the NIC developed systems were having difficulties in porting both legacy and current data to the State and National Registers, thereby fragmenting the computerization efforts and defeating the national objectives of the computerization project. An incomplete database rendered verification of fake registrations/driving licenses a difficult job for all enforcement authorities.

Recommendations

In view of the various findings detailed above, we recommend that the Department:

- **formulate and adopt a comprehensive IT Policy encompassing aspects such as technology upgradation, service delivery, staffing and security to serve as a roadmap for future development;**
- **ensure proper supervisory checks over the system and data entry in particular;**
- **strengthen the security infrastructure by adoption of a well formulated security policy, introduction of logical access controls in tune with best practices, enabling a trail of user actions etc.;**
- **strengthen application controls so as to ensure better mapping of the provisions of the relevant Acts and Rules;**
- **implement both the systems early in those States which have not as yet completed the computerization work viz. Punjab, Rajasthan, Madhya Pradesh, Uttar Pradesh, West Bengal, and in those States which have implemented the computerisation it may be ensured that complete modules are implemented in all the Regional Transport Offices, such as Enforcement Module, Tax Module and the generation of the Cash Registers. It may also be ensured that monitoring and settlement of Departmental Statutory Authority (DSA) cases etc. are also brought within the ambit of information technology;**
- **complete the entry of legacy data and porting of legacy database on priority in a planned and time bound manner, for complete State and National Register of Vehicles and Driving licenses. Those Sates which had not adopted Vahan and Sarathi, be made to carry out the necessary changes to ensure porting of data to the SR and NR;**
- **network all the RTOs in the State to enable real time communication between them, enabling better monitoring and service delivery;**

- **adopt more secure means of interfacing with the smart card printing software and introduce Smart Card reading devises that adopt such technology as would enable detection of absence of digital attestation, tampering with data etc.;**
- **migrate to a web based system by which the general public can gain direct access to the services offered by the Department for registration, payment of fees, taxes etc. It will substantially improve the effectiveness of the Department in achieving the objectives of e-Governance;**
- **ensure design of appropriate MIS reports to make effective use and monitoring of computer systems; and**
- **adopt a comprehensive programme of Human Resource Development involving induction of technically qualified functionaries at various levels of Information Systems Management, providing training in the various aspects of database, network and security administration etc so that the RTO Offices can function independent of the NIC for the Vahan and Sarathi work.**